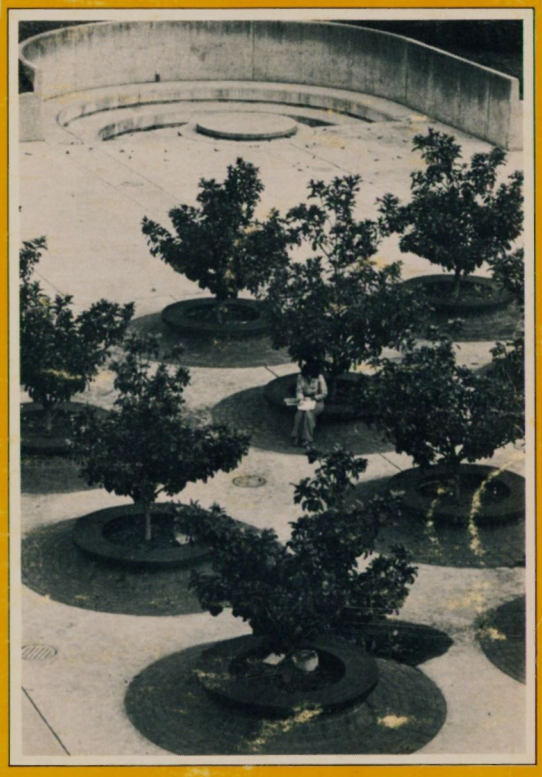
Linn Benton Community College

The 1980-1982

GENERAL CATALOG



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For information about admissions or a copy of the catalog, contact:
Admissions Office
Takena Hall
Linn-Benton Community College
6500 S.W. Pacific Blvd.
Albany, OR 97321
Telephone: (503) 967-6106

Financial Aids Information, including scholarships, grants and loans:
Office of Financial Aids
Takena Hall
Linn-Benton Community College
6500 S.W. Pacific Blvd.
Albany, OR 97321
Telephone: (503) 967-6104

Photographs: Rich Bergeman, Oscar Palmquist, Larry Martin, Joan White

Calendar

Fall Term 1980

Continuing student registration begins	September 19
New and continuing student registration	September 22
Classes begin	September 29
Last day to register	
for 10 or more credits	October 3
for 9 or less credits	October 17
Last day to drop without a "W"	October 10
Last day to add	October 17
Last day for refunds	October 31
Thanksgiving holiday	November 27,28
Last day to request P/NP option	December 12
Last day to officially withdraw	December 12
Final exams	December 15, 16, 17
Last day of Fall Term	December 19
Christmas recess	December 22 - January 2

Winter Term 1981

Continuing student registration begins	December 15
New and continuing student registration	December 18
Classes begin	January 5
Last day to register	
for 10 or more credits	January 9
for 9 or less credits	January 23
Last day to drop without a "W"	January 16
Last day to add	January 23
Last day for refunds	February 6
Last day to request P/NP option	March 13
Last day to officially withdraw	March 13
Final exams	March 16, 17, 18
Last day of Winter Term	March 21
Spring recess	March 23 - 27

Spring Term 1981

Continuing student registration begins	March 16
New and continuing student registration	March 19
Classes begin	March 30
Last day to register	
for 10 or more credits	April 3
for 9 or less credits	April 17
Last day to drop without a "W"	April 10
Last day to add	April 17
Last day for refunds	May 1
Memorial Day holiday	May 25
Last day to request P/NP option	June 5
Last day to officially withdraw	June 5
Final exams	June 8, 9, 10
Graduation	June 11
Last official day of Spring Term	June 12

Summer Term 1981

Registration begins	June 15
Classes begin	June 22
Last day to register	
for 10 or more credits	June 26
for 9 or less credits	July 10
Last day to drop without a "W"	July 30
Independence Day holiday	July 4
Last day to add	July 10
Last day for refunds	July 24
Last day to request P/NP option	August 21
Last day to officially withdraw	August 21
Final exams—ten week session	August 27, 28
Last day of Summer Term	August 28

Basic Calendar for 1981-82 *

Fall Term 1981

Classes Begin September 28
Thanksgiving Holiday November 26-27
Fall Term Ends December 18

Winter Term 1982

Classes Begin January 4
Winter Term Ends March 19

Spring Term 1982

Classes Begin March 29
Memorial Day Holiday May 24
Spring Term Ends June 11

Summer Term 1982

Classes Begin June 21
Independence Day Holiday July 4
Summer Term Ends August 27

*Specific calendar dates for 1981-1982 will be published in the Quarterly Class Schedule.

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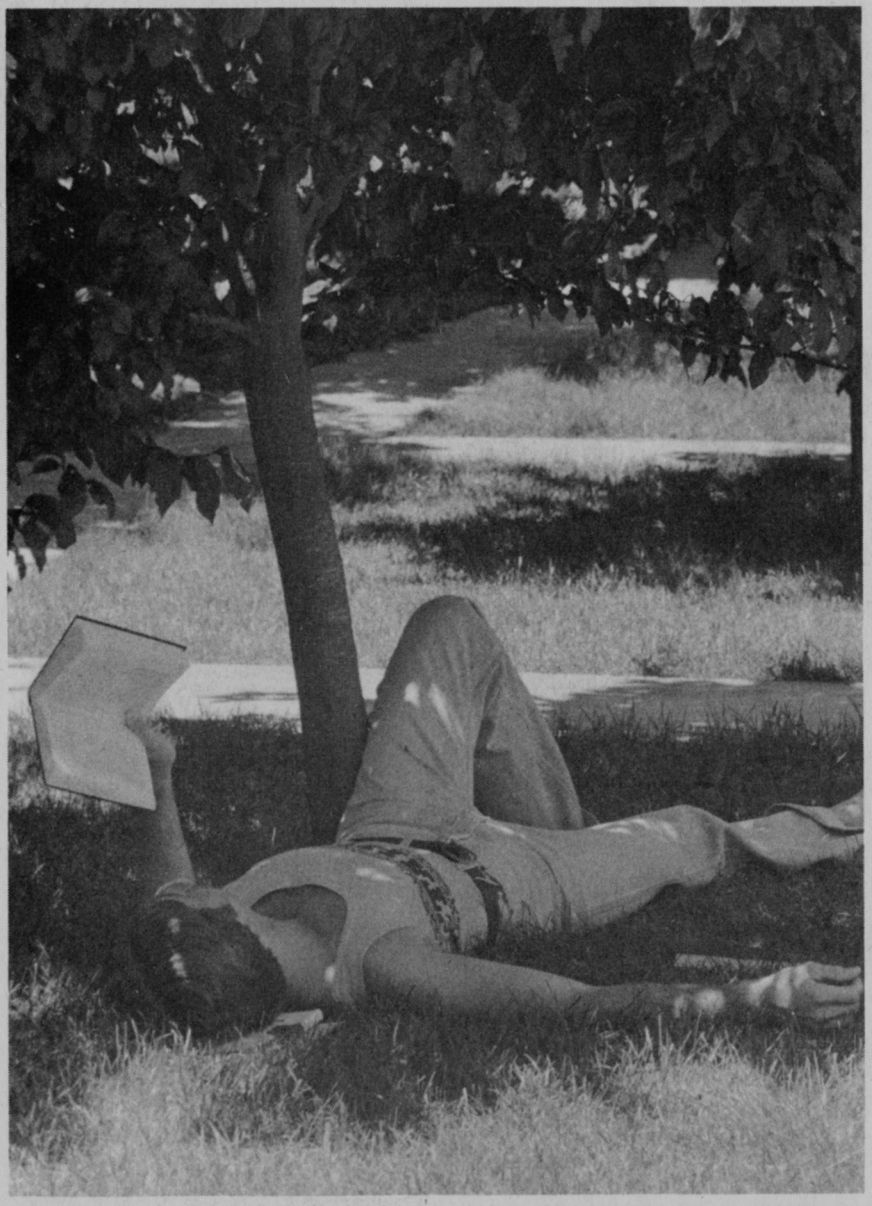


The College

Raymond J. Needham, President
O.R. Adams, Vice-President
A. Lee Archibald, Dean of Students
Vernon E. Farnell, Dean of Business Affairs
Jack V. Liles, Dean of Instruction

Linn-Benton Community College is a public two-year college which serves the educational needs of adults in its two-county district. It is one of 13 comprehensive community colleges in Oregon, with admission open to any district resident beyond high school age.

The college offers general education courses; occupational and technical preparatory training; lower division college transfer courses; and skills upgrading for those already employed. The Cooperative Work Experience program provides students with practical experience in fields related to their fields of study. A wide variety of credit and non-credit Community Education classes are offered on the Albany campus; in the Corvallis, Lebanon and Sweet Home Centers; and at many other locations throughout the district. There are special programs in adult basic education and high school continuation and for the vocationally disadvantaged and handicapped.

A full range of student services, including career counseling, academic and personal guidance, financial aid and job placement are provided in addition to supportive learning services. Linn-Benton offers a well-rounded activities program, many of them planned by students and paid for with student fees.

College policies and practices are directed by a locally elected seven-member Board of Education under guidelines established by the State Board of Education. More than 300 local citizens actively participate in college governance through membership in advisory and budget committees. Faculty, staff and students serve on all campus advisory committees.

The college is supported by local taxes, state and federal funding, and student tuition.

State Superintendent of Public Instruction
Verne A. Duncan

Oregon Board of Education
Sedley N. Stuart, Gresham
Wanda Silverman, Portland
Gene Stunz, Nyssa
Joyce Benjamin, Vice Chairman, Eugene
Clifford I. Freeman, Portland
Frank Dost, Chairman, Corvallis
Wally McCrae, Pendleton

LBCC Board of Education
Virgil H. Freed, Corvallis
David Cooper, Sweet Home
Kenneth H. Haevernick, M.D., Lebanon
H.L. Hammond, Jr., Corvallis
Larry Coady, Albany
Ethel Yocum Sickert, Albany
Charles Carpenter, Benton County

Philosophy

Linn-Benton Community College's programs and activities are based upon the following statement of philosophy:

1. Individuals have different potentials for growth and self-fulfillment.
2. Learning provides the means for men and women to develop their potential, expand their knowledge and skills, and become contributing members of a free society.
3. Learning opportunities should be available to the greatest number of people with minimum restrictions, based on individual and community needs.
4. Entry to LBCC should be based on an "open door" policy, so as to accommodate high school graduates and other adults who are capable of profiting from the instruction offered. Through proper guidance and testing, students will be able to select appropriate courses of study.
5. Appropriate standards of performance should be as broad and flexible as possible, with priorities established on the basis of available resources. Within these limits the programs should be responsive to local, state and national needs.
6. Educational scope of college programs should be as broad and flexible as possible, with priorities established on the basis of available resources. Within these limits the programs should be responsive to local, state and national needs.
7. Tuition and fees should be maintained at a reasonable level.
8. Local direction and control should be maintained through the elected board of education, consistent with local, state and federal laws and policies.

History

The drive to establish Linn-Benton Community College began in 1963 with a cooperative effort of the Linn County Chamber of Commerce and community leaders in Benton County. In 1964 a study prepared by the University of Oregon's Bureau of Educational Research documented the need for a community college in the area.

In 1966, through a local election, the Linn-Benton Community College District was formed and a year later the first classes were held in rented facilities. In 1970, following voter approval of a $6.1 million bond issue, the college moved from its headquarters at 203 W. First Avenue in Albany to the present college site. Classes were held in trailers and modular buildings during construction of permanent facilities.

As the campus has grown so has the student body, from 2,800 students the first year to more than 20,000 persons taking one or more classes in 1979-80.

The Campus

The 104-acre main campus is centrally situated in the district two miles south of the city of Albany and 11 miles east of Corvallis. The thirteen major campus buildings encircle an open courtyard and are connected by covered walkways. The contemporary brick structures have been erected gradually since 1970 in accordance with a master building plan completed in 1979 with the opening of Takena Hall, which centralizes all student services and houses a 500-seat theater.

There are more than 85 classrooms, shops and instructional laboratories, many geared to individualized learning. Facilities have been designed with needs of the handicapped in mind. A barn, small greenhouse, solar-heated energy information center, and physical education and sports facilities are included in the campus complex.

The main centers, and other facilities throughout the district are used to make educational opportunities easily accessible to all men and women in the area.

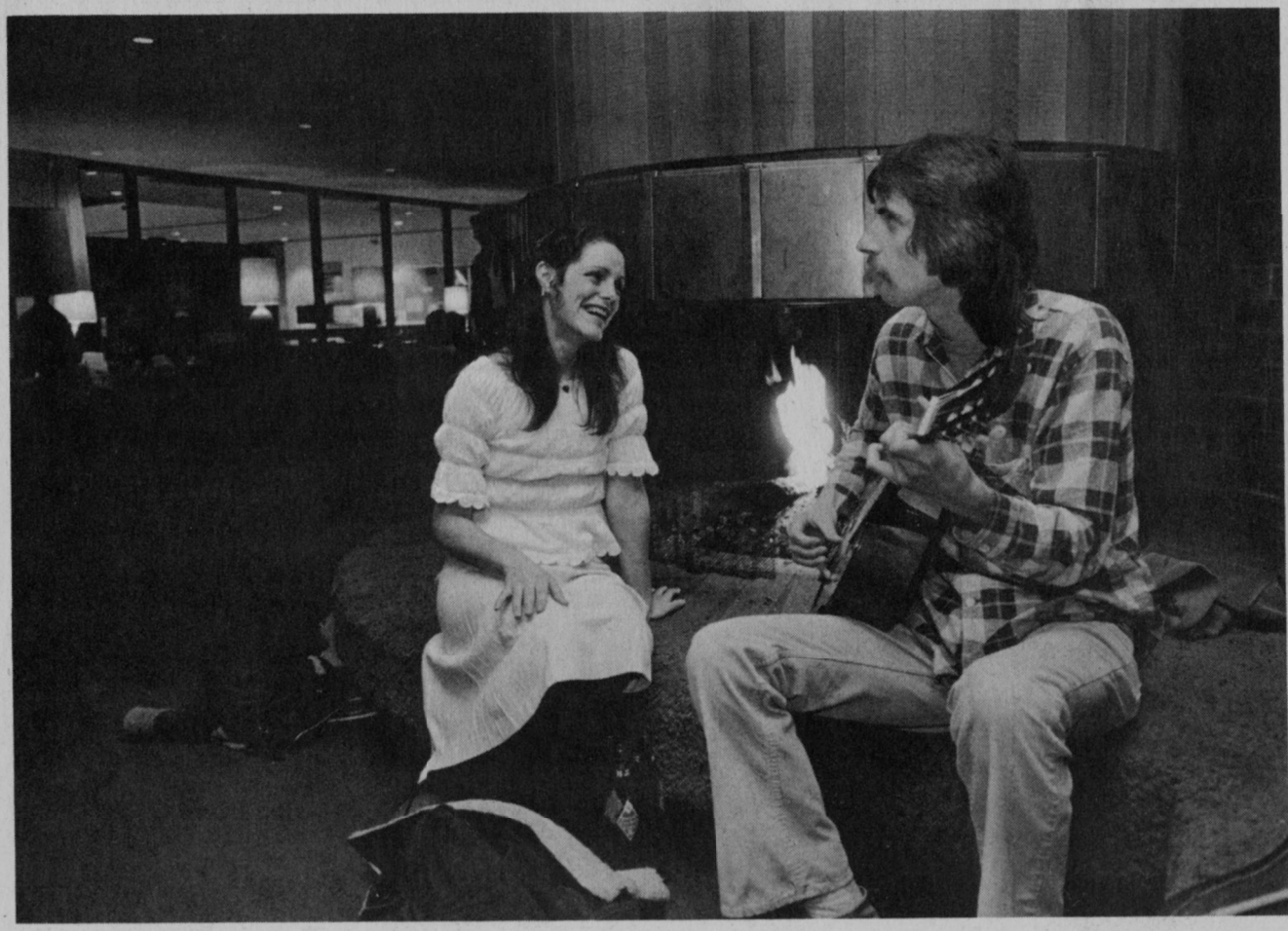
Accreditation

Linn-Benton Community College has been accredited by the Accrediting

Commission of the Northwest Association of Schools and Colleges.Courses are approved by the Oregon State Board of Education, and lower division courses have been approved for transfer to Oregon State System of Higher Education colleges and universities. A variety of Linn-Benton programs qualify for veterans' benefits with approval of the Veterans Administration.

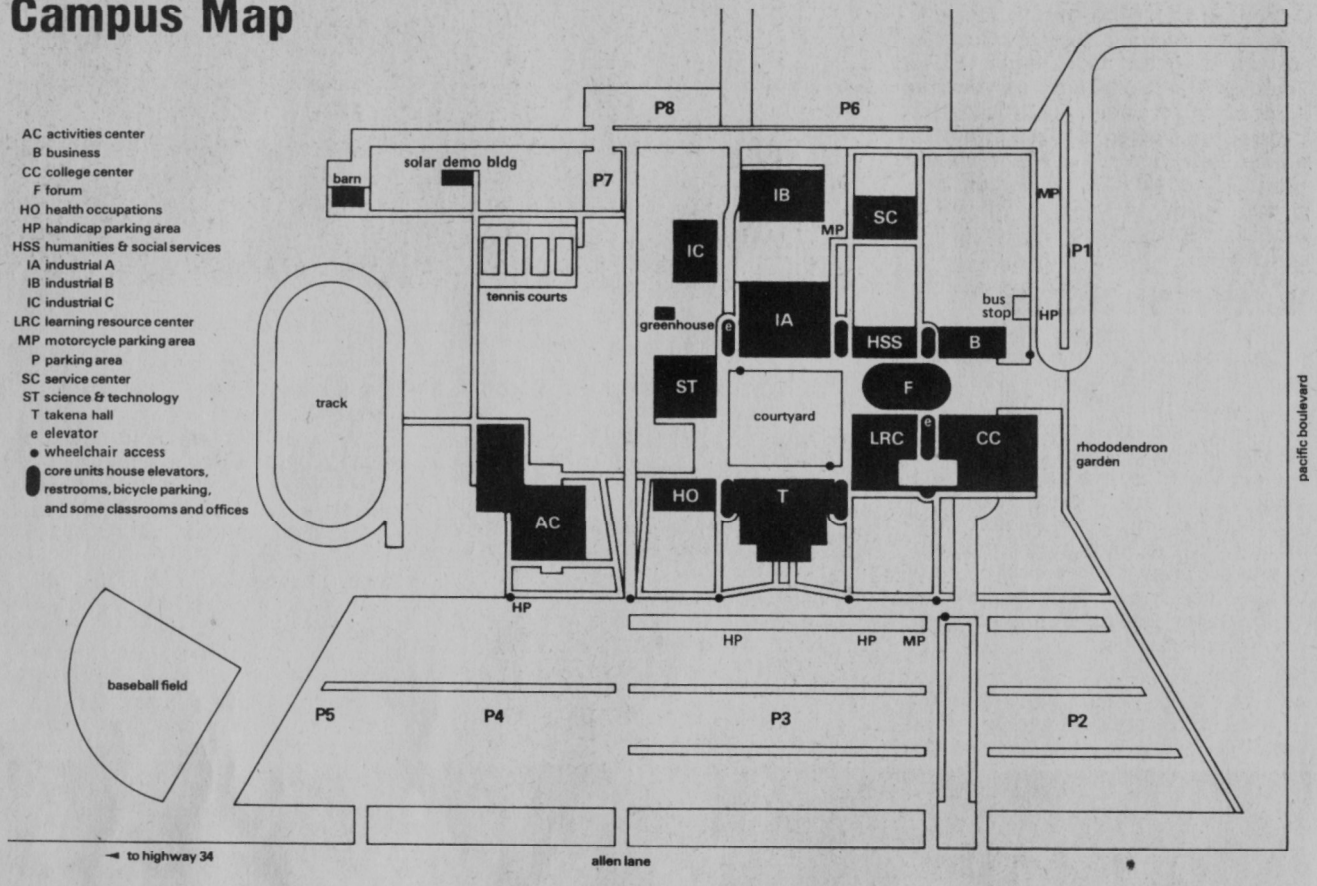
Nondiscrimination

The college adheres to the principles embodied in the Oregon and Federal Fair Employment Practices legislation. Its affirmative action policies ensure equal employment and admission opportunities to all persons without regard to race, national origin, religion, sex, age, marital status, or qualified handicap. Linn-Benton Community College encourages students to make career choices based on interests, needs and abilities, without regard to the traditional roles of men, women or minorities.



Campus Map

AC activities center
B business
CC college center
F forum
HO health occupations
HP handicap parking area
HSS humanities & social services
IA industrial A
IB industrial B
IC industrial C
LRC learning resource center
MP motorcycle parking area
P parking area
SC service center
ST science & technology
T takena hall
e elevator
● wheelchair access
core units house elevators, restrooms, bicycle parking, and some classrooms and offices



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Services

Dean of Students:
A. Lee Archibald

Student Personal Services provides students with a variety of supportive services and activities within and outside the classroom. These include admissions and career information, registration, grade reporting, graduation, guidance and counseling services, financial aids, veterans assistance, student activities, College Center services, food services and career placement.

Student Personnel Services activities begin before students enter the college and continue as long as they are enrolled. The Admissions Office acts as the information focal point for Student Personnel Services. Students may also contact the Dean of Students' Office with questions regarding this section of the catalog.

Staff:
Jon Carnahan, Director of Admissions and Registrar
Sue Cripe, Assistant Registrar
Milton Weaver, Veterans Coordinator and Admissions Officer

Admissions

The only entrance requirement is that applicants be beyond high school age (18 years) or have completed high school or its equivalent.

Students applying to enter an occupational program must be 18 years of age and must, in the judgement of the administration, be able to benefit from the instruction offered. Admission to occupational programs varies slightly, but is generally first-come, first-served. Date of the completed application process is an important consideration. The college reserves the right to give a higher priority to district residents in specific occupational and vocational programs.

The Admissions Office is designed to be the "front door" of Linn-Benton Community College, and is available to all prospective and enrolled students. Information concerning admissions procedures and programs are among the services provided in this center.

Program Admissions (10 or more credits)

1. Application for admission.
2. Copy of high school transcript if applying for admission directly from high school or within one year of graduation from high school.
3. Results of the Comparative Guidance and Placement examination or a copy of most recent college transcript showing a minimum of 15 completed credits. Students who have taken the SAT with a standard score of 450 on each part or the ACT with a standard score of 19 on each part will be exempt from taking the Comparative Guidance and Placement Examination.

Even though official copies of all previous college transcripts are not required at the time of admission, official copies will be required to receive advance standing credit toward a degree or certificate. These must be forwarded directly to the Admissions Office.

Part-time Admissions (9 or fewer credits)

Part-time and non-credit students do not have to apply for admission or secure transcripts from previous schools attended unless they intend to graduate from Linn-Benton Community College.

*12 credits is considered full time

Limited Enrollment

1. Application for Admission.
2. Sign Limited Enrollment Agreement Form. Students will be admitted on a limited enrollment basis for one term only due to the following circumstances:
   a. Full-time (matriculated) students who do not complete the application process one week prior to the beginning of the term of application.
   b. Students entering a one term program at LBCC.

Extension of the Limited Enrollment Status must be petitioned through the Director of Admissions and Registrar.

Readmission

Matriculated students who have discontinued after one year or more, not counting summer term, may apply for reenrollment in the Admissions Office.

Admission of High School Students (Part-time Simultaneous)

Enrollment of high school students is allowed without special permission if:

1. The class(es) meet(s) after normal high school hours.
2. Enrollment is 9 or fewer credits.
3. Enrollment is limited to classes which require no special admission clearance.

Admission to specific classes and programs is on a space available basis.

Full-time or non-simultaneous

High school age students who have been released from compulsory attendance under CRS 339.030 may wish to attend the community college. If you are seeking admission to LBCC as a full-time student and are 17 years of age or younger, you must first contact the director of admissions.

Foreign Student Admission

Foreign student admission is on a selective basis. Those desiring to enroll in classes at Linn-Benton Community College should contact the Director of Admissions for specific admission requirements. Applications should be on file at least one month prior to the preferred quarter of entry.

Veterans Educational Benefits

Prospective students who are eligible for veterans benefits should contact the Linn-Benton Community College Office of Veterans Affairs for information on V.A. approved programs of instruction prior to making application for benefits. Upon receipt of the veterans application with necessary supporting documents, the LBCC veterans clerk will certify enrollment and forward the complete application package to the Veterans Administration Regional Office in Portland. In most cases this will complete the application process for educational allowances. It should be noted that this application procedure is separate from application for admission to the college.

Veterans must comply with the Standards of Satisfactory Progress which are set forth in the Financial Aids section of the Catalog.

Linn-Benton Community College Office of Veteran's Affairs (OVA)

The OVA at Linn-Benton Community College is designed to assist the veteran with application, advising and payment problems, whould they occur.

The staff consists of a full-time coordinator who works for the college and provides assistance in college-related matters, counseling, advising, certification and general payment problems. The veterans clerk certifies Administration.

OVA also has a Veterans Representative on campus (VROC). The VROC is a representative from the Portland Regional Office and is on campus half-time providing assistance to the veteran with special payment problems, information on other veterans

benefits, interpretation of V.A. regulations, and as a communications link with the Portland Regional Office.

No appointments are necessary and all services are free of charge. The OVA strives to expedite and facilitate any dealings with the VA and hopes to provide the best possible service to the veteran.

Admission to Health Occupation Programs

Since the admission to new classes each year is limited by the present college staff and facilities, it is necessary for the college to select individuals based on completed date of application and, in selected programs, on the basis of their academic and personal qualifications.

The following programs have established waiting lists. Students interested in one of these programs should complete the application process as outlined below.

*Associate Degree Nursing
*Dental Assistant
*Nursing Assistant

***ASSOCIATE DEGREE NURSING (RN TWO YEARS)**

ADN applicants must: (1) have application and transcripts on file by March 1; (2) complete the National League for Nursing Pre-Nursing and Guidance Examination prior to March 1; dates for the administration of this examination are available through the Admissions, Developmental Center & Testing offices (3) have total application file reviewed by the Admissions Committee; (4) be available for admission interview; (5) if accepted, file a complete physical exam form indicating good physical health. Also, a negative tuberculin skin test or chest X-ray is required. Specific admissions criteria for the ADN program are available in the Admissions Office.

ADN applicants will be notified of the disposition of their applications by June 1. Individuals are required to complete application to be considered for the Fall class. Program prerequisties: 1.110 Elem of Alg and 1.205 Basic Chem or CH104 Gen Chem or equivalent. High school equivalent (GED) will be accepted if taken within past five years. For further information regarding the admission of Associate Degree Nursing applicants, contact the Admissions Office.

The admissions procedure is reviewed annually for the ADN program. It is recommended that you contact the Admissions Office for current procedures.

***DENTAL ASSISTANT (FOUR QUARTERS)**

Two classes are offered each year, one beginning Fall Term, in September, and one beginning Spring Term, in March. Dental Assistant applicants should: (1) have application and transcripts on file (2)complete the Comparative Guidance and Placement (CGP) Examination. (3) be available for admissions interview.

Applicants will be notified of the disposition of their applications by September 1, or March 1. The Dental Assistant Program begins each Fall and Spring quarter and continues for four quarters. For further information students should contact the Admissions Office.

***NURSING ASSISTANT (THREE MONTHS)**

Those wishing admission to the Nursing Assistant program must: (1) have application and transcripts on file. (2) be available for admissions interview.

Individuals are encouraged to apply at leasst one month prior to the beginning of the quarter for which they wish to attend. Notification will be at least two weeks prior to the beginning of the quarter. Students who are accepted for the Nursing Assistant program are required to complete the standard physical examination form and questionaire available through the Admissions Office. For further information students should contact the Admissions Office.

*See General Policy.

Classification of Residency

Oregon revised statutes 341.625 provides that a community college district shall establish tuition rates and fee schedules subject to the approval of the Board of Education. Different tuition rates and fee schedules may be established for students who reside in the operating district, students who do not reside in the operating district, but in the state of Oregon, and students who do not reside within the state. An additional rate may be established for foreign students.

A resident, for tuition and fee paying purposes at Linn-Benton Community College, is a student who has lived in the Linn-Benton Community College district as a permanent resident for no less than 90 continuous days immediately preceeding the first day of classes for the quarter which residency is in question. The same rule will apply to those students who qualify as non-residents of the district, but residents of the state of Oregon. Permanent residence is defined as the home to which one intends to return after any absence, and in which one's dependents reside for an unlimited period of time. A non-resident of the district, but an Oregon resident, is a student who satisfies the above requirements within the state.

To qualify as a resident of the district or of the state, a student must be 18 years of age or older. If under 18 years of age, the student must have a permanent residence independent of that of his or her parent or legal guardian; otherwise the residency of the student shall be the same as his or her parent or guardian. An affidavit of non-support will be required for students under 18 years of age to show proof of emancipation.

The following criteria will be used to define extraordinary circumstances in determining residency status for either the district or the state of Oregon:

1. A veteran who has established a permanent residence inside the community college district or the state within 90 days of separation or discharge from the service.
2. A person who was on active military duty or a government employee whose place of work is assigned within the district or the state, ie. Defense Department and Foreign Embassy.
3. A student whose non-resident parent or legal guardian moves to the community college district or state and establishes a permanent residence during the school term, will be entitled to register as a resident student at the beginning of the next term.
4. A released Oregon state prisoner living in the district will be considered a resident regardless of the person's residency prior to his or her sentencing.
5. An incarcerated student paroled to an agency within the college district or paroled in order to attend Linn-Benton Community College specifically, will automatically be considered a resident.
6. A senior citizen, age 62 years or older, who has established a permanent residence in the college district will be considered a resident.
7. All foreign students enrolled on a student visa and who have not obtained an immigrant visa will not be allowed to change their residency status during the duration of their enrollment.

Verification of residency will be determined from information provided by the applicant to the college. Based on student's current, permanent and parent's addresses, and/or recent schools attended, a residency determination initially will be made and a classification assigned. Evidence of proof is then upon the student to establish his or her residency status. A request form for change of residency and two documents establishing residency either in the district or in the state of Oregon must be submitted to change his or her classification. Examples of such documentation include valid Oregon Driver's License, Voter's

Registration in the district or the state of Oregon, rent receipts, vehicle registrations, proof of property ownership, state income tax returns for the most recent year, etc.

The guidelines outlined above are general in nature and may require additional clarification. Questions concerning residency status in the Linn-Benton Community College district and/or the state of Oregon should be directed to the Director of Admissions and Registrar at Linn-Benton Community College.

Registration

Credit Classes

1. Complete all admission requirements.
2. Pre-registration advisor conferences are required for:
   a. all new students registering for 10 or more credit hours.
   b. students being sponsored by a special program, such as CETA, DVR, etc.
   c. students on probation or in-danger of failure.
   d. students changing their major or those who have questions regarding their major.
   e. students enrolling for courses which require counselor approval as specified in the schedule of classes.In addition, any student who wishes counseling assistance in planning a program is encouraged to contact the Guidance Center or faculty advisor.
3. All continuing students in the following vocational programs should register during the "Continuing Student Registration" period to insure their position in their classes. Spaces remaining in the program after the first week of registration will be made available to both new and continuing students.
   Auto Body Repair
   Automotive Technology
   Construction Technology
   Drafting Technology
   Electricity/Electronic Technology
   Engineering Technology
   Machine Tool Technology
   Recreational Vehicle/Small Engine Repair
   Refrigeration, Heating & Air Conditioning Technology
   Science Lab Technician
   Wastewater Technology
   Welding
4. Full tuition payment is required at the time of registration, plus insurance premium if insurance is desired. Contact the Financial Aids Office for assistance in tuition payment. Students sponsored by one of the special programs or attending under a grant or scholarship must process an authorization form at the Financial Aids Office prior to registering.
5. Registration materials are available in the Registration Office lobby. When all forms are completed, they are to be presented at the Registration Office windows with full tuition payment or payment authorization from the Financial Aids Office.

Social Security Number is required to positively identify your records. An alternate assigned number is available upon request to the Registrar.

Community Education Classes

Registration materials are available in class during the first and second class meetings, or students may preregister in the campus Registration Office; the Benton Center, Corvallis; the Lebanon Center, Lebanon; or the Sweet Home Center, Sweet Home.

Tuition & Fees

The Tuition & Fee Schedule is reviewed annually by the Board of Education. Because this is a two-year Catalog, the Tuition & Fee Schedule has been omitted. For current tuition and fee charges, please check the enclosed "Tuition & Fee Schedule Addendum," a current copy of the quarterly "LBCC Schedule of Classes," or contact the Registrar's Office.

Reciprocal Agreements

Chemeketa Community College

Residents of the Chemeketa Community College District are allowed to enroll in LBCC unique programs (Agriculture Technology; Construction Technology; Water/Wastewater Technology; Heating, Air Conditioning and Refrigeration; Metallurgical Technology; Small Engine and Recreational Vehicle Repair; Heavy Equipment Mechanics/Diesel; and Culinary Arts and Restaurant Management) at resident tuition rates. Students must be enrolled in the curriculum full time. Priority in these programs may be given to resident students when applications exceed available spaces.

Lane Community College

Residents of the Lane Community College District are allowed to enroll in the following LBCC programs at resident tuition rates: Animal Science, Crop Management, Turf Management, Civil/Mechanical Engineering, Graphic Design, Printing Technology, Metallurgical Technology, Nursing Assistant, Refrigeration/Heating/Air Conditioning, Science Lab Technology, Water/Wastewater Technology, and Educational and Legal Secretarial Training. Students must be enrolled full-time. Priority in these programs may be given to resident students when applications exceed available space.

Change of Program

Adding a course: A student taking 10 or more credits may add a course only during the first week of class. A student taking fewer than 9 credits may add a course during the first week or, with the instructors permission, during the second or third week.

Withdrawal: A student may officially withdraw from a class up to the last regular day of class each term.

Students changing to another section of a course due to cancellation of a class or for other reasons must officially add the new section. No add charge will be assesed in this case.

Auditing Classes

Students may enroll as auditors on a space available basis after the first day of classes. Charges for auditing will be the same as for regular credit enrollment.

Refunds

A full-time student withdrawing officially from school before the end of the fifth week of a full term course, or within the first 40% of a course less than full term in length, receives a full refund of tuition less $15. A part-time student with none or fewer credits receives a full refund less $5. Withdrawals after that date receive no refund.

Students officially reducing their credit load to a lower tuition level during the first five weeks of class receive a refund of the difference in tuition amounts, to the minimum charge. See tuition schedule for minimum charges.

A student officially withdrawing from a non-credit class during the first half of the course receives a full refund of tuition less $2.50 processing fee.

Students who withdraw without giving written notice to the Registration Office forfeit all claims to refund of tuition or fees.

Classes cancelled by the College entitle the student to a 100 percent refund or reenrollment without additional cost.

Academic Regulations

Occupational-Technical and Lower Division Credits

In general, a class which meets one hour per week for one term will yield one credit; a class meeting three hours per week, three credits. A lab class usually yields one credit for each two hours of lab time.

Courses which have been approved for transfer to four-year colleges and universities are, generally, those

numbered from 100-299. It should be emphasized that there may be exceptions. Those courses which are generaly non-transferable have course numbers below 99. Some technical courses are acceptable for transfer to selected four-year institutions.

Questions regarding transferability of courses should be referred to the Admissions Office.

Transferring LBCC Credits

Lower division credits may be transferred to most colleges throughout the United States. Lower division students may transfer up to 108 credit hours to schools in the Oregon State System of Higher Education. Even though D grades are passing, many schools will not accept credits for which a D has been given. This is especially true if the course is in the student's major field. P credits may be limited or recalculated for GPA purposes upon transfer. Students who are planning to transfer credits to another school are encouraged to work with an advisor in planning an appropriate transfer program. IT IS RECOMMENDED THAT YOU CORRESPOND WITH THE COLLEGE OR UNIVERSITY TO WHICH YOU WILL BE TRANSFERRING TO PLAN A PROGRAM OF CLASSES.

Student Credit Load and Full Time Status

Students are considered full-time if they register for 12 or more credit hours. Students may mix their schedules by registering for some general studies courses and some vocational-technical courses. If students must work part-time while attending the community college, they should bear in mind that most classes require one or two hours of preparation for each class hour. Working students should adjust their work schedules accordingly or register for fewer class hours. In most areas, there are suggested curricula to cover one or two years of study. Students who are employed may schedule a two-year equivalent curriculum over an extended period of time.

Students in lower division studies should plan to schedule an average of 15 credits per term in order to accumulate 90 credits in a six quarter (two year) period. No more than 20 credits may be taken in any single term without additional charge of tuition for each credit except when required by the student's major department. This additional charge is non-refundable. Students registering for 19 or more credit hours may also be required to have an advisors signature.

Credit Limit Rule

It is the rule of four-year Oregon state institutions that after a student has completed *108 credit hours, regardless of where the work was taken, the remaining credit requirements must be completed at a four-year institution.

*This is equal to full-time attendance for seven quarters.

LBCC Credit by Examination

If presently enrolled students believe they have mastered the material presented in a certain course offered by LBCC or have had equivalent work experience, they may request credit by examination ("challenge"). This may be accomplished by: (1) enrolling in the class and presenting a request directly to the instructor (without additional cost if a full-time student), or (2) applying at the Registrar's Office and paying a $3 per hour fee.

Students may challenge no more than 15 credits in one quarter without special approval from the Registrar. Instructors have the option to grade or give a pass/no pass mark.

College Level Examination Program (CLEP)

LBCC is an approved "Open Center" for administration of the CLEP Examination. In addition, LBCC now accepts CLEP scores for college credit which may be posted to an LBCC transcript under "Advanced Standing." The examinations are administered through the Developmental Center at LBCC.

Advanced Placement Tests

Students who complete college level work in high school under the advanced Placement Program sponsored by the College Entrance Examination Board, and who receive satisfactory grades (3, 4, or 5) in examinations administered by the Board may, on admission to LBCC, be granted credit toward an Associate in Arts Degree in comparable courses. All examinations are subject to review and approval by the appropriate College division. Acceptable credit will be recorded as pass grades (P) on the LBCC transcript.

Students should request that Advanced Placement Scores be forwarded to the LBCC Admissions Office.

Grading Systems

A—Exceptional and Outstanding Work
B—Above Average College Work
C—Average Work
D—Barely Passing Work
F—Failing Work, No Credit Given
I—Incomplete Work
W—Withdrawal
P—Pass
NP—No Pass
NE—No Entry
AU—Audit

Incomplete Rule: Uncompleted work must be completed by the end of the following term with the exception of Summer or it is automatically changed to a "W."

Grade Points: Quarter term grades are assigned points as follows:

A—4 Grade Points Per Credit
B—3 Grade Points Per Credit
C—2 Grade Points Per Credit
D—1 Grade Point Per Credit
F—0 Grade Points Per Credit, No Hours Attempted
*W—0 Grade Points Per Credit No Hours Attempted
P—Credit Earned, Not Computed in GPA
NP—0 Grade Points Per Credit, No Hours Attempted
NE—0 Grade Points Per Credit
AU—0 Grade Points Per Credit

*A "W" is not recorded for indivíduls who withdrew prior to and during the first two weeks of the quarter.

Instructor Withdrawals

Class attendance is most important to the learning process. Students are expected to attend each class meeting for which they have registered. When absence fo some unavoidable reason does occur, it is the obligation of the student to contact the instructor to determine if make-up work is possible.

A "Non-Attendance" instructor withdrawal may be issued by an instructor to a student who does not attend class for a two week period and has not made previous arrangements.

Pass (P) Option

Certain courses listed in the schedule have an "OPT" designation indicating that each student in that class has the option of taking the course for the usual letter grade or taking it on a pass (P) basis. The maximum number of "P" credits allowed toward an LBCC degree is 16 hours, not including those with a mandatory pass (P) grade. It is not advisable for a student to chose the "P" grade for a major course in his or her field of study. Students process requests for pass (P) grades through class instructors. Students planning to transfer to a four-year institution should check that institution's requirements regarding "P" grades.

Probation

Probation applies to students who are registered for 10 or more credits at the beginning of the third week of the term.

New students are placed on probation if, during their first quarter of attendance, their grade point average drops below 1.7; or if during their second and subsequent quarters, their accumulative grade point average drops below 2.00.

Transfer students who are on probation or who have been suspended

from another institution of higher education are automaticaly placed on probation when admitted to Linn-Benton Community College. At the completeion of one quarter of 10 or more credits a transfer student's probation status is based only on the grade point average earned at Linn-Benton Community College and will be consistent with the above.

Students are expected to complete those courses for which they have registered. A student is placed on probation upon non-completion of 50 percent of the credit registered for at the beginning of the third week of the term.

A student who has been on probation for three consecutive terms is subject to suspension.

Honor Roll

Students who obtain a grade point average of 3.33 or better and have carried a 10 credit load or more of graded work are place on the Honor Roll List for that quarter.

Records Information

In accordance with the Family Education Rights and Privacy Act, LBCC considers the following to be directory and therefore public information: student's name, address and telephone listing; major field of study; participation in officialy recognized activities and sports; weight and height of athletic team members; school or division of enrollment; and degrees and awards received. Students who do not wish to have any of the above information released by the college must complete a directory form in the Registrar's Office.

Transcripts and Records

LBCC official student transcripts may be obtained from the Registration Office at a cost of $1.50 each. Unofficial copies are available for 50 cents a copy. Students have access to transcripts and records as outlined in "Policy on Student Rights, Freedoms, Responsibilities and Due Process."

It is the policy of the LBCC Board of Education that the Registrar shall not release an official or unofficial copy of any part of records of a student who has failed to make payment of an emergency loan, deferred payment, or other college debt or obligation.

Withdrawal from School

Individuals who find they can no longer attend should officially withdraw from school. Students who withdraw on or before Friday of the fifth week may expect a tuition refund.*

*See Refunds.

Degrees, Diplomas, Certificates Graduation Requirements

LBCC offers the Associate of Science, Associate of Arts and Associate of General Studies degrees. The requirements for these degrees, which are presented below, are subject to approval of the Board of Education, as well as the State Department of Education, Division of Community Colleges.

Associate of Science: This degree is awarded to those students who complete the requirements of a departmental curriculum, when such requirements represent the completion of an organized two-year program. Associate of Arts: This degree is awarded to students who complete the requirements of the lower division Liberal Arts program. Associate of General Studies: This degree is awarded to students who complete the requirements oulined below.

Students qualifying for an Associate of Arts, or Associate of Science degree will not be allowed to apply for the Associate of General Studies degree. Students completing requirements for a degree or certificate must apply for graduation at the Admissions Office in Takena Hall one term prior to expected graduation.

General Requirements for Associate of Science Degree (AS)

1. Complete required courses as outlined in a vocational or technical program with minimum credits ranging from 90 to 96 credit hours. Individual programs, by exception and approval from the Dean of Instruction, may require up to 108 credit hours.
2. Earn at least 24 credits at Linn-Benton Community College and be enrolled during the term the degree requirements are completed.
3. Maintain an accumulative grade point average of at least 2.00.
4. Complete the following required general education courses:

1.102	Occupational Writing or	
WR121	English Composition	3cr
1.103	Occupational Speech or	
SP111	Interpersonal Speech Communications or Fundamentals of Speech	3cr
1.110	Elements of Algebra or	
4.202	Math II or	
2.515	Business Math	4cr
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or	
	PE Activity Courses	4cr
	Electives	6cr
	Courses to be elected by the student from other than major area.	

General Requirements for Associate of Arts Degree (AA)

1. Complete 90 quarter credits of transfer course work including required general education courses.
2. Earn at least 24 credits at Linn-Benton Community College and be enrolled during the term the degree requirements are completed.
3. Maintain a cumulative grade point average of at least 2.00.
4. Complete the following required general education courses:

	All courses must be transfer credit	
WR121	English Composition	3cr
WR122	English Composition or	
WR123	English Composition	3cr
SP111	Interpersonal Speech Communications or	
SP112	Fundamentals of Speech	3cr
HE250	Health and/or	
HE252	First Aid and/or	
	PE Activities	6cr
	*Humanities	9cr
	*Social Sciences	9cr
	*Science and/or Math	12cr

*The Humanities group includes such courses as Art, Drama, Foreign Languages, Literature, Music, Philosophy and Speech.

The Social Sciences include such courses as History, Psychology, Sociology, Political Science, Anthropology, Economics and Geography.

The Science and Math group includes such courses as Mathematics, Biology, Geology, Physics, Botany and Physical Science.

General Requirements for Associate of General Studies Degree (AGS)

1. Complete a minimum of 90 credits including required general education courses.
2. Earn at least 24 credits at Linn-Benton Community College and be enrolled during the term the degree requirements are completed.
3. Maintain an accumulative grade point average of at least 2.00.
4. Complete the following required general education courses:

1.102	Occupational Writing or	
WR121	English Composition	3cr
1.103	Occupational Speech or	
SP111	Interpersonal Speech	
	Communications or	
SP112	Fundamentals of	
	Speech	3cr
1.110	Elements of Algebra or	
4.202	Math II or	
2.515	Business Math	4cr
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid	
	and/or	
0.571	CPR and/or	
	PE Activity Courses	4cr
	*Humanities, Social	
	Science	
	and/or Math/Science	
	Courses	21cr

*The Humanities group includes such courses as Art, Drama, Foreign Languages, Literature, Music, Philosophy and Speech.

The Social Sciences include such courses as History, Psychology, Sociology, Political Science, Anthropology, Economics and Geography.

The Science and Math group includes such courses as Mathematics, Biology, Geology, Physics, Botany and Physical Science.

Waivers and Exceptions

1. The Dean of Students Office, in cooperation with the Dean of Instruction, processes waivers and exceptions to degree, diploma and certificate requirements.
2. Petition for waiver forms are available in the Admissions or Registrar's Office.
3. The General Education requirements in the Associate of Science and Associate of General Studies degree may be waived bases on individual competencies through a college testing program.

Community Education Classes

Those who enroll for a Community Education class may use the class for graduation purposes in the Associate of General Studies or Associate of Science degrees: (1) if it is a credit class; (2) if it is listed in the catalog it may be used in the fulfillment of elective or specified graduation requirements; (3) if it is not listed in the catalog to be used in the fulfillment of elective requirements upon approval.

Certificates

Certificates are awarded to those who have completed specific requirements within a vocational major. They are awarded by a division of the college on the recommendation of the instructional staff within that field. Business, nursing assistant, welding, dental assistant and sewage treatment plant operators are commonly awarded certificates.

Generally, students must complete a minimum of 36 credits to qualify for the one year certificate. Individuals should refer to specific sections of the catalog to determine requirements. Other certificates are issued by the Departments for short courses and/or programs.

High School Completion Programs

In cooperation with local high schools, LBCC has three programs for the student who wishes to obtain a high school diploma or high school equivalent:

1. High School Continuation—The High School Continuation program is offered in cooperation with the high schools in the LBCC district and is designed for presently enrolled high school students who need to make up deficiencies in high school credits. A high school student, 16 years of age or older, can obtain a high school diploma by attending classes at LBCC with the permission and approval of the high school (Simultaneous Enrollment). Instruction is based on individual requirements and individual study. The high school evaluates the student's educational records and determines which courses the student must take to meet the high schools graduation requirements. The diploma is issued by the local school district.
2. Oregon Competency Based Adult High School Diploma—The primary purpose of this program is to assist those individuals 18 years of age or older, or those high school age students who have been released from compulsory attendance under ORS 339.30, in completion of the credits required of all high school graduates in Oregon. LBCC evaluates the student's educational records and life experience and assists in planning a study program that will meet individual needs.
3. LBCC offers the GED high school certification examination through the Guidance Center.

Staff:
Rita Lambert, Director (and Assistant to Dean of Students)
Diane Tsukamaki, Financial Aids Officer
Jerome Mayfield, Placement Officer

Financial Aid and Placement

Financial Aid

It is in the intent of Linn-Benton Community College to provide an opportunity for college attendance to students who cannot pay the full cost of a college education. LBCC financial aids are intended to supplement family and student resources through loans, grants and/or part-time employment. To determine the amount a family and student can contribute LBCC relies on the College Scholarship Need Analysis Service (CSS).

The CSS Financial Aid Form can be used to apply for a Basic Grant at no cost. In addition, the form can be used to apply for all federal an state grant, work, and loan programs. When used to apply for all aid, a minimum of $5.00 is charged. Use of the CSS service assures every student equal treatment. Processing an application through CSS usually requires six weeks.

Application Procedures for 1979-80

Applications for aid are available from the Financial Aid Office or from your high school counselor.

1. File the Financial Aid Form with CSS. CSS will forward information to the Basic Grant program if you request them to do so. To apply for a State Need Grant, request on the form that a copy be sent to the State Scholarship Commission in Eugene, Oregon.
2. Upon receiving your application, LBCC may request additional information such as an affidavit of independence or a transcript of aid received elsewhere.

Applications will be received by the Financial Aid Office throughout the entire school year. However, financial aid dollars are limited. Students who apply after May 1 may find that financial aid monies are not available. If you wish to know before the beginning of the term what financial monies you will receive, apply a minimum of two months prior to the start of the term. Each applicant will be notified by a letter whether or not he/she qualified for financial aid.

Student Costs

Individual student cost vary according to differences in course of study, transportation, housing and many other factors. Below you will find examples of student budgets showing average costs while attending LBCC.

Most of these costs will increase annually at rates equal to the rate of inflation.

Student Budgets

Nine Month (3 quarter) budgets:

Single (Living with Parents)	
Tuition & Fees	$470.00
*Books & Supplies	225.00
Rent & Food	700.00
Personal Expenses	650.00
Transportation	$650.00
Day Care	—
Single (Living Away)	
Tuition & Fees	$470.00
*Books & Supplies	225.00
Rent & Food	2300.00
Personal Expenses	650.00
Transportation	650.00
Day Care	—
Married (One Dependent)	
Tuition & Fees	$470.00
*Books & Supplies	225.00
Rent & Food	4200.00
Personal Expenses	1000.00
Transportation	650.00
Day Care	1200.00

*Tuition estimates are provided here so total costs can be compared. Actual tuition rates are found on the insert at the front of the catalog.
*Book and supply costs vary greatly. Check with Admissions for current information.

Deferred Payments

Entering and returning full time students may apply to have up to two-thirds of their tuition deferred. Under the deferred tuition plan students who are temporarily unable to pay the full amount of their tuition can pay one-third at the time of registration plus any late fee assessed with the balance payable before the end of the fifth week of the school term. Ten percent simple annual interest, (50 cents per month on $60) is charged borrowers.

Deferred Payments will be denied students who have failed to make proper payment of previous emergency loans or deferred payments. In addition, late fees and collection agency costs may be added to the student's unpaid balance. Failure to make proper payment will result in the institution not releasing an official transcript or any part of the student record.

Consumer Information

LBCC lists information relating to Financial Aids in the Office of Financial Aids & Placement, Takena Hall, Room 105, phone 967-6104. The Director of Financial Aids & Placement will provide information on the following procedures for applying for aid; eligibility requirements; rights and responsibilities of student aid recipients; the methods and frequency of payments; the terms of loans and sample loan repayment schedules and general conditions of employment provided as aid. In addition, the Financial Aids Office also provides the criteria used for selecting recipients; determining the amount of aid; continued financial aid eligibility; and allowing the re-establishment of eligibility.

Information relating to programs and facilities is available in the Office of Admissions and Registration, Takena Hall, 967-6105. The information on academic programs, including current degree programs, and the physical facilities and instructional personnel is available. This office also provides information relating to the refund policy of the institution.

The Director of Financial Aids & Placement and the Director of Admissions & Registration are available in Takena Hall from 8:00 to 5:00.

Types of Assistance

Basic Education Opportunity Grants (BEOG)

Grants are available for students carrying six or more credits. Awards usually range from $50 to $950 each year. The federal government determines awards based on applicant's financial need.

Supplemental Opportunity Grants (SEOG)

This is a cash grant program for students with exceptional financial need. Grants vary from $200 to $1000 per year depending on the need of the applicant. Grants cannot exceed fifty percent of a student's total financial aid award.

State Need Grants

The Oregon State Scholarship Commission provides cash grants to full time students with exceptional financial need. The grants, ranging from $200 to $600 a year, are transferable to other colleges and universities in the state of Oregon. Grants may be renewed for four years if the student remains in good academic standing and need continues. (See item 1 in application procedures).

College Board Scholarships

A minimum of twenty-seven full tuition scholarships to Linn-Benton Community College are awarded annually to presently enrolled high school seniors in Linn and Benton Counties. Applicants must have an overall GPA of 3.00. Special consideration will be given to those individuals who have shown outstanding ability in the area they wish to pursue. In addition to the full academic year awards, many one-quarter awards are also granted. Additional information is available through high school counselors or the Financial Aid Office.

Talent Recognition Awards

More than $6,500 in full and partial tuition awards is made available annually to talented high school seniors and other prospective students who have demonstrated outstanding ability. Students with talent in athletics, drama, music (vocal and instrumental), agriculture (livestock judging) or business (MMO) should apply. Additional information is available from high school counselors, the Financial Aid Office and the individual LBCC divisions and departments offering awards.

Recipients of the Scholarships and Talent Recognition Awards must enroll as full-time students and must continue to meet the highest standards of performance for continued funding.

Nursing Student Monies

Students accepted into the Associate Degree Nursing program who will be attending LBCC full time may apply for Nursing Grant and Loan monies. Awards are based on financial need and availability of funds. Application procedures are the same as those described above. Nursing awards are not made until late August when federal funding is known. Applicants should note, however, that funds for this program are being reduced nationally.

Student Part-time Employment

A federally supported Student Work Program provides on and off campus employment for students with financial need. Work schedules are assigned by supervisors, and students are paid the federal minimum wage for work performed. Higher wages are paid to returning student workers and for jobs requiring specialization. Employment during the school term may not exceed 20 hours per week. When possible, students are placed in jobs compatible with their career goals.

National Direct Student Loans

Students in good standing who have financial need may qualify for long term, low-interest loans. Loans may be made for up to $1500 per academic year, although the average is about $600. No interest is charged while the borrower is at least a half time student or in deferred repayment status, (active military or serving in Peace Corps or Vista). Interest of three percent per year is charged during repayment period. The borrower's first payment is normally due nine months after leaving college, except when deferrment status is obtained. The loan may be prepaid to reduce interest. Teachers of handicapped children or teachers in certain low-income schools may have a

percentage of the loan cancelled for each year of service, up to 100% with five years of service.

Guaranteed Student Loans

Loans of up to $1500 per academic year are available to students through their own bank. Loan repayments and interest charges do not begin until nine months after the borrower leaves college. Annual interest on Guaranteed Student Loans is seven percent. The loan may be prepaid to reduce or eliminate interest charges. The student obtains the application form from the LBCC Financial Aid Office and takes it to the lending institution of his or her choice, after the College certifies:
(a) the applicant is accepted or enrolled as a full time student in good standing;(b) the applicant's estimated educational expenses are reasonable; and(c) the amount and types of financial aid and income the student received from other sources.

Emergency Loans

Short-term emergency loans of up to $65 are available to any full time student who has been in attendance at LBCC four or more weeks. Loans will be approved for any reasonable education-related cost except tuition. Loans are normally repayable within five weeks of issue date. Ten percent simple annual interest is charged, (54 cents per month on $65).

Emergency loans will be denied students who have failed to make proper payment of previous emergency loans or deferred payments. In addition, late fees and collection agency costs may be added to the student's unpaid balance. Failure to make proper payment will result in the institution not releasing an official transcript or any part of the student record.

Law Enforcement Education Program (LEEP)

Financial assistance to pay the cost of tuition is available to some law enforcement personnel. Proof of financial need is not required. Law Enforcement Education application forms are available from the Financial Aid Office. Applicants should note that the LEEP program is scheduled to be phased out over the next several years.

Scholarships

Several community service orgainizations and business establishments have offered scholarship assistance for LBCC students. It is recommended that interested individuals contact the Financial Aid Office or high school principal or counselors for additional information.

Community Agencies

Other federally supported programs to assist students may be found in local communities. Individuals who have been unemployed or underemployed and who wish to train for a vocational program should inquire at their local Employment Office about CETA. The Employment Office also has educational monies for some welfare recipients. If you have a disability the Vocational Rehabilitation Division may assist you with educational expenses.

Repayments/Student owed Refunds to Grant & Loan Program

If a student is receiving Financial Aid monies and withdraws from school during the regular refund period, the total refund due will be returned to Financial Aid programs. In addition, students receiving cash payments from Financial Aid programs (not including work/study), who withdraw from school or who stop attending classes, may have to repay a portion of the monies they have received.

It is the student's responsibility to contact the Financial Aid Office if they stop attending classes. No additional Financial Aid monies may be paid a student who owes a repayment for early withdrawal.

For additional information on Financial Aid contact the Financial Aid Office, Takena Hall Rm 105, or phone 967-6104.

Academic Eligibility

Students receiving financial aid and/or veterans' benefits must fulfill the standards of satisfactory progress outlined here to remain eligible for aid or continued certification.

Standards of Satisfactory Progress for Students Receiving Financial Aid or Veterans Benefits

1. Safisfactory progress toward educational goals as it relates to credit and term completion will be the basis for continued financial aid and certification of veterans.
2. Credit completion, as it relates to aid eligibility or veteran certification, will be based on the student's academic load, (half-, three-quarter- or full time) at the time of original certification or term the student originally receives aid. Students awarded aid or certification as full time students will be required to complete twelve or more credits with a minimum of a 2.0 grade point average. Three-quarter time students will be required to earn a minimum of nine credits with a minimum grade point average of 2.0. Half-time students will be required to complete six quarter credits with a minimum grade point average of 2.0. A minimum grade point average of 2.0 is also required to graduate.
3. At the conclusion of any term in which a student fails to meet his/her minimum criteria, the Financial Aid Office or Veterans Office will review the student's progress and at its option, terminate the aid or certification, or allow the student not more than one additional term to correct the deficiency. Any student failing to meet the minimum criteria for two terms will be denied aid or certification except where there is a showing of extenuating circumstances as determined by the Financial Aid Office or Veterans Office.
4. Students awarded aid or certified on a full time basis will be allowed eight terms of attendance for program completion. After the eighth term of attendance, the student's progress will be reviewed and upon approval of the Financial Aids or Veterans Office, the student may be given one additional term. Students awarded aid or certified on a half-time basis will be allowed sixteen terms of attendance with one term of extension upon approval. Total credits earned by students enrolled on a three-quarter time and half-time basis will also be considered when reviewing maximum terms of attendance.
5. The official records will show all transactions of withdrawals or drops beginning the third week of any term. The last day of attendance will also be listed on the withdrawal form.
6. Students certified as veterans will be allowed to enroll for thirty credits of courses designated as "deficiency courses" and no more than four full time terms in the Adult Basic Education/General Education Development Program. Additional deficiency courses and time may be approved upon request.
7. Each student receiving financial aid or being certified as a veteran will be given a copy of the College's policy concerning satisfactory progress at the time of the initial award or certification.
8. Based on extenuating circumstances, requests for exceptions to the Linn-Benton Community College "Standards of Satisfactory Progress" may be made to the Director of Financial Aid or Veterans Director and appealed to the Dean of Students.

Additionally, any student not in good standing with the institution will

be ineligible for further aid or certification until such time as the student has been returned to good standing.

Placement

Placement Office

The Placement Office assists students and alumni in obtaining and maintaining part-time, full-time and seasonal employment. Applicants seeking job opportunities will find a list of current jobs and a placement library with helpful information in job-finding techniques.

In addition to job referrals, applicants can receive help with resumes, interview techniques and individual job search plans.

For detailed information on Placement Office services, contact the Placement Office, TAKENA HALL 967-6102.

Staff:
Robert Talbott, Director
Rosemary Bennett, Career Counselor
Janet Brem, Guidance Counselor
Brian Brown, Guidance Counselor
Joyce Easton, Guidance Counselor
Raymond Miller, Guidance Counselor
Blair Osterlund, Counseling Psychologist
Ann Marie Ross, Guidance Counselor

Guidance Services

Brochures, catalogs and class schedules are available to help students become acquainted with LBCC. All matriculated students have the opportunity to talk with a counselor about programs, goals, and classes. During the first week of classes the student association offers assistance to new students through information booths, maps and programs.

Career Information

The Career Information service is at the front door of Takena Hall near the Placement and Counseling areas. Career Information carries audio tapes of LBCC programs, a career information computer terminal, vocational biographies, the current occupational outlook handbook and many other information aides. The area is staffed by a career counselor to assist students in using and evaluating this information.

Advising

LBCC provides advising assistance for students throughout the school year through the cooperation of counselors and teachers. When students need help in planning their class schedules they should contact their major instructor or the Division Office for their particular majors. The following list indicates which division each major is in.

Business Division

(B 111 - Office) Phil Clark, Director
Accounting
Accounting Technology
Administrative Secretary
Banking & Finance
Business Administration
Business Education
Culinary Arts & Restaurant Management
Data Processing
Educational Secretary
General Business (1 year)
Legal Secretary
Management
Marketing
Medical Receptionist
Medical Transcriptionist (1 year)
Office Administration
Secretarial Services (1 year)
Supervisory Training

Counseling Center

(T 103 - Office) Bob Talbott, Director
Associate of General Studies
Basic Transfer Program
Elementary Education
Home Economics
None (For the use of students taking 9 or fewer credits only)
Secondary Education
Undecided (Lower Division)
Undecided (Occupational-Technical Program)

Health Occupations and Physical Education Division

(HO 121 & AC 102 Office) Dick McClain, Director
Associate Degree Nursing (RN)
Dental Assistant (1 year)
Dental Hygienist
Nursing Assistant (1 Term)
Physical Education & Health

Humanities & Social Services Division

(H/SS 101 - Office) Ken Cheney, Director
Anthropology
Art (Fine Arts)
Criminal Justice
  Administration
  Corrections
  Law Enforcement
Performing Arts (Drama, Dance, Music, Speech)
Social Science
Economics
English (Literature, Composition, Creative Writing)
Geography
Graphic Communications/Journalism
  Design
  Printing Technology
  Journalism
History
Philosophy and Religion
Political Science
Psychology
Sociology

Industrial & Apprenticeship Division

(IA 141 - Office) Marv Seeman, Director
Auto Body Repair
Automotive Technology
Construction Technology (Carpentry)
Apprenticeship
Heavy Equipment Mechanics/Diesel
Machine Tool Technology
Metallurgical Technology
Refrigeration, Heating and Air Conditioning
Small Engine/Recreational Vehicle Repair
Welding

Science Technology Division

(ST 121 - Office) Pete Scott, Director
Agriculture
Animal Technology
Architecture
Biology
Chemistry
Drafting Technology
Electricity/Electronics
Engineering
Engineering Technology
Fire Science
Fisheries Biology
Forestry
General Science
Mathematics
Physics
Pre-Dental
Pre-Medical
Pre-Nursing
Pre-Veterinary Medicine
Science Lab Technician
Water/Wastewater Technology
Wildlife Biology

Special Services

(CC 121 - Office) Mel Gilson, Coordinator
Adult Education (High School Completion)

If you are unable to locate your major or division, check with the Guidance Center.

Counseling

Professional counselors are available to help students deal with academic vocational or personal problems. The Guidance Center is open from 8 a.m. to 5 p.m. weekdays, including the noon hour. During the first week of class there are counselors available from 6:30 to 8:30 p.m. Counselors are available in the evening certain days of the week. Contact the Guidance Center or Community Education offices for exact days and times.

The following Classes are offered through Guidance Services.

HD199 Assertiveness Training for Women and Men
■2 class hrs/wk ■1 cr. ■F/W/Sp
Facilitates the learning of a package of communication skills termed assertive behavior. Assertion rests on a foundation of respect for self, respect for others, and respect from others.

HD199 Human Potential and Self Motivation
■3 class hrs/wk ■2 cr. ■F/W/Sp
A semi-structured small group experience which stresses the development of self-motivation, self-confidence, empathetic regard for others, values clarification and self-determination through human potential skill-building and related experiences.Instructor permission required.

HD199 Life Planning for Adult Women
■2 class hrs/wk ■2 cr. ■F/W/Sp
For women seeking new directions in life. Exploration of values, interests, and abilities; support of women in like situations; and professional guidance and testing. Realistic alternatives explored in terms of careers, education, volunteerism, and personal creativity.

HD208 Career Planning
■3 class hrs/wk ■3 cr. ■F/W/Sp
Helps define a career, develop personal awareness, practice decision-making processes, and learn job-search skills. Student's involvement in class activities based on his or her own life situation. Combination of lectures and small-group discussions.

PY111 Personal Development
■4 class hrs/wk ■3 cr. ■F/W/Sp
Experience in interpersonal communication and group dynamics, with emphasis on the communication of feelings.

0.321 Introduction to Relaxation
■3 class hrs/wk ■1 cr. ■F/W/Sp
This is a very practical "how to" class in learning to relax both physically and mentally. Students learn about the "Fight or Flight" theory how long-term stress affects the body, and how nutrition and exercise contribute to relaxation.

ED 209 Leadership Practicum
■2-6 Class hrs/wks ■1-3 cr. ■F/W/Sp
A field based program to provide students involved in leadership activities, both on and off-campus, with skills in communication, time management, motivation, etc.

Director:
Robert A. Miller
Staff:
Lou Vijayakar, Counselor for Student Organizations

Student Organizations and Activities

Through the combined efforts of students, faculty and administration, student development activities at LBCC provide a balanced program of opportunities for the personal, social and cultural development of the student.

The college encourages those student development activities which will complement the academic program with opportunities for constructive leadership, cooperative planning and development of social and cultural interests. The participative nature of the programs provide students with invaluable learning opportunities.

All student activities, organizations and sports are open to all students without regard to sex or minority status. Students are encouraged to participate in those activities which are compatible with their interests. Among the activities planned in the coming year are speakers, films, dances, performing artists, symposiums, special seminars and recreational activities.

Student Leadership

LBCC provides opportunities for students to serve on college committees and to earn credit for participating in leadership activities to enhance student life.The LBCC Council of Representatives is a student organization which serves as an advisory group to and a communications link between all LBCC students and the faculty, administration and LBCC Board of Education. Student Representatives can exercise substantial influence on institutional policy formulation and implementation.

The council is composed of two student representatives from each academic division and community education plus one at-large representative. Any student enrolled in at least one credit class at LBCC is eligible to hold a representative position.

Student Rights, Freedoms, Responsibilities and Due Process

The LBCC Board of Education on December 9, 1971, approved as policy the document, "Student Rights, Freedoms, Responsibilities and Due Process!" As the title implies, policy is set forth regarding student's rights, conduct and procedural fairness. This document was developed by a committee of students, staff and board members. Students enrolling in classes at Linn-Benton Community College are subject to rules, limits and conditions set forth in the college Catalog, Class Schedule and other official publications of the institution.

Clubs and Organizations

Clubs and organizations have been established on the campus offering opportunities for affiliation in such areas as welding, engineering, wastewater technology, nursing, drama, business management and other fields. Students desiring information concerning present clubs and organizations or the establishment of new clubs should contact the Student Organizations Office (CC213).

Recreational Sports

A comprehensive recreational sports program is available to LBCC students during the academic school year. The program provides the student with opportunities for the development of leisure activity. Sports programs presently established are skiing, flag football, basketball, volleyball, slow-pitch softball, billiards and handball.Interested students should contact the Coordinator of Recreational Programs in the Activities Center.

Inter-Collegiate Athletics

Linn-Benton Community College has developed a comprehensive program of inter-collegiate athletics with an affiliation with the Oregon Community College Athletics Association. Programs projected for the 1980-81 school year include the following: men's and women's cross country, women's volleyball, men's and women's basketball, men's and women's track, men's and women's tennis, co-educational golf, women's softball, men's wrestling and men's baseball. Students interested in participation should contact the Director of Athletics in the Activities Center.

Music

The college offers several opportunities in the vocal and instrumental musical performing arts, including the highly regarded Swing Choir, Concert Choir and Jazz Ensemble. Individuals interested in participation should contact the Performing Arts Department located in the Humanities Building.

Drama

LBCC provides opportunities for student and community members to participate in drama productions for the student body and community. Individuals who are interested in theater

or acting should contact the Performing Arts Department in Takena Hall.

Publications

A number of publications are produced by the students of LBCC. The college newspaper, the Commuter, has received several awards for excellence. Students interested in participation should contact the Journalism Department of the Humanities Building.

Director:
Robert A. Miller

Campus and Community Services

Campus and Community Services at LBCC provides a broad offering of services and programs to both the campus and community. Services presently provided include restaurant, snack bar, fook and drink dispensaries, lost and found, ticket sales and distribution, recreational and game equipment, meeting rooms, catering, bulletin boards, public telephones, housing listings lockers for the handicapped, lounge areas, facility scheduling, tours campus and community events calendaring and information, and senior services. In addition to the services, the department also offers and coordinates a wide variety of cultural and educational events throughout the year.

College Center

The second level of the College Center serves as the gathering place for all members of the college community — students, faculty, administrators, alumni and guests. The Center provides an environment for casual and informal outside the classroom.

The Theatre

The newly constructed 533-seat LBCC Theater in Takena Hall is the community's largest and most complete facility for campus and community programs and events. Among such events held in the theater are the LBCC drama productions, the LBCC and Creative Arts Guild cultural performing arts series, major speakers and performers; as well as state-wide conferences, workshops and conventions.

Food Services

Located on the second level of the College Center and off the mall in Takena Hall, LBCC the food services provide a variety of menu offerings for students, staff and the community. In addition to its normal operation the food service also periodically caters within the facilities for special activities sponsored by College or community organizations. The normal hours of operation are from 7:30 am until 9 pm Monday through Thursday amd 7:30 am until 3 pm on Friday with extended hours for special occasions. College Center food services are operated on a self-sustaining basis.

Housing

Though the college does not provide institutional housing for its students living away from home, it does provide a current list of available housing in private homes and commercial dwellings. The listing is (available in the College Center Office) and is updated each quarter to facilitate locating accommodations with minimum delay.

Bookstore

The Bookstore provides all the required textbooks and miscellaneous supplies and materials needed by students attending LBCC. Profits from the Bookstore help support the extracurricular activities and programs at the college. Located in the College Center Building, the Bookstore is open from 8 am to 5 pm Monday through Thursday; 8 am to 5:30 pm Friday; 6:30-8:30 pm on Tuesday and Wednesday, unless otherwise posted, and 8:30 to 11:30 am on Saturday. There are extended hours during the first two weeks of each term. Information about refunds is available at the Bookstore. Buy back of used books is scheduled from 1 to 4 pm Fridays, and from 8:30 am to 4:00 pm Monday through Friday of finals week.

Health Insurance

LBCC makes available to students a comprehensive hospitalization and accident insurance program at reasonable rates. If students are not covered by their parent's insurance, they should certainly consider this insurance. Coverage is also available for dependents of married students.

Parking

Linn-Benton Community College provides free parking for students and staff on a first-come, first-serve basis. Certain areas are designated for specific uses.

Handicapped parking permits are available through the Campus Security Office, as are parking and traffic rules. Cars improperly parked are ticketed and subject to fines.

Campus Security

The Security Coordinator, with a staff of student aides, is responsible for maintaining safety and security on the campus, and for patrolling buildings and parking areas. Emergencies and safety hazards should be reported to the Security Office in the College Center Building.

Graphic Services

Graphic Services provides hands-on learning experiences for students enrolled in the Graphic Communications program. With permission from their instructor, graphics will also assist students in the making of overhead transparencies for presentations. Graphics may reproduce materials for student clubs and activities with permission from the Coordinator of Student Activities.

Director:
Jerome A. Johnson
Faculty:
Marian Cope
Katherine Clark
Russell Gregory
Bonnie Orr

Developmental Center

The Developmental Center provides a cluster of services designed for students, staff, and community served by LBCC. Because it offers such broad services, it forms a bridge between instructional areas and student services. These developmental or 'growth' programs provide for:

1. developing the learning skills of all students,
2. identifying the difficulties students face in learning, and
3. providing solutions to those difficulties.

The Developmental Center maintains an Open Door Policy. All students are welcome to take advantage of Center offerings, with or without earning credit. Many courses are individualized so that a student may begin or end his/her studies at any time during the quarter. Other services such as the skills labs can be used on a drop-in basis without signing up for a course.

Some students decide for themselves to improve their skills in the Developmental Center while others are referred by their instructors or counselors. Such recommendations by counselors are often based on the results of entrance exams or previous school experiences.

Tutorial Services (individualized, no credit)

Free, one-to-one extra help is provided for students by tutors. Students may receive assistance on either a drop-in or long-term basis. Tutoring is available in most subject areas.

Writing Lab (Individualized , No Credit)

Individual help is available in all areas of writing. Specific difficulties in writing from punctuation to research papers, may be studied. Students may just drop in or may study on a regular schedule.

Math Lab

The Math Lab is available to anyone enrolled at LBCC who wants help with mathematics. They can be individual problems or difficulties involved with enrollment in a course. Special tests have been created to help pinpoint learning problems in mathematics, and trained tutors are available during most open hours. The Math Lab is located on the second floor of the Learning Resource Center, and is staffed by college mathematics instructors.

Testing

The Developmental Center offers a variety of tests for currently enrolled students, prospective students, and members of the community. It administers:

A. the General Education Development test (GED) for the certificate of (high school) equivalency
B. the Comparative Guidance and Placement exam (CGP) for all new, full time students
C. the College Level Exam Program (CLEP) test for credit by exam
D. special admission tests for various programs on campus, such as the National League for Nursing (NLN) in Pre-Nursing and Guidance Exam used by the LBCC Nursing Program
E. skills tests, such as reading and writing
F. vision and hearing screening
G. individualized testing for other on-campus courses

Course Offerings

Classes in the Developmental Center offer the student learning experiences in different situations. Students may choose either a lecture and discussion classroom approach or an individualized program in which they can learn the material at their own pace. These individualized courses provide flexibility of scheduling and allow for variable credits. In a variable credit course, the student can earn one, two or three credits, depending upon the student's own effort and learning rate.

1.125 Study Skills (classroom setting and or lab setting)
■2-6 class hrs/wk ■0-3 cr. ■F/W/Sp
Instruction includes study techniques, budgeting time, studying for tests, test-taking tips (essay, multiple choice, etc.), note-taking, outlining, effective listening, and using the library. The course applies the skills learned to textbooks.

1.126 Language Arts Skills (individualized and variable credits in lab)
■2-6 class hrs/wk ■0-3 cr. ■F/W/Sp
Sentence structure, usage, punctuation, grammar, and improvement of writing skills are taught on a one-to-one basis. Diagnosis of existing skills indicates where a student begins within the program. Each student progresses through the program at his own pace, showing knowledge of one skill before beginning the next.

1.128 Reading Skills (individualized and variable credit in lab)
■ 2-6 class hrs/wks ■0-3 cr. ■ F/W/Sp
Individualized instruction in the reading skills of comprehension, reading rate and vocabulary. Individual diagnosis provides placement at the appropriate instructional level, and instruction stresses the improvement of those reading skills most closely related to the student academic and career plans.

Speed and Power Reading
■3 class hrs/wks ■3 cr. ■F/W/Sp
This course is intended for average and above average readers who wish to increase reading efficiency. Emphasis is placed on improvement of reading speed without significant loss of comprehension. Classroom, small group, and individual activities stress improvement of the skills of skimming and scanning.

1.130 Basic Grammar (classroom setting)
■3 class hrs/wks ■3 cr. ■F/W/Sp
Designed to instruct students in the basic rules and practices in grammar, sentence structure, punctuation and general usage in writing. Special attention is given to individual differences and difficulties and the application of course work to the student's writing.

1.131 Spelling (classroom setting)
■3 class hrs/wks ■3 cr. ■F/W/Sp
Spelling skill is developed through word structure, word attack skills and pronunciation. Proofreading and dictionary usage are emphasized for application to the student's writing.

1.132 Spelling Skills (individualized and variable credit in lab)
■2-6 class hrs/hrs ■0-3 cr. ■F/W/Sp
Improvement of spelling through studing phonetic and spelling principles in a primarily independent manner. Instruction is based on diagnosis of the student's existing spelling skills. Modules allow for each student's different needs and learning speeds.

1.133 Writing Lab (individualized and variable credits)
■1-6 class hrs/wks ■0-3 cr. ■F/W/Sp
Provides flexible course work in most writing skills. Each student's program is designed on a one-to-one contract basis with the instructor. Work may be on a short or long-term basis, with or without credit.

1.134 Study Skills-Vocational
■20-60 lab hrs/term ■0-3 cr.■F/W/Sp
Individualized instruction to develop specific skills in various vocational programs. The instruction will be supplemental to the regular course offerings and will not substitute for that instruction. Diagnosis of deficiencies and interests of students determines level of instruction. Prerequisite: Currently enrolled in a specific vocational program.

1.135 Developmental Reading (classroom setting)
■3 class hrs/wks ■3 cr.■F/W/Sp
This course is designed to improve the student's skills in comprehension reading rate and vocabulary. Reading skills are presented in individual and group activities. Diagnosis of the individual's reading skill provides placement for the individual activities. The course may be taken three times, if desired, for non-transfer credit.

1.150 Techniques of Reading and Studying (classroom setting)
■3 class hrs/wks ■3 cr.■F/W/Sp
Study skills and reading skills necessary to meet academic requirements are taught with emphasis on the needs of the class. Reading skills of comprehension, rate and vocabulary development are individualized to meet needs of each student.

1.156 English as a Second Language
■3 class hrs/wks■3 cr.■F/W/Sp
Designed for non-native speakers. Class gives practice in reading, writing, and speaking English. Emphasis on vocabulary, idioms and practical classroom skills. Teacher approval is needed for enrollment in class.

EN115 Effective Reading (classroom setting)
■3 class hrs/wks ■3 cr.■F/W/Sp
Intended for the average and above average reader who wishes to improve study skills and increase the reading efficiency skills of speed, comprehension and vocabulary. Entrance to the course is determined by a placement exam or a designated level of achievement in Developmental Reading. Counselor or instructor approval needed.

Minicourses in Developmental Skills
Special topics in development skills offered on a short course basis. Subject determined by campus or program curriculum needs. Courses may begin at anytime during the quarter, vary between two to six weeks, and offer from zero to two credits.

Director:
Stan Ruckman
Faculty:
Virginia Fowler, Librarian
Yvonne Lee, Librarian
Paul Snyder, Media Specialist

Learning Resource Center

The Learning Resource Center serves the educational needs of the college community by providing materials and services as resources for learning.

The Learning Resource Center provides a wide range of print and non-print materials for educational purposes. The materials available cover many levels of student ability. Enrichment materials are provided to meet the leisure-time and general information needs of the college and local community. Consultation is provided to staff and students on improving the utilization of existing resources or development of new resources.

The LRC is responsible for the acquisition and processing of educational materials which support the college programs. Staff and facilities are provided for the production of many locally developed materials.

Library

The library maintains a balanced collection of approximately 30,000 volumes and subscribes to approximately 500 periodicals and newspapers. The library provides a basic reference collection, general index materials, and current books in the liberal arts, technical, and vocational fields. Resources in areas of general interest or current topics of local or national concern are also well represented. Library materials not available through Linn-Benton may often be obtained through interlibrary loans within the state of Oregon. The materials and services available help to make the library a total information center serving the college and the community. Students may receive instruction in library skills from the college librarians or in conjunction with serveral writing classes.

The library includes a good selection of non-print instructional and informational materials such as audio-tapes, video-tapes, filmstrips and slide sets. The equipment for using these materials is located in the library and staff is available to provide assistance in learning to operate the equipment. Some equipment is available for short-term checkout.

Many of the instructional programs at Linn-Benton Community College are offered on an individualized instruction basis. Materials and equipment which are used in these programs are located in classrooms and resource rooms throughout the campus.

Media Services

The Media Services Department supports the instructional program through the search, acquisition, design, production and implementation of audio-visual and television materials and related equipment. Mediated instruction occurs as an essential part of the courses taught at Linn-Benton. Programs of general interest are available to all students and staff through the library where they are cataloged and circulated.

When acceptable instructional materials are not available within the college collection or from commercial sources, they may be produced locally by media services. These materials provide the school with a balanced collection which meets the instructional needs of the student. The facilities of the department are also available for the production of faculty- and student-developed classroom materials.

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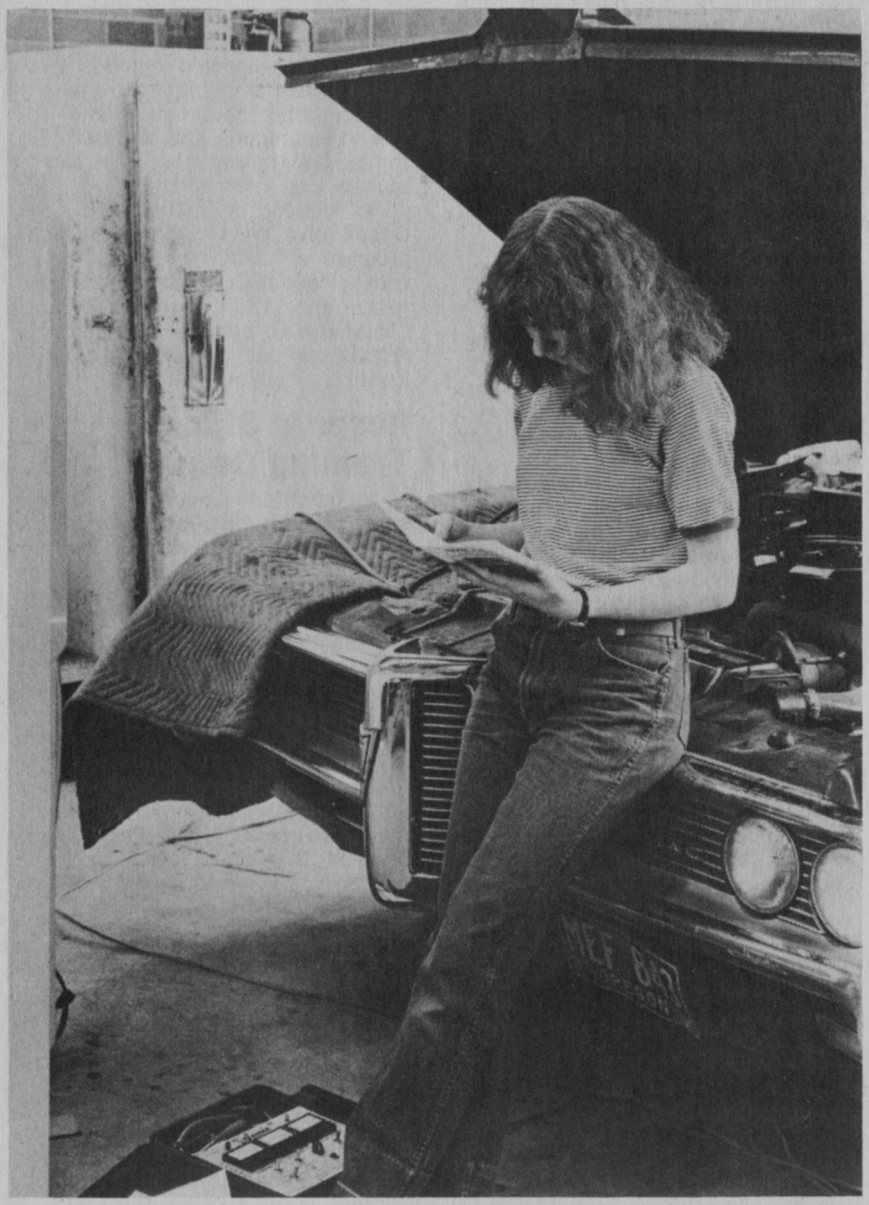


Programs of Study

All offerings of the college, either academic transfer or occupational, are taught as college classes; however, not all courses may be transferred to four-year colleges and universities.

Generally, courses numbered 50-299 have been approved for transfer and are survey or foundation courses. These courses satisfy group requirements in the language and literature, science and social science groups. Courses numbered 100-199 are considered freshman level courses and those numbered 200-299 are considered sophomore courses.

Non-transfer vocational-technical occupational courses are numbered below 50; for example, 1.253, 6.024, etc. Some courses in the technical area may be transferable to four-year colleges but students are advised to check with a counselor for the transferability of courses and other information regarding their programs.

Transfer Programs and Curricula

Many students are interested in building a broad base of knowledge and working toward a baccalaureate degree. For these students, Linn-Benton Community College offers a wide choice of general studies and liberal arts courses with credits transferable to four-year institutions.

Transfer Programs

One to two year transfer programs are available in the following areas:

Agriculture Science
Architecture and Interior Architecture
Art
Atmospheric Sciences
Biology
Business Administration
Business Education
Criminal Justice
  Law Enforcement
  Corrections
Computer Science
Dentistry
Distributive Education
Economics
Education
Engineering and Engineering Technology
Forestry
General Science
Home Economics
Humanities
Medical Technology
Music
Pharmacy
Physical Education
Social Science

Occupational and Technical Programs

The various and constantly expanding curricula of the occupational and technical programs represent organized experiences designed to prepare students for effective employment and advancement in their chosen vocation. All curricula are periodically reviewed and updated to provide sufficient skills and training to be applicable to a number of positions with similar occupational requirements.

The needs of the students, industry and the community are considered in providing not only for full-time preparatory study, but evening course offerings for those already employed who seek additional study and training in their fields.

Cooperative Work Experience

Cooperative Work Experience is an instructional program designed to provide opportunity for students enrolled in programs at LBCC to earn up to 16 hours of degree credit for what they learn on the job.

1.200/WE201 Cooperative Work Experience is a course which allows the student to work at a job that closely parallels his or her field of study while enrolled in school.

The student has the opportunity to apply knowledge in a practical work situation which helps bridge the gap between the theoretical and the actual, and keep the student's perceptions realistic.

Through work experience, the student may test interest in and suitability for an occupation while learning, being exposed to work methods not taught in the classroom, and having access to equipment not normally available in the college laboratory.

The student obtains direction and orientation in preparation for the ever changing needs in industry, government, and service agencies, making the transition from school to work gradually under the guidance of a coordinator, with time to comprehend the significance of the learning situation and the world of work.

While cooperative work experience is essentially an instructional program, the student nevertheless begins earning and understanding what it takes to manage time and money productively. He or she can gain a sense of community, and an awareness of personal and community responsibilities. Through cooperative work experience, most students improve their motivation and ability to get along with others. Of major importance is the fact that the student is better oriented to the world of work and has established solid contacts for later job placement.

1.201/WE202 Cooperative Work Experience is required for all students enrolled in Cooperative Work Experience and is designed to provide opportunity to share work related experiences with the work experience coordinator and fellow field placement students.

Content presented includes career planning and preparation, how to write performance objectives, and job-search techniques. The seminar meets for two hours every other week and the student can earn one credit.

A student interested in building Cooperative Work Experience into a program at LBCC should discuss it with a counselor, major area instructors, and the work experience coodinator to plan the best term for registration and allow ample time for locating a training station.

Reserve Officer Training Corps

Linn-Benton Community College students, in cooperation with Oregon State University, may enroll in the Army Reserve Officers Training Corps. Students who wish to enroll in this program may apply and attend classes at Linn-Benton Community College or at OSU depending on class size. Instruction in the Military Science Department is designed to produce junior officers for the United States Army in both the regular and reserve components. Registration is processed through LBCC and the student is registered in the Army R.O.T.C. program as a Special Student.

For further information please contact Director of Admissions.

Transfer Curricula

The curricula outlined below are intended to help students determine which transfer courses they should take at LBCC based on the four-year degree program being considered and the four-year college to which the courses will be transferred. Before students enroll for any transfer courses to apply towards a bachelor's degree they should talk with a counselor.

FOR STUDENTS PLANNING TRANSFER TO OREGON COLLEGE OF EDUCATION. REQUIRED COURSES

FOR ALL BACCALAUREATE DEGREES:

Skills:

Introduction to Liberal Arts (not offered at LBCC)	1
English Composition (WR121, WR122, and WR123)	9
Math (MT95) or equivalent	4
Speech (SP111)	3
PE Activity	5

Distribution:

Humanities:	
EN104, EN105, EN106 or EN107, EN108, EN109	9
Philosophy or Religion Elective	3
Social Science:	
HS101, HS102, HS103	9
PY201, or PY202	3
Social Science Elective	3
Math/Science:	
Biology, Botany, Zoology, Math, Chemistry, Physical Science, Physics	12
Creative Arts:	
Courses selected from 3 of the 4 areas of creative arts (art, dance, music, drama)	9

RECOMMENDED SCHEDULE
FRESHMAN YEAR

Fall Term	
WR121	3
SP111	3
EN104/EN107	3
HS101	3
Major or Elective	3-6
Winter Term	
WR122	3
MT95	4
Physical Ed Activity	1
EN105/EN108	3
HS101	3
Major or Elective	3
Spring Term	
WR123	3
Physical Ed Activity	1
EN104/EN109	3
HS101	3
Major or Elective	6

SOPHOMORE YEAR

Fall Term	
Physical Ed Activity	1
PY201	3
Creative Arts	3
Math/Science	4
Major or Elective	6
Winter Term	
Physical Ed Activity	1
Social Science Elective	3
Creative Arts	3
Math/Science	4
Major or Elective	6
Spring Term	
Physical Ed Activity	1
Philosophy or Related Elective	3
Creative Arts	3
Math/Science	4
Major or Elective	6

Students may transfer up to 108 hours from LBCC to OCE. Students desiring an Associate of Arts degree from LBCC should include an additional credit of PE activity (for a total of 6) in the recommended schedule.

FOR STUDENTS PLANNING TRANSFER TO OREGON STATE UNIVERSITY. BASIC COURSE REQUIRED FOR ALL BACCALAUREATE DEGREES:

English Composition (WR121)	3
Written and Oral English (in addition to WR121)	6
P.E. Activity	3

Group Requirements: Students must complete the indicated number of hours in each of the following groups. Courses numbered 199 and courses numbered below 100 will not clear the Group Requirements.

Humanities Group:	
Art, English, History, Music, Philosophy, Religion, Speech, (except SP112), Drama, Women's Studies, Creative Writing	12
Social Science Group	
Anthropology, Economics, Geography, Political Science, Psychology, Sociology	12
Math/Science Group	
Biology, Botany, Zoology, Math, Chemistry, Physical Science, Physics	15

RECOMMENDED SCHEDULE
FRESHMAN YEAR

Fall Term	
WR121	3
PE Activity	1
Humanities Group	3
Social Science Group	3
Major or Elective	6
Winter Term	
WR122*	3
PE Activity	1
Humanities Group	3
Social Science Group	3
Major or Elective	6
Spring Term	
SP112*	3
PE Activity	1
Humanities Group	3
Social Science Group	3
Major or Elective	6

SOPHOMORE YEAR

Fall Term	
Humanities Group	3
Math/Science	4
Major or Elective	9
Winter Term	
Social Science Group	3
Math/Science Group	4
Major or Elective	9
Spring Term	
Math/Science Group	8
Major or Elective	9

*See OSU Catalog for other options.

Students may transfer up to 108 credits to OSU. Students desiring an Associate of Arts degree from LBCC should include an additional 3 credits of PE Activity or HE250 or HE252 in the recommended shcedule.

FOR STUDENTS PLANNING TRANSFER TO PORTLAND STATE UNIVERSITY, BASIC COURSES REQUIRED FOR ALL BACCALAUREATE DEGREES;

PE and Health	9
PE Activity	
HE250	
English Composition	6
WR121	
WR123	
Arts and Letters Group	18
At least 9 credits from one department: Art, English, Journalism, Music, Philosophy, Speech Communication, Drama, Women's Studies	
Science Group	18
At least 9 credits from one department: Biology, Chemistry, Earth Sciences, Applied Sciences, General Sciences, Math, Physics	
Social Science Group	18
At least 9 credits from one department: Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology	

RECOMMENDED SCHEDULE
FRESHMAN YEAR

Fall Term	
PE Activity	1
Arts/Letter Group	3
Science Group	3
WR121	3
Social Science Group	3
Major or Elective	3
Winter Term	
PE Activity	1
Arts/Letter Group	3
Science Group	3
WR123	3
Social Science Group	3
Major or Elective	3
Spring Term	
PE Activity	3
Arts/Letter Group	3
Science Group	3
HE250	3
Social Science Group	3
Major or Elective	3

SOPHOMORE YEAR

Fall Term	
PE Activity	1
Arts/Letter Group	3
Science Group	3
Social Science Group	3
Major or Elective	6
Winter Term	
PE Activity	1
Arts/Letter Group	3
Science Group	3
Social Science Group	3
Major or Elective	6
Spring Term	
PE Activity	1

Arts/Letter Group	3
Science Group	3
Social Science Group	3
Major or Elective	6

This recommended schedule will satisfy all Associate of Arts degree requirements at LBCC. Students may transfer up to 108 hours from LBCC to PSU.

FOR STUDENTS PLANNING TRANSFER TO THE UNIVERSITY OF OREGON. BASIC COURSES REQUIRED FOR ALL BACCALAUREATE DEGREES:

Written English (WR121 And WR122 or WR123)	6
PE Activity	5
Health Education (HE250)	3

Group Requirements: Each group requires 6 courses of at least 3 credit. Courses numbered below 100 and courses numbered 199 will not clear Group Requirements.

Humanities Group: Art History, English, Creative Writing, Music Appreciation, Philosophy, Speech, Drama	18
Social Sciences Group: Anthropology, Economics, Geography, History, Political Science, Psychology, Religion, Sociology, Women's Studies	18
Math/Science Group: Biology, Botany, Zoology, Math, Chemistry, Physical Science, Physics	18-24

RECOMMENDED SCHEDULE
FRESHMAN YEAR

Fall Term	
WR121	3
PE Activity	1
Humanities Group	3
Social Science Group	3
Math/Science Group	4
Major or Elective	3
Winter Term	
WR122 or WR123	3
PE Activity	1
Humanities Group	3
Social Science Group	3
Math/Science Group	4
Major or Elective	3
Spring Term	
HE250	3
PE Activity	1
Humanities Group	3
Social Science Group	3
Math/Science Group	4
Major or Elective	3

SOPHOMORE YEAR

Fall Term	
PE Activity	1
Humanities Group	3
Social Science Group	3
Math/Science Group	4
Major or Elective	6
Winter Term	
PE Activity	1
Humanities Group	3
Social Science Group	3
Math/Science Group	4
Major or Elective	6
Spring Term	
Humanities Group	3
Social Science Group	3
Math/Science Goup	4
Major or Elective	6

Students may transfer up to 108 hours from LBCC to U of O. Students desiring an Associate of Arts degree from LBCC should include SP111 or SP112 in the recommended schedule.

Degrees and Certificates

	Course Cert	1 Yr Cert	2 Yr Cert	AS	AA	AGS
Basic Lower Division Transfer					●	
General Studies						●
Accounting Technology				●		
Administrative Secretary				●		
Agriculture - Crop and Turf Management				●		
Animal Technology				●		
Associate Degree Nursing				●		
Auto Body Repair		●		●		
Automotive Technology		●		●		
Banking and Finance				●		
Construction Technology		●		●		
Crafts and Trades (Apprenticeship)				●		
Criminal Justice - Corrections				●	●	
Criminal Justice - Law Enforcement				●	●	
Culinary Arts & Restaurant Management		●	●	●		
Data Processing			●	●		
Dental Assistant		●				
Drafting Technology				●		
Educational Secretary				●		
Electricity/Electronics		●		●		
Emergency Medical Tech		●				
Engineering Technology - Civil/Mechanical				●		
Engineering Technology - Energy				●		
Farm Records Management	●					
Farrier School	●					
Graphic Communications - Graphic Design				●		
Graphic Communications - Printing Tech				●		
Heavy Equipment Mechanics - Diesel		●		●		
Human Services		●				
Industrial Technical Representative		●				
Legal Secretary				●		
Machine Tool Technology				●		
Management				●		
Marketing				●		
Medical Receptionist				●		
Medical Transcriptionist		●				
Metallurgical Technology	●	●		●		
Nurse Refresher	●					
Nursing Assistant	●					
Real Estate				●		
Refrigeration, Air Cond, Heating		●		●		
Science Lab Technician				●		
Secretarial Services		●				
Small Business Records Management	●					
Small Engine/Recreational Vehicle Repair		●		●		
Supervisory Training	●	●		●		
Wastewater and Water/Wastewater Technology		●		●		
Welding		●		●		
Competency Based Adult High School Diploma	●					
General Education Development (GED)	●					

Business Division

Director:
Phillip V. Clark

Business education at Linn-Benton Community College is designed both to prepare students vocationally and to help them develop the social and economic attitudes essential for future success.

The Business Division provides opportunities for students to learn or increase their skills, and develop an understanding of business and business methods in a changing society.

Courses are designed both for students preparing to enter business and for those already employed. Evening and weekend courses and short seminars are provided for students with special needs and interests.

Faculty:
Maynard Chambers, Chairperson
William Craven
Gerry Conner
Michael Kauffman
Ward Ledbetter
Richard Lenhart
J.T. Peterson
James Vitz

Business Management

The Business area offers the following types of courses and programs to meet a variety of student needs:

Two-Year Programs

1. A two-year program of Business Administration leading to an Associate of Arts degree;
2. A two-year program in Secretarial Science-Business Education leading to an Associate of Arts degree;
3. A two-year program in Business Management leading to an Associate of Science degree;
4. A two-year program in Data Processing leading to an Associate of Science degree;
5. A two-year program in Accounting Technology leading to an Associate of Science degree;
6. A two-year program in Banking and Finance leading to an Associate of Science degree;
7. A two-year program in Marketing leading to an Associate of Science degree;
8. A two-year program in Real Estate leading to an Associate of Science degree;
9. A two-year program in Supervisory Training leading to an Associate of Science degree;
10. A two-year program for an Admininstrative Secretary leading to an Associate of Science degree;
11. A two-year program for Educational Secretaries leading to an Associate of Science degree;
12. A two-year program for Legal Secretaries leading to an Associate of Science degree;
13. A two-year program for Medical Receptionists leading to an Associate of Science degree;
14. A two-year program in Health and Restaurant Cooking leading to an Associate of Science degree or a two-year certificate;
15. A two-year program in Chef Training leading to an Associate of Science degree or a two-year certificate;
16. A two-year program in Restaurant and Catering Management leading to an Associate of Science degree or a two-year certificate;

One-Year Programs

17. A one-year program in General Business leading to a Certificate of Completion;
18. A one-year program in Secretarial Services leading to a Certificate of Completion;
19. A one-year program for Medical Transcriptionists leading to a Certificate of Completion;
20. A one-year program in Supervisory Training leading to a Certificate of Completion;
21. A one-year Certificate in Data Processing;
22. A one-year program in Professional Cooking leading to a Certificate of Completion;
23. A one-year Certificate of Completion in Dining Room Supervision;

Special Programs

24. A short program in Supervisory Training leading to a Supervisory Certificate;
25. Courses offered through the joint effort of the College and the American Institute of Banking designed as a program specifically for bank employees;
26. Courses to fit the personal or vocational needs of part-time students in the day or evening programs;
27. Varied general business courses for students majoring in other fields who desire some background and specific knowledge in business;
28. Special certificates in selected areas of Culinary Arts and Dining Room Service will be awarded to students who satisfactorily complete individualized programs of study.

NOTE: Students wishing to take longer than the proposed number of quarters to complete their program may do so.

Cooperative Work Experience

Students may, upon the recommendation of the program coordinator, and the appropriate department chairperson, receive transfer or non-transfer college credit by participating in Cooperative Work Experience (CWE). Further information may be found in The Cooperative Work Experience section of this catalog.

1.200/WE201 Cooperative Work Experience (CWE)
■3-48 class hrs/wk ■1-16 cr.
■F/W/Sp/Sm

Cooperative Work Experience is designed to give the student actual work experience which closely parallels his field of study. Further information is available in the Cooperative Work Experience section of this catalog.

1.201/WE202 Cooperative Work Experience Seminar
■1 class hr/wk ■1 cr. ■F/W/Sp/Sm
Refer to the Cooperative Work Experience section of this catalog.

Accounting Technology

This two-year program is designed to prepare students for career positions in accounting. Accounting positions exist in public accounting firms; retail, industrial, and manufacturing businesses; and in various government agencies.

Career opportunities include accounting clerk, full-charge bookkeeper, junior accountant, internal auditor, and management trainee.

The following outline indicates the general course requirements for those seeking the Associate of Science Degree in Accounting Technology. Students wishing to take individual courses to qualify for special employment opportunities may do so with the consent of the Chairman of the Business Management Department.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Winter Term
1.102 Occupational Writing or
WR121 English Comp 3

SOPHOMORE YEAR
Winter Term
HE250 Health and/or
HE252 First Aid and/or
9.317 Multi-Media First Aid and/or
0.571 CPR or
PE Activity Courses 4
General Education Electives 3

Spring Term
1.103 Occupational Speech or
SP111 Interpersonal Speech Comm or
SP112 Fundamentals of Speech 3
General Education Electives 3

Program Requirements

FRESHMAN YEAR
Fall Term
BA101 Intro to Business 4
~~SS~~121 Typing I 3
~~2.515 Business Math w/Calculators~~ 3
2.530 Practical Accounting I 3
Bus. Electives ~~+ 3~~
Winter Term
~~2.515 Business Math w/Calculators~~ 2
2.531 Practical Accounting II 3
BA210 Principles of Management 3
2.130 Business Quantative Methods 3
Spring Term
2.532 Practical Accounting III 3
EC115 Outline of Economics ~~3~~ 4
BA223 Principles of Marketing ~~3~~ 4
2.516 Business Statistics 3

SOPHOMORE YEAR
Fall Term
2.595 Inter Accounting I 3
2.518 Business Law or
BA226 Business Law ~~3~~ 4
2.509 Intro to Computers 3
9.743 Income Tax Preparation 3
Winter Term
2.596 Inter Accounting II 3
2.534 Cost Accounting 3
2.415 Human Relations in Business 3
Spring Term
2.597 Inter Accounting III 3
2.535 Payroll Accounting 3
Fin Mngt 3
Intro to Labor Econ 3

Banking and Finance

This two-year program is designed for students seeking careers with financial institutions and for those already working for financial institutions who seek additional knowledge. Career opportunities are found in banks, savings and loan firms, consumer finance companies and similar financial companies.

This program was planned in cooperation with the Linn-Benton Chapter of the American Institute of Banking.

The following outline indicates the general course requirements for those seeking the Associate of Science degree in Banking and Finance. Students wishing to take individual courses to qualify for special employment opportunities may do so with the consent of the Chairman of the Business Management Department.

The specialized banking courses will be offered only during the evenings during the 1979-80 school year.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR
Winter Term
1.102 Occupational Writing or
WR121 English Comp 3
SOPHOMORE YEAR
Fall Term
General Education Electives 3
Winter Term
1.103 Occupational Speech or
SP111 Interpersonal Speech or
SP112 Fundamentals of Speech 3
~~General Education~~ Electives 3
Spring Term
HE250 Health and/or
HE252 First Aid and/or
9.317 Multi-Media First Aid and/or
0.571 CPR or
PE Activity Courses 4

Program Requirements

FRESHMAN YEAR
Fall Term
BA101 Introduction to Business 4
~~SS~~121 Typing I 3
~~2.515 Business Math w/Calculators~~ 3
2.530 Practical Accounting I 3
~~General Education~~ Electives 3
Winter Term
~~2.515 Business Math w/Calculators~~ 2
2.531 Practical Accounting II 3
BA210 Principles of Management 3
2.130 Business Quantitive Methods 3
~~General Education~~ Electives 3
Spring Term
2.532 Practical Accounting III 3
EC115 Outling of Economics 4
BA223 Principles of Marketing ~~3~~ 4
2.516 Business Statistics 3
Bus. ~~General Education~~ Electives 3

SOPHOMORE YEAR
Fall Term
9.768 Principles of Bank Operations 3
2.518 Business Law or
BA226 Business Law ~~3~~ 4
2.509 Intro to Computers 3
B+F ~~Banking and Finance~~ Bus. Electives 3
Winter Term
2.415 Human Relations in Business 3
9.773 Money and Banking 3
~~Banking and Finance~~ B+F Electives 3
Spring Term
2.222 Financial Mngt 3
EC216 Intro to Labor Economics 3
9.770 Bank Management 3
Banking and Finance Electives 3

Business Management

This two year program is designed to meet the needs of persons preparing for employment in a variety of business occupations. The successful completion of this course of study should afford the graduate an entry-level position and lead eventually to middle-management positions. Career opportunities include management positions in: retail business, public utilities, insurance companies, real estate agencies, transportation firms, and manufacturing industries.

The following outline indicates the general course requirements for those seeking the Associate of Science degree in Management. Students wishing to take individual courses to qualify for specific employment opportunities may do so with the consent of the Chairperson of the Business Management Department. Specific variations in the curriculum are available for students interested in small business management.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR
Fall Term
1.103 Occupational Speech or
SP111 Interpersonal Speech Comm or
SP112 Fundamentals of Speech 3
Winter Term
Electives 3

Spring Term
HE250 Health and/or
HE252 First Aid and/or
1.102 Occupational Writing or
WR121 English Comp 3

SOPHOMORE YEAR
Fall Term
HE250 Health and/or
HE252 First Aid and/or
9.317 Multi-Media First Aid and/or
0.571 CPR or
PE Activity Courses 4
General Education Electives
Winter Term
1.103 Occupational Speech or
SP111 Interpersonal Speech Comm or
SP112 Fundamentals of Speech 3

Program Requirements

FRESHMAN YEAR
Fall Term
BA101 Intro to Business 4
~~2.515 Business Math w/Calculators~~ ~~2~~
~~SS~~121 Typing I 3
2.530 Practical Acounting I 3
Elective 3
Winter Term
~~2.515 Business Math w/Calculators~~ ~~2~~
2.531 Practical Accounting II 3
BA210 Principles of Management 3
2.130 Business Quantitative Methods 3
Spring Term
2.532 Practical Accounting III 3
EC115 Outline of Economics 4
BA223 Principles of Marketing ~~3~~ 4
2.516 Business Statistics 3

SOPHOMORE YEAR
Fall Term
2.518 Business Law or
BA226 Business Law 3/4
2.113 Personnel Management 3
2.509 Intro to Computers 3
Winter Term
9.520 Wage Administration 3
2.415 Human Relations in Business 3
Business Electives 6
Spring Term
2.222 Financial Management 3
EC216 Intro to Labor Economics 3
Business Electives 6

Marketing

The Marketing program is designed to prepare students for careers related to sales to the public. Careers are found in retailing, wholesaling, specialty selling and buying, advertising, sales information research, and purchasing.

The following outline indicates the general course requirements for those seeking the Associate of Science degree in Marketing. Students wishing to take individual courses to qualify for specific employment opportunities may do so with the consent of the Chairperson of the Business Management Department.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR
Fall Term
1.102 Occupational Writing or
WR121 English Comp 3
Winter Term
General Education Electives 3

SOPHOMORE YEAR
Fall Term
General Education Electives 3
Winter Term
HE250 Health and/or
HE252 First Aid and/or
9.317 Multi-Media First Aid and/or
0.571 CPR or
PE Activity Courses 4
Spring Term
1.103 Occupational Speech or
SP111 Interpersonal Speech Comm or
SP112 Fundamentals of Speech 3

Program Requirements

FRESHMAN YEAR
Fall Term
BA101 Intro to Business 4
~~2.515 Business Math w/Calculators~~ ~~3~~
~~SS~~121 Typing I 3
2.530 Practical Accounting I 3
Winter Term
~~2.515 Business Math w/Calculators~~ ~~2~~
2.531 Practical Accounting II 3
BA210 Principles of Management 3
2.130 Business Quantitative Methods 3
Spring Term
2.532 Practical Accounting III 3
EC115 Outline of Economics 4
BA223 Principles of Marketing ~~3~~ 4
2.516 Business Statistics 3

SOPHOMORE YEAR
Fall Term
2.110 Salesmanship 3
2.518 Business Law or
BA226 Business Law 3/4
2.509 Intro to Computers 3
Winter Term
2.134 Retail Merchandising 3
~~2.139 Market Research~~ 3
2.109 Public Relations
2.415 Human Relations in Business 3
Business Electives 5 ~~4~~
Spring Term
2.30~~9~~8 Advertising 3
2.222 Financial Management 3
EC216 Intro to Labor Economics 3
Business Electives 6

Real Estate

This program is designed to prepare people for entry level jobs in Real Estate or a variety of jobs associated with business (commercial banking, savings and loans, escrow services, land planning and zoning services, appraisal services, and site selection). Certain courses within this program are those approved by the State of Oregon Real Estate Division and qualify students for the state Real Estate sales exams. Many of the specialized Real Estate courses are offered only as evening classes.

Students should see the Real Estate advisor for specific information regarding LBCC graduation requirements or State of Oregon Real Estate Division requirements.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR
Fall Term
2.515V Business Math 3
Winter Term
9.317 Multi-Media First Aid and/or
PE Activity Courses 1
2.515 Business Math 2

SOPHOMORE YEAR
Fall Term
SP111 Interpersonal Speech Comm or
1.103 Occupational Speech 3
Winter Term
EN121 English Comp or
1.102 Occupational Writing 3
HE250 Health and/or
HE252 First Aid and/or
PE Activity Courses 3
General Education Electives 3
Spring Term
General Education Electives 3

Program Requirements

FRESHMAN YEAR
Fall Term
9.284 Real Estate Practices 3
BA211 Principles of Accounting I

	or	
2.530	Practical Accounting I	3
EC201	Economics or	
2.121	Applied Economics	3
BA226	Business Law	3
Winter Term		
2.130	Business Quantitative Methods	3
BA213	Principles of Accounting II or	
2.531	Practical Accounting II	3
9.285	Real Estate Computation	3
9.291	Real Estate Law	3
BA223	Marketing or	
2.131	Elements of Marketing	3
Spring Term		
BA213	Principles of Accounting III or	
2.532	Practical Accounting III	3
9.283	Real Estate Finance I	3
2.516	Introduction to Business Statistics	3
SS121	Typing I	3
2.110	Salesmanship	3

SOPHOMORE YEAR

Fall Term		
9.280	Real Estate Investments	3
2.415	Human Relations in Business	3
CS101	Nature of Dig Comp	4
Winter Term		
9.277	Real Estate Appraisal I	3
9.292	Escrow Procedures I	3
Spring Term		
2.222	Financial Management	3
2.308	Principles Of Advertising	3
2.710	On-The-Job Training and/or Work Experience	6V
	Business Electives	6V

9.269 Real Estate Office Management
■3 class hrs/wk ■3 cr. ■On Demand

A course designed primarily for people already engaged in real estate sales who desire to open their own real estate brokerage house. Emphasis is placed on planning, start up procedure and on-going office programs and procedures.

Prerequisite: Active real estate sales license or permission of instructor.

9.283 Real Estate Finance
■3 class hrs/wk ■3 cr. ■F/W/Sp

A course designed to show the various means available in financing real property. Emphasis is placed on method and sources of loan funds, government and non-government programs, loan applications, taxation and exchanges.

9.284 Real Estate Principles
■3 class hrs/wk ■3 cr. ■F/W/Sp

A preparation for entry into real estate. A basic approach to brokerage and licensing as applied to the state of Oregon; operating an office, selling and advertising; accepted standards of ethical conduct, property management, title valuation, planning, zoning, urban renewal, public housing and development.

Prerequisite: Employed in real estate or brokerage firms or related fields.

9.291 Real Estate Law
■3 class hrs/wk ■3 cr. ■F/W/Sp

A study of Oregon real estate law as it applies to the ownership use and transfer of title in real property. Emphasis is placed on legal descriptions, contracts, titles, liens, estates, covenants, land use control, deeds, landlord/tenant relationship and principal/agent relationships.

9.560 Supervision of Real Estate Sales Personnel
■3 class hrs/wk ■3 cr. ■On Demand

A basic course for prospective real estate brokers in supervising the activities of real estate sales personnel. Emphasis is placed on planning, selection, training, evaluation, motivation, supervision and communication.

Prerequisite: Active real estate sales license or permission of instructor.

See Community Education Division for additional Real Estate descriptions.

Supervisory Training

This program is designed as a series of courses of supervisory methods and techniques. The courses are available to any individual who is currently in a supervisory position or is preparing for such a position. There are four options available to the student: 1) an 18 credit Certificate of Completion in Supervision; 2) an 18 credit Certificate of Completion in Industrial Safety; 3) a 45 credit Certificate of Completion in Advanced Supervisor Development; and 4) an Associate of Science Degree in Supervision (90 credits). Students are encouraged to first complete the 18 credit program, then the 45 credit program and finally the Associate of Science Degree.

The following outlines indicate the general course requirements for those seeking these Certificates and/or Degrees. Students wishing to take individual courses to qualify for special employment may do so with the consent of the Business Management Department.

The programs are designed primarily for evening students and the supervisory training courses are offered only during the evening.

Program Requirements

CERTIFICATE IN SUPERVISION
(18 credits)

BA101	Intro to Business	4
9.500	Elements of Supervision	3
9.502	Psychology for Supervisors	3
9.506	Human Relations	3
	Business Electives*	5

*Also includes On-The-Job Training and/or Credit for approved prior work experience.

CERTIFICATE IN INDUSTRIAL SAFETY
(18 credits)

9.555	Industrial Safety I	3
9.500	Elements of Supervision	3
9.556	Industrial Safety II	3
9.502	Psychology for Supervisors	3
9.557	Industrial Safety III	3
9.506	Human Relations	3

CERTIFICATE IN ADVANCED SUPERVISOR DEVELOPMENT
(45 credits)

BA101	Intro to Business	4
9.500	Elements of Supervision	3
9.502	Psychology for Supervisors	3
9.506	Human Relations	3
9.508	Labor-Management Relations	3
9.555	Industrial Safety I	3
WR120	Basic Writing Skills	3
~~1.102~~	~~Occupational Writing~~	3
1.103	Occupational Beg or Inter Oral Comm	3
	Business Electives*	17

*Also includes On-The-Job Training and/or Credit for approved prior work experience up to a maximum of 12 credits.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term		
1.102	Occupational Writing or	
WR121	English Comp	3
Winter Term		
2.515	Business Math	4
Spring Term		
	General Education Electives	3

SOPHOMORE YEAR

Fall Term		
1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3
Winter Term		
	General Education Electives	3
Spring Term		
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR or PE Activity Courses	4

Program Requirements

BA101	Introduction to Business	4
9.500	Elements of Supervision	3
9.502	Psychology for Supervisors	3
9.506	Human Relations	3
9.508	Labor-Management Relations	3
9.555	Industrial Safety I	3
~~9.509~~	~~Applied Economics~~	~~3~~
9.514	Cost Accounting/Supervisors see sheet	~~3~~
	Business Electives	~~9~~ 15
	~~Non-Business Electives~~	~~6~~
	On-The-Job Training, or credit for approved prior work experience	24
EC115 Outline of Econ.		4

Business Organization Classes

All business students are encouraged to participate in one of the following courses as an elective:

2.539 Leadership—F.S.A.
■2 class hrs/wk ■1 cr. ■On Demand
Members of the F.S.A. organization will be permitted to earn one credit—based on their participation in the club's activities.

2.540 Marketing-Management Organization
■2 class hrs/wk ■2 cr. ■F/W/Sp
Develops student leadership qualities, provides opportunities for student community participation, and provides a setting for self-improvement by students in conjunction with DECA club.

Business Transfer

Numerous courses in the business field are offered for students interested in lower division college transfer classes which will provide a foundation for additional bachelors degree study at a four-year college or university. Students interested in this course of study should consult the business transfer curricula guides located on page of this catalog. Prior to beginning the business transfer curriculum, students should obtain advising from the applicable program advisor.

BA101 Introduction to Business
■4 class hrs/wk ■4 cr. ■F/W/Sp
A survey course in business with emphasis on organization, operation and management. It is intended to orient students to the field of business and to help them determine their field of major concentration.

BA199 Women in Management
■3 class hrs/wk ■3 cr. ■W
An exploration into the following topics: 1) qualifications for management positions, 2) opportunities for women in management, 3) special problems for women advancing into management or for women already in management, and 4) a basic review of management principles.

BA199 Business Honors
■3 class hrs/wk ■3 cr. ■F/W/Sp
Students will be exposed to advanced concepts of business structures and the individuals who may be expected to be found running them. They will experience additional human relations situations as preparatory to the jobs they will soon have. Individual and team studies of local business as well as larger national corporations will be made in order to prepare students for success in their chosen field. Prerequisite: Recommendation by the applicable Department Chairperson. Five of each from Business Skills and Business Management Departments and two each from Data Processing will be allowed. Department quotas may be exchanged. Department Chairperson will make the decision based on student performance, experience and attitude. Instructor input will be solicited.

BA210 Principles of Management
■3 class hrs/wk ■3 cr. ■W
This course is designed for the student who will major in Management at a four year institution. It will provide the foundation for later courses in Administration, Management Philosophies and Management Science.

BA211 Principles of Accounting I
■3 class hrs/wk ■3 cr. ■F/W
Techniques of account construction and preparation of financial statements. Emphasis is on application of problems of recording, measuring income, purchasing, sales, inventories, special journals, and internal control of cash.

BA212 Principles of Accounting II
■3 class hrs/wk ■3 cr. ■W/Sp
Accounting systems and management control, concepts and principles of depreciation, merchandise inventory, evaluation, partnership and corporate accounting, capital stock, investments, dividends. Prerequisite: BA211 or consent of instructor.

BA213 Principles of Accounting III
■3 class hrs/wk ■3 cr. ■Sp
Control accounting for departments and branches, cost accounting for manufacturing plants, income taxes and their effect on business decisions and analysis of financial statements. Prerequisite: BA212 or consent of instructor.

BA217 Basic Accounting and Financial Analysis
■3 class hrs/wk ■3 cr. ■On Demand
A one-term terminal course for students not majoring in business. Introduction to the recording, summarization, presentation, and interpretation of accounting data. Emphasis on basic accounting principles and terminology, the accounting cycle, and analysis of financial reports.

BA224 Business Communications
■3 class hrs/wk ■3 cr. ■On Demand
Developments of the ability to communicate within an organization on an interpersonal basis and in the form of written and oral expression. Provides means of increasing the effectiveness of the communications process in order to increase the value of information to the organization.

BA226 Business Law 4 cr.
■3 class hrs/wk ■3 cr. ■W/Sp
The framework of the law as it affects the businessman, how the law operates, how it is enforced, and how to use the law in business. The origins of law, the relations of business to society and the law, evolution of business within the framework of the law, the historical development and present-day applications of the law of contracts.

BA229 Personal Finance
■3 class hrs/wk ■3 cr. ■F
A thorough study of home financing, installment buying, insurance, investments, wills, and other phases of managing family finances.

BA131 Introduction to Business Data Processing
■6 class hrs/wk ■4 cr. ■F/Sp
Provides opportunity to write computer programs using a procedure or problem oriented language. It serves two main purposes 1) introduces the student to the tasks that a computer programmer must perform; and 2) provides the student with the means to program a modern computing system. The computer language currently in use is FORTRAN. The topics covered are: input/output, arithmetic statements, transfer and control statements, arrays and subprograms.

BA235 Introduction to Business Statistics
■4 class hrs/wk ■4 cr. ■W/Sp
A statistical analysis of business and economic data used in controlling an operation and in making sound business decisions. Special attention is given to assembling statistical inference, and linear regression and correlation. Prerequisite MT95.

BA238 Introduction to Management Science
■4 class hrs/wk ■4 cr. ■Sp
Techniques of business mathematical models including simulation models, decision models, inventory control models, production models, capital budgeting models, queuing models, and net working models. Prerequisite: BA235.

BA239 Principles of Advertising
■3 class hrs/wk ■3 cr. ■On Demand
An introductory course explaining the role of advertising in the distributive process. Emphasis on various media; copy, illustration and

layout, retail advertising and promotion; advertising budget; and an advertising program.

Non Transfer

2.110 Principles of Salesmanship
■3 Class hrs/wk ■3 cr. ■W

Introductory course on business from the viewpoint of the sales-oriented firm. Characteristics of the customer, buying motives and approach, presentation, demonstration and overcoming objections in closing sales. Emphasis on advertising, preselling techniques, as well as the various media, copy, illustration and layout.

2.111 Labor-Management Relations
■3 class hrs/wk ■3 cr. ■Sp

Explores the nature of the collective bargaining system in the United States and the parties who have a vital interest in the operation of the system.

2.113 Personnel Management
■3 class hrs/wk ■3 cr. ■F

Deals primarily with the first line supervisor. Particular emphasis on the supervisor's relations with subordinates, colleagues, boss, and the union in a wide variety of situations. Prerequisite: BA101, 2.119

2.119 Introduction to Management
■3 class hrs/wk ■3 cr. ■F/W/Sp

Allows the student an opportunity to study management essentials of both merchandising and industrial organization. Emphasis on the complex marketing problems of policies, purchasing procedures, financial requirements, budgeting, human relations, physical facilities, and government regulations.

2.121 Applied Economics
■3 class hrs/wk ■3 cr. ■W

Underlying principles by which business and industry are influenced. Production, income, management, prices, values, markets, money wastes, interests and profits are examples of subjects studied with illustration of how they affect current business situations.

2.125 Income Tax Preparation (Basic)
■6 class hrs ■6 cr. ■F

Income Tax Preparation (Basic) is a course designed to assist potential or established income tax return preparers in becoming more proficient in preparing personal income tax returns.

2.130 Business Quantitative Methods
■3 class hrs/wk ■3 cr. ■W

Introduces students to number and symbol vocabulary, manipulating symbols and numbers, algebraic equations and their solution, equalities and inequalities, break-even analysis, inventory and production models, linear programming, queuing theory and network models.

2.131 Elements of Marketing
■3 class hrs/wk ■3 cr. ■Sp

General survey of the nature, significance, and scope of marketing. Emphasis upon the channels of distribution; marketing of consumer shopping, specialty and other goods; service marketing; middlemen, wholesaling, shipping, and warehousing; standardization, grading and pricing, government regulations of completion.

2.134 Retail Merchandising
■3 class hrs/wk ■3 cr. ■W

Principles of efficient retail organization and management, including location and layout, types of store organization, personnel management, credit and collection, store protection and other operating activities.

2.135 Visual Merchandising
■3 class/2 lab hrs/wk ■4 cr. ■W/Sp

Application of line and display principles to interior and window display. Emphasis on practical problems of arrangement, improvisation, color, lighting, signing, safety, and seasonal displays. Students are given practice in creating displays in campus display areas and in various stores in the community.

2.138 Purchasing
■3 class hrs/wk ■3 cr. ■On Demand

Special application of fundamental principles of economics and management. Principles and methods of purchasing as they apply to the business environment. Quantitative techniques as applied to purchasing will be presented when applicable to certain buying decisions. Prerequisite: Business Statistics, 2.516.

2.139 Marketing Research
■3 class hrs/wk ■3 cr. ■W

Introduction to marketing research. Examines why business uses marketing research, how business uses research, and its limitations. Prerequisite: Business Statistics, 2.516

2.140 Promotional Strategy
■3 class hrs/wk ■3 cr. ■Sp

Designed around the case problems as related to marketing promotion. Comsumer psychology, advertising, reseller stimulation, and other communication tools as a part of the overall promotion mix. Prerequisite: Marketing Research, 2.139.

2.196 Introduction to Real Estate
■3 class hrs ■3 cr. ■F

This course is a general overview of the major factors involved in the purchase, sale, lease or exchange of real estate.

2.220 Personal Finance
■3 class hrs/wk ■3 cr. ■On Demand

Study of home financing, installment buying, insurance, investments, wills, and other phases of managing family finances.

2.222 Financial Management
■3 class hrs/wk ■3 cr. ■Sp

Topics covered deal with financing a business with emphasis on the tax environment, analysis of financial statements, working capital management, slow and long-term financial planning, budgeting and control. Prerequisites: Practical Accounting II or Principles of Accounting II.

2.308 Principles of Advertising
■3 class hrs/wk ■3 cr. ■Sp

Introduction to the role of advertising in the distributive process. Emphasis on various media; copy, illustration and layout; retail advertising and promotion; advertising budget; and an advertising program.

2.415 Human Relations in Business
■3 class hrs/wk ■3 cr. ■F/W/Sp

Assists the supervisor in understanding the people with whom he or she works, with emphasis on the psychological aspects, perceptions, learning processes, emotions, attitudes and personalities.

2.420 Human Relations: Your Attitude is Showing I
■3 class hrs/wk ■3 cr. ■F/W/Sp

Use of text "Your Attitude is Showing" to give greater confidence for dealing with human relations problems. Philosophy, principles and guidelines to follow in dealing with human problems. Emphasis on positive attitudes and their contribution to career success.

2.421 Human Relations: Your Attitude is Showing II
■3 class hrs/wk ■3 cr. ■W/Sp

Continued reading, studying and discussing "attitudes" to further develop confidence in dealing with human relations problems. Demonstrates how attitudes affect personal happiness, productivity and performance on and off the job. Prerequisite: Your Attitude is Showing I or permission of the instructor.

2.499 Business Honors
■3 class hrs/wk ■3 cr. ■F/W/Sp

Students will be exposed to advanced concepts of business structures and the individuals who may be expected to be found running them. They will experience additional human relations situations preparatory to the jobs they will soon have. Individual and team studies of local business as well as larger national corporations will be made in order to prepare students for success in their chosen field. Prerequisite: Recommendation by the applicable Department Chairperson. Five each from Business Skills and Business Mangement Departments and two each from Data Processing will be allowed. Department Chairperson will make the decision based on student performance, experience and attitude. Instructor input will be solicited.

2.516 Introduction to Business Statistics
■3 class hrs/wk ■3 cr. ■Sp

Emphasis on understanding methods and terminology used in statistical reports generated in business and industry. Topics covered descriptive statistics; probability; binomial, normal, "t", and chi-square distributions; linear regression and correlation; and hypothesis testing. Prerequisite: Business Quantitative Methods or consent of the instructor.

2.518 Business Law
■3 class hrs/wk ■3 cr. ■W/Sp

The legal environment of business and principles of contract law. Introduction to the study of law and business, legal reasoning and the evolutionary process of law. Emphasis on the study of business agreements—their information, operation, performance and discharge.

2.530 Practical Accounting I
■5 class hrs/wk ■3 cr. ■F/W/Sp

Fundamental principles of double-entry accounting, general journals and ledgers, business forms, simple financial statements, and the completion of the accounting cycle. Specific emphasis on case receipts and payments, payroll accounting, purchases, sales, promissory notes, and inventories.

2.531 Practical Accounting II
■5 class hrs/wk ■3 cr. ■F/W/Sp

A continuation of Accounting I with an expansion of the accounting cycle to include special journals, ledgers and business forms. Special emphasis on accounting for a partnership. Prerequisite: Practical Accounting I-2.530.

2.532 Practical Accounting III
■5 class hrs/wk ■3 cr. ■F/W/Sp

A course in accounting including entries requiring analysis and interpretation; unearned and accrued items; depreciation of assets; the voucher system; payroll records; property sales, and taxes. Special emphasis on accounting for a corporation. Prerequisite: Practical Accounting II-2.531.

2.534 Cost Accounting
■3 class hrs/wk ■3 cr. ■W

Relates theory with practical problems in the analysis and control of material, labor and overhead costs in manufacturing. Special emphasis to the job cost system. Prerequisite: Practical Accounting II or Principles of Accounting II.

2.535 Payroll Accounting
■3 class hrs/wk ■3 cr. ■On Demand

This course provides practice in all payroll operations including the recording of accounting entries involving payroll, preparation of tax returns, a review of State and Federal laws affecting payrolls.

2.585 Management Decision Simulation
■3 class hrs/wk ■3 cr. ■On Demand

Uses a sophisticated management simulation program which enables the student to gain practical experience with the decision making process. Market, production, and financial environments are simulated by computer to enable the student to move rapidly through what would normally take many years of time. Sophomore students with no business background must have the consent of the instructor to enroll for this course.

2.595 Intermediate Accounting I
■3 class hrs/wk ■3 cr. ■F

Advanced study of accounting theory and practice for measurement of income and valuation of assets in financial statement presentation. Review of accounting concepts and alternative approaches to various problems. Prerequisite: Practical Accounting III, Principles of Accounting III, or consent of instructor.

5.596 Intermediate Accounting II
■3 class hrs/wk ■3 cr. ■W

Continuation of Intermediate Accounting I. Advanced concepts and procedures of valuation for various types of assets and liabilities. Special problems related to investments; plant, property, and equipment; consolidations, and corporate accounting. Prerequisite: Intermediate Accounting I.

2.597 Intermediate Accounting III
■3 class hrs/wk ■3 cr. ■Sp

Continuation of Intermediate Accounting II. Special emphasis on fund flow analysis, financial errors, preparing statements from incomplete data, correcting errors in prior year statements, and price-level changes. Prerequisite: Intermediate Accounting II.

2.710-2 On-The-Job Training (Business Management)
■12 class hrs/wk ■4 cr. ■F/W/Sp

Supervised studies in positions related to the student's field of academic endeavor. Intended to provide practical experience for students preparing for careers in accounting, marketing, management, and banking and finance. Must be employed, preferably in degreed area, for a minimum of 12 hours per week. Employment may be non-renumerative. Weekly seminar may also be required. Department approval required.

2.756 Reading and Conference—Business Management
■3 class hrs/wk ■1-3 cr. ■On Demand

A course of supervised individual study related to knowledge and skills acquired in previous courses within the Business Division curriculum. Emphasis on practical application of previously-learned knowledge and skills. Subjects, projects, class hours, and credits must be approved by the Business Department Chairperson.

Small Business Management

In response to the varying needs of our students, two types of instruction are offered in the area of Small Business:

1. Traditional Classes—These classes meet on campus. A variety of classes are offered allowing the student to examine accounting, marketing, and management practices for small businesses. Each term, available classes are listed in the college's Schedule of Classes, and the normal enrollment procedures are followed.
2. Small Business Advisory Services—This unique educational approach allows a faculty advisor to work with the business/student at the business site. Accounting, marketing, and management principles are taught, and applied to the student's business. Students wishing to enroll, or seeking more information, should contact the college's Business Division.

In addition, the college has established a Small Business Advisory Center which is open to the community and offers:

1. Self study programs in accounting, sales training and management.
2. A wide variety of small business publications, statistics and marketing information.
3. Information on local seminars which may be of interest to the small business person.
4. Information on new classes and programs not included in this catalog. New classes will be offered to meet the changing needs of our students.

2.122 ~~Start~~ a Small Business
■3 class hrs/wk ■3 cr. ■F/W/Sp

A practioner's approach to business planning, seeking capital and management for the small business.

9.249 Reading and Conference—Small Business Management
■3 class hrs/wk ■1-3 cr. ■W/Sp

Seminars and discussions on practical application of theory and skills learned previously. Subjects, projects, class hours, and credits must be approved by the Business Department Chairperson.

9.250 Small Business Management I
■3 class hrs/wk ■3 cr. ■On Demand

Primarily designed for those already engaged in a small business who desire to increase their knowledge of modern small buiness operation. Overview of major fundamental areas of business such as finance, legal requirements, government requirements, insurance, marketing, advertising, and personnel management.

9.251 Small Business Management II
■3 class hrs/wk ■3 cr. ■On Demand
Primarily for those already engaged in a small business who desire to increase their knowledge of modern small business operation. A continuation of Small Business Management I, with emphasis on law and contracts, marketing and personnel management.

9.252 Small Business Management III
■3 class hrs/wk ■3 cr. ■On Demand
Primarily for those already engaged in a small business who desire to increase their knowledge of modern small business operation. Continuation of Small Business Management II, with emphasis on credit, advertising, and financial management.

9.254 Small Business Bookkeeping
■3 class hrs/wk ■3 cr. ■F/W/Sp
Students work with journals, ledgers, control systems and prepare income statements and balance sheets.

9.565 Small Business Advisory
■1-10 cr. ■ F/W/Sp
Instructor works directly with the student in business planning and in the development of record keeping systems for the student's business. Information of Advisory Services may be obtained through the Business Division.

Supervision

9.500 Elements of Supervision
■3 class hrs/wk ■3 cr. ■F
Introduction to total responsibilities of a supervisor in industry, such as organization, duties and responsibilities, human relations, grievance, training, rating, promotion, quality-quantity control, and management-employee relations.

9.502 Psychology for Supervisors
■3 class hrs/wk ■3 cr. ■Sp
Assists in understanding the people with whom the supervisor works, with emphasis on the psychological aspects, perceptions, learning processes, emotions, attitudes and personalities.

9.504 Employee Training
■3 class hrs/wk ■3 cr. ■Sp
The supervisor's responsibility for developing employees through training, orientation and induction. Vestibule and on-the-job techniques. Job instruction principles. Apprenticeship training, technical training, supervisory training and management development, use of outside agencies, advisory committees.

9.506 Human Relations (Developing Supervisory Leadership)
■3 class hrs/wk ■3 cr. ■Sp
Practical application of basic psychology in building better employer-employee relationships by studying human relations techniques. Prerequisite: Basic Psychology for Supervisors.

9.508 Labor-Management Relations
■3 class hrs/wk ■3 cr. ■On Demand
The history and development of the labor movement. Development of the National Labor Relations Act, the Taft-Hartley Act; the supervisor's responsibility for good labor relations; the union contract and grievance procedure.

9.509 Applied Economics
■3 class hrs/wk ■3 cr. ■On Demand
Significant economic facts. Development of a critical attitude toward industrial economics. Institutions and practices that determine the social environment. Management supervisory-employee relationships to economics and local industry.

9.512 Methods Improvement for Supervisors (Work Simplifications)
■3 class hrs/wk ■3 cr. ■Sp
The supervisor's responsibility for job methods improvement. Basic principles of work simplification. Administration and the problems involved. Motion study fundamentals for supervisors.

9.514 Cost Control for Supervisors
■3 class hrs/wk ■3 cr. ■F
How costs are determined in industry. Cost control and its functions. The supervisor's responsibility for costs. Factors in cost control: costs, materials, waste, salvage, quality control, control of time.

9.516 Personnel Management
■3 class hrs/wk ■3 cr. ■On Demand
Personnel techniques for which the supervisor is partially responsible. Selection, placement, testing, orientation, training, counseling, merit rating, promotion, transfer and training for responsibility.

9.518 Organization and Management
■3 class hrs/wk ■3 cr. ■W
The supervisor's responsibility for planning, organizing, directing, controlling, and coordinating. Acquaints the supervisor with these basic functions of an organization and responsibility for carrying them out in accordance with the organization's plan. Establishing lines of authority, function of departments or units, duties and responsibilities, policies and procedures, rules and regulations.

9.520 Wage Administration
■3 class hrs/wk ■3 cr. ■On Demand
History of wages, inequalities in rates of pay. Management and union movement toward a "fair wage" plan. The supervisor and job descriptions, job specifications, job evaluations and job classification. The wage laid down by the Department of Labor. The Federal Employement Service. Wage administration and the line organization.

9.524 Management Controls and The Supervisor
■3 class hrs/wk ■3 cr. ■On Demand
Basic principles of controls. Delegation of responsibility through the use of quality control, production control, control over materials, control over personnel, organization.

9.555 Industrial Safety I
■3 class hrs/wk ■3 cr. ■F
Stresses the supervisor's role in safe employment of people. Included are basic principles, safety training, employee safety participation, enforcement, human factors in safety, and protective equipment.

9.556 Industrial Safety II
■3 class hrs/wk ■3 cr. ■W
Specific areas of industrial safety, including plant inspection, accident investigation, maintenance, material handling, hand tools, electrical hazards, machine guarding, falls, fire prevention, and personal protective equipment.

9.557 Industrial Safety III
■3 class hrs/wk ■3 cr. ■Sp
Covers Oregon Safe Employment Act for the development, administration, and enforcement of safety and health laws and standards. The Occupational Safety and Health Act of 1970 is also reviewed. Employer and employee responsibilities, inspections, complaints, citations and penalties.

Related Business Courses

9.700 Civil Service
■1 class hrs/wk ■1 cr. ■Sp
Intensive study for the Civil Service tests given for secretarial employment, covering alphabetizing, spelling, arithmetic, number series, English usage, and reasoning.

9.743 Income Tax Preparation
■3 class hrs/wk ■3 cr. ■F
Explains the Federal Income Tax laws emphasizing the importance of adequate and suitable financial records; helping the taxpayer compute required reports and taxes due. Special interests (farm, manufacturing, etc) may be discussed at the option of the class.

9.764 Oregon School Law (for Educational Secretaries)
■3 class hrs/wk ■3 cr. ■On Demand
Legal framework for education, creation and administration of school districts, pupil control, contractual relations and conduct of schools in general.

Banking and Finance

9.768 Principles of Bank Operations
■3 class hrs/wk ■3 cr. ■On Demand

Fundamentals of bank functions to help the beginning banker acquire a broad operational perspective. A descriptive orientation.

9.769 Analyzing Financial Statements
■3 class hrs/wk ■3 cr. ■On Demand
Two main sections Characteristics of Financial Statements and Financial Statement Analysis. Reviews basic accounting principles for those students who have studied accounting and provides accounting background for study of financial statement analysis by those with no accounting background.

9.770 Bank Management
■3 class hrs/wk ■3 cr. ■On Demand
New trends in the philosophy and practice of management. The study and application of the principles outlined provide new and experienced bankers with a working knowledge of bank management.

9.771 Law and Banking
■3 class hrs/wk ■3 cr. ■On Demand
Introduction to basic American law, presenting the rules of law which underlie banking. Topics include jurisprudence, the court system and civil procedure, contracts, quasi-contracts, property, torts and crimes, agencies, partnerships, corporations, sales of personal property, commercial paper, bank deposits and collections, documents of title, and secured transactions. Emphasis on the Uniform Commercial Code.

9.773 Money & Banking
■3 class hrs/wk ■3 cr. ■On Demand
Stresses the practical aspects of money and banking and emphasizes the basic monetary theory needed by the banking student. Historical treatment is kept to a minimum. Emphasis on such problems as economic stabilization, types of spending, the role of gold, limitations of central bank control, government fiscal policy, balance of payments, and foreign exchange, showing their repercussions on the banking industry in affecting yield curves and the structuring of portfolios.

9.774 Agricultural Finance
■3 class hrs/wk ■3 cr. ■On Demand
Reflecting the rapid growth of the off-farm agri-business sectors this course emphasizes general principles associated with evaluation of management and use of capital, rather than land and labor resources, which are more closely aligned with agriculture production.

9.776 Home Mortgage Lending
■3 class hrs/wk ■3 cr. ■On Demand
Subject from the viewpoint of the mortgage loan officer who seeks to develop a sound mortgage portfolio. Mortgage market, acquisition of a mortgage portfolio, mortgage plans and procedures, mortgage loan officer in overall portfolio management.

9.777 International Banking
■3 class hrs/wk ■3 cr. ■On Demand
Introduction for those working in international departments, as well as for those involved in the domestic activities of their banks. Basic framework and fundamentals of international banking: how money is transferred from one country to another, how trade is financed, what the international agencies are and how they supplement the work of commercial banks, and how money is changed from one currency to another.

9.778 Marketing for Bankers
■3 class hrs/wk ■3 cr. ■On Demand
Directed toward those bank personnel who know little about marketing as it pertains to banking. Includes fundamental concepts and philosophy of marketing; marketing information and research; product distribution, promotion, and pricing strategies; and marketing planning.

9.780 Trust Functions and Services
■3 class hrs/wk ■3 cr. ■On Demand
This course presents a complete picture of the services rendered by institutions engaged in trust business. Providing an introduction to the services and duties involved in trust operations, the course is intended for all bankers, not only those who are engaged in trust business. It endeavors to keep clear the distinction between business and legal aspects of trust functions.

9.781 Banking Investments
■3 class hrs/wk ■3 cr. ■On Demand
Nature of primary reserves and loanable funds and how their uses are determined. Analyzes the primary and secondary reserve needs of commercial banks, sources of reserves, and their random and cyclical fluctuations, and shows the influence of these factors on investment policy. Analysis followed by a study of yield changes as they affect a bank's long-term holdings.

9.782 Installment Credit
■3 class hrs/wk ■3 cr. ■On Demand
Techniques of installment lending. Emphasis on establishing credit, obtaining and checking information, servicing loans, and collecting amounts due. Bank's installment credit operation scrutinized, along with inventory development and advertising, and public relations.

9.783 Savings and Time Deposit Banking
■3 class hrs/wk ■3 cr. ■On Demand
Reviews the economics of the savings process to clarify important differences between financial savings by individuals or organizations and real savings that appear as capital formation. Different types of financial savings are reviewed to describe the system of financial flows of income to capital investment.

9.784 Bank Letters and Reports
■3 class hrs/wk ■3 cr. ■On Demand
For bank officers, supervisors, and employees who dictate or review correspondence. Mechanical forms of bank letters and the psychological principles that help the letter writer achieve best results. Reviews letter forms, emphasizes principles underlying modern correspondence, and examines different kinds of bank letters.

9.785 Loan and Discounts
■3 class hrs/wk ■3 cr. ■On Demand
Essential facts about promissory notes, including calculating interest and discounting commercial paper; guaranties; general collateral agreements; examining and processing documents accompanying notes secured by stocks, bonds, and savings account passbooks; and concepts of attachment, perfection, priority, default, and foreclosure.

9.787 Federal Reserve System
■3 class hrs/wk ■3 cr. ■On Demand
Examines the operations and policies of the Federal Reserve System during critical periods over the past 60 years. Topical rather than chronological, enabling students to compare and contrast Federal Reserve policies dealing with similar problems at different periods in time. Attention given to international monetary affairs and economic developments affecting fiscal system. American

9.788 Safe Deposit Seminar
■3 hrs/wk for 5 wks ■1 cr. ■On Demand
For both new and experienced bank employees who are interested in safe deposit operations and want to become more effective on the job. Safe deposit security, legal concerns, customer relations, recordkeeping and procedures for safekeeping.

9.789 Loan Officer Development Seminar
■3 class hrs/wk ■3 cr. ■On Demand
Practical lending skills for newly-appointed lending officers. Six major subject areas: Initial loan interview; administrative decisions and techniques; documentation for the credit file; problem loans; conveying unpleasant information; and managing loan portfolios. Seminar developed jointly with the Robert Morris Associates.

9.790 Federal Regulation of Banking
■3 class hrs/wk ■3 cr. ■On Demand
Comprehensive treatment of the "way" and "what" of Federal banking regulation. Recommended for both beginning and advanced students, and for new and experienced bankers. Includes agencies regulating banks, bank charters, bank reports and examinations. Federal limitations on banking operations, and the regulation of bank expansion.

9.791 Loss Prevention Seminar
■3 hrs/wk for 5 wks ■1 cr. ■On Demand

Focuses on check cashing, check swindling, bank hold-ups, and security procedures.

9.792 Selling Bank Services
■3 hrs/wk for 5 wks ■1 cr. ■On Demand

Teaches tellers and new-account personnel how to recognize and meet bank customer needs: checking accounts, savings services, loan to individuals, safe deposit boxes, travelers checks, and cross-selling.

9.793 Securities: Stocks and Bonds
■3 hrs/wk for 5 wks ■1 cr. ■On Demand

Provides bank personnel, especially trust operations personnel, with knowledge about securities; stocks and bonds, and how they function; how to transfer ownership; classes and kinds of stocks, bonds, and government securities; and the newly developed CUSIP Securities Identification System.

9.794 Bank Cards
■3 class hrs/wk ■3 cr. ■On Demand

This course presents an overview of the bank card industry with the dual objectives of helping the student understand the role of the bank card in the economy as well as the basic operational problems involved in successful management of a bank card plan.

Faculty:
Stephen Martin
Marty McMurray

Data Processing

The Business Data Processing curriculum is designed to develop graduates who will be able to successfully enter the job market as application programmers. Working under a true third-generation environment the student will learn to write programs in several different languages and to apply these skills to the solving of actual business problems both within the college and the community.

Students finishing the first year of the curriculum should be able to enter the job market as programmer-trainees with at least two languages at their disposal. Students completing the full two-year curriculum will be granted a Certificate of Completion in Data Processing and will be in a strong position to enter a rapidly-growing job market. Students desiring the Associate of Science Degree should receive advising from the Data Processing Department.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term

1.102	Occupational Writing or	
WR121	English Comp	3

Winter Term

1.110	Elements of Algebra	
4.202	Math II	
2.515	Business Math	4

SOPHOMORE YEAR

Fall Term

1.103	Occupational Speech or	
SP111	Beg or Inter Oral Comm	3
	General Education Electives	3

Winter Term

SP112	Fundamentals of Speech	4
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR or PE Activity Courses	4

Spring Term

	General Education Electives	3

Program Requirements

FRESHMAN YEAR

Fall Term

2.511	Data Processing Math	4
2.571	Data Processing I	6
2.415	Human Relations in Business or	3
MT101	College Algebra	4

Winter Term

2.572	Data Processing II	10
BA235	Business Statistics	3

Spring Term

2.573	Data Processing III	10
BA238	Intro to Management Science	4

SOPHOMORE YEAR

Fall Term

2.581	Data Processing IV	10
2.530	Practical Accounting I or	
BA211	Principles of Accounting I	3

Winter Term

2.581	Data Processing V	10
2.531	Practical Accounting II or	
BA212	Principles of Accounting II	3

Spring Term

2.581	Data Processing VI	10
2.532	Practical Accounting III or	
BA213	Principle of Accounting III	3

2.508 Introduction to Keypunch Operation
■5 class hrs/wk ■2 cr. ■F/W/Sp

Individualized instruction on operation of the IBM 029 keypunch machine. Includes familiarization with IBM Card and interpretation of punched hole instruction on the names and functions of all operating parts, keys, and switches; manual duplication procedures and error corrections procedures; operation of the program control unit and coding of the program card.

2.509 Introduction to Computers
■5 class hrs/wk ■3 cr. ■F/W/Sp

Emphasis is placed on "how" computers work and their place within the modern business society. The history of data processing, punched card equipment, job flow, computer architecture, and memory design, systems design, and third-generation operating systems concepts are covered. Consideration of data processing systems and the correlation of systems design to the application.

2.510 Introduction to Data Processing
■6 class hrs/wk ■4 cr. ■F/W/Sp

Introduces the layman to the world of data processing and its influence on his/her everyday life. Topics include: the history of data processing, the punched card, card-oriented processing systems, analysis of computer-generated reports, third generation processing systems, and number systems. (A symbolic machine oriented language will be used to explain data flow, and several problems will be solved utilizing a procedure-oriented language).

2.511 Data Processing Mathematics
■8 lab hrs/wk ■4 cr. ■F

Emphasis is placed on a study of computer related mathematics and how these mathematical methods may be utilized by the computer programmer. Topics include: set theory, number systems, data flow and stored number concepts, boolean logic, computational accuracy and algorithms. Must be taken concurrently with Data Processing I (2.571).

2.556 Advanced Keypunch Operation
■7 1/2 class hrs/wk ■3 cr. ■F/W/Sp

Practice on building of keypunch speed and accuracy to employment level. 8000 strokes with 90% accuracy = A; 7000 strokes with 80% accuracy = B; and 6000 strokes with 70% accuracy = C. Also extensive practice in producing typical jobs a keypuncher will encounter in the working world. Course also includes as acquaintanceship with the 129 Card Recorder.

2.558 Introduction to Programming
■8 class hrs/wk ■4 cr. ■F/W/Sp

Provides the student with the opportunity to write computer programs using a procedure or problem oriented language. It serves two main purposes:

1) introduces the student to the tasks that a computer programmer must perform; and 2) provides the student with the means to program a modern computing system. The computer language generally used is FORTRAN. The topics covered are: input/output, arithmetic statements, transfer and control statements, arrays, and subprograms. COBOL may be substituted for FORTRAN on Demand.

2.559 Advanced Programming-Fortran
■5 hrs ■4 cr. ■F/W/Sp

Advanced work with Symbolic Languages-FORTRAN including subroutines, I/O, numerical evaluations, advanced arrays, functions and specification statements and differential equations as required for student projects. Prerequisite: BA131, or 2.558, or CS 213 or permission of instructor.

2.571 Data Processing I
■12 class hrs/wk ■6 cr. ■F

Introduction to computers, programming languages, and data processing mathematics. Emphasis on how computers work and their place in modern business society. History of data processing, punched card equipment, job-flow, computer architecture and memory design, systems design, and third-generation operating systems concepts are covered. Computer programs will be developed by the student using a procedure or problem oriented language. This serves two main purposes: 1) introduces the students to the tasks that a computer programmer must perform; 2) provides the student with the means to program a modern computing system. The computer language currently in use is FORTRAN. Topics covered are input/output, arithmetic statements, transfers and control statements, arrays, and subprograms. Must be taken concurrently with Data Processing Math (2.511).

2.572 Data Processing II
■20 class hrs/wk ■10 cr. ■W

Additional work in problem-oriented language and an introduction to an assembler language. Additional topics from data processing mathematics are introduced as needed. The second phase stresses the need for accurate and complete documentation within the data processing function. Program flowcharting used to solve and then document several involved, logical processes.

2.573 Data Processing III
■20 class hrs/wk ■10 cr. ■Sp

Study of an assembler language continues, viewing of the data processing function within a modern environment and its use to further the goals of the firm. The effect of the computer is studied from the systems approach using a case study.

2.581 Data Processing IV
■20 class hrs/wk ■10 cr. ■F

Introduces the student to a business oriented computer language—COBOL. Topics include I/O decision statements, PERFORM statements, and up through three level tables. Third generation operating systems are examined with special emphasis on the IBM 1130 Monitor System, IBM DOS/TOS and OS/360. Operating systems of manufacturers other than IBM are also considered.

2.582 Data Processing V
■20 class hrs/wk ■10 cr. ■W

The first phase of this block is designed to prepare the student for entry into an operation programming environment. Topics are: reading programs, programming teams/groups, problem solving, and studying programming. The student is assigned several programming projects on an individual basis and also as a member of a programming team. Each student is expected to choose and study a new programming language. The second phase involves additional, advanced COBOL topics with emphasis on the use of mass storage files with random and sequential access.

2.583 Data Processing VI
■20 class hrs/wk ■10 cr. ■Sp

A block of instruction and practice of skills and techniques acquired in previous courses within the Business Data Processing curriculum. Individual selected projects from business industrial organizations with the community assigned by the instructor. The student is required to plan the project and to carry out all phases of system design, machine programming, design of forms, testing of representative data, and writing of operational procedures. Class time will be utilized to guide students toward completion of the project and to look to actual data processing solutions to other types of business problems.

2.589 Data Processing Readings & Conferences
■1-20 class hrs/wk ■1-10 cr. ■F/W/Sp

Topics covered are at the discretion of the instructor and the student. Subject areas of particular interest to the student or areas where the student needs additional work can be covered within this course. Number of credits can vary from 1 to 10. Prerequisite: Consent of instructor.

9.603 Computer Center Operations I
■7 class hrs/wk ■5 cr. ■F

An in-depth analysis of the jobs performed by the following computer operations personnel: computer operator, operations supervisor, tape librarian, tab operator, I/O receptionist, scheduler, and control clerk.

9.604 Computer Center Operations II
■7 class hrs/wk ■5 cr. ■W

An introduction to the operation of computer center equipment, computer operator demands, computer recovery procedures, computer center standards and procedures, and scheduling considerations. Prerequisite: 9.603.

9.605 Computer Center Operations III
■7 class hrs/wk ■5 cr. ■Sp

A course in the operation of a computer center. Emphasis is placed on back-up and restore procedures, maintenance of system libraries, teleprocessing, multiprogramming, time-sharing, machine maintenance, and learning the basic programming language. Prerequisite: 9.604.

CS101 The Nature of Digital Computers
■6 class hrs/wk ■4 cr. ■F/W/Sp

The historical development of digital computers; how computers work; an introduction to a conversational language; programs and flow charts; algorithms, social and technological implications of computers. Prerequisite: Mth95 or placement in 101 or higher (not for Computer Science minors).

CS211 Introduction to Computer Science
■6 class hrs/wk ■4 cr. ■F/W/Sp

Algorithms, flow charts, and basic programming concepts; model of a computer; methodology programming in a structured language; computer applications.

CS212 Techniques for Computer Programming
■6 class hrs/wk ■4 cr. ■On Demand

Study of data and its representation in a computer system; control structures and their use in design and implementation of computational algorithms. Emphasis on Pascal. Prerequisite: CS211

CS213 Introduction to Symbolic Language Programming: FORTRAN
■6 class hrs/wk ■4 cr. ■F/W/Sp

Computer applications utilizing the FORTRAN language. Prerequisite: CS211 or previous programming instruction.

CS214 Assembly Language Programming
■6 class hrs/wk ■4 cr. ■On Demand

Assembly language programming in IBM Basic Assembler Language. Prerequisite: CS211

CS215 Computer Organization
■6 class hrs/wk ■4 cr. ■Sp

Logical organization, computer hardware, introduction to machine language programming. Prerequisite: CS211 or consent of instr.

Introduction to COBOL Programming
■6 class hrs/wk ■4 cr. ■On Demand

Applying the ANSI COBOL Language to commercial problems usually characterized by the need to process large files of data. Thorough treatment of language elements, file structures, and I/O considerations. Prerequisite: CS213 or permission of

instructor.

Faculty:
Patsy Chester, Chairperson
Illa Atwood
Jay Brooks
Dorothy Lawrence
Peggy Lind
Mary Lou McPheeters
Joyce Moreira
Dorothy Skwark
Sue Trautwein

Secretarial Sciences

This one year curriculum is designed to provide students with training necessary for general office secretarial positions. These courses prepare students for civil service examinations. Students may complete the requirements listed for Option A or Option B.

A Certificate of Completion is awarded after satisfactory completion of this program.

1 Year Certificate (Option A)

Fall Term		
WR120	Basic Writing Skills	3
2.500	Business Orientation	1
2.652	Filing	1
2.515	Business Math w/Calculators	3
SS121	Typing I	3
SS111	Stenography I or	
2.537	Alph Shorthand	3
Winter Term		
1.131	Spelling	3
2.515	Business Math w/Calculators	2
SS122	Typing II	3
SS112	Stenography II or	
2.538	App Alph Shorthand	3
2.530	Practical Accounting I	3
2.526	Duplicating Equipment	1
Spring Term		
SS123	Typing III	3
SS113	Stenography III	3
2.551	Bus Correspond	3
2.527	Transcribing Machines I	3
2.610	Clerical Office Procedures	3

1 Year Certificate (Option B)

A suggested elective for this certificate is Payroll Accounting.

Fall Term		
WR120	Basic Writing Skills	3
1.131	Spelling	3
2.500	Business Orientation	1
2.652	Filing	1
2.515	Business Math w/Calculators	3
SS122	Typing II	3
Winter Term		
2.515	Business Math w/Calculators	2
SS123	Typing III	3
2.530	Practical Accounting I	3
2.551	Bus Correspond	3
2.526	Duplicating Equipment	1
2.527	Transcribing Machines I	3
Spring Term		
2.528	Transcribing Machines II	3
1.102	Occupational Writing or	
WR121	English Composition	3
2.610	Clerical Office Procedures	3
2.653	Word Processing	3
2.535	Payroll Accounting	3

Administrative Secretary

This two-year curriculum is designed to prepare students for responsible secretarial positions. Serious students with ambition and aptitude will find themselves well qualified for preferred positions in the ever-expanding secretarial field, including those positions found in the field of civil service. Students may complete the requirements listed for Option A or Option B.

Successful completion of this program results in the award of an Associate of Science Degree.

FRESHMAN YEAR — Option A

Fall Term		
WR120	Basic Writing Skills	3
SS121	Typing I	3
SS111	Stenography I	3
2.515	Business Math w/Calculators	3
2.500	Business Orientation	1
2.652	Filing	1
Winter Term		
SS122	Typing II	3
SS112	Stenography II	3
2.515	Business Math w/Calculators	2
1.102	Occupational Writing	3
2.530	Practical Accounting I	3
2.526	Duplicating Equipment	1
Spring Term		
SS123	Typing III	3
SS113	Stenography III	3
2.551	Bus Correspond	3
2.527	Transcribing Machines I	3
2.610	Clerical Office Procedures	3

FRESHMAN YEAR — Option B

Fall Term		
WR120	Basic Writing Skills	3
SS121	Typing I	3
2.515	Business Math w/Calculators	3
2.530	Practical Accounting I	3
2.537	Alphabetic Shorthand	3
2.500	Business Orientation	1
Winter Term		
SS122	Typing II	3
2.538	Applied Alphabetic Shorthand	3
2.515	Bus Math w/ Calc	3
2.652	Filing	1
2.551	Business Correspondence	3
2.526	Duplicating Equipment	1
1.131	Spelling	3
Spring Term		
SS123	Typing III	3
1.102	Occupational Writing	3
2.527	Transcribing Machines I	3
2.610	Clerical Office Procedures	3
2.535	Payroll Accounting	3

General Education Requirements

SOPHOMORE YEAR

Fall Term		
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or PE Activity Courses	4
Winter Term		
1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3
Spring Term		
	General Education Electives	6

(WR120 may be used toward this requirement.)

SOPHOMORE YEAR — Option A

Fall Term		
SS211	Applied Stenography I	3
2.415	Human Relations in Business	3
2.528	Transcribing Machines II	3
2.647	Administrative Management	3
2.611	Office Simulations	3
Winter Term		
SS212	Applied Stenography II	3
2.645	Business Conference Techniques	3
2.613	On-The-Job Training	4
2.518	Business Law	3
Spring Term		
2.614	On-The-Job Training	4
2.510	Introduction to Data Processing	4
2.653	Word Processing	3
2.535	Payroll Accounting	3

SOPHOMORE YEAR — Option B

Fall Term		
2.415	Human Relations in Business	3
2.528	Transcribing Machines II	3
2.647	Administrative Management	3
2.611	Office Simulations	3
Winter Term		
9.500	Elements of Supervision	3
2.645	Business Conference Techniques	3
2.613	On-The-Job Training	4
Spring Term		
2.653	Word Processing	3
2.518	Business Law	3
2.614	On-The-Job Training	4
2.510	Introduction to Data Processing	4

Educational Secretary

This two-year degree prepares students for employment in educational organizations. The coursework also offers currently-employed educational secretaries an opportunity to update their skills.

FRESHMAN YEAR
Fall Term

SS121	Typing I	3
SS111	Stenography I or	
2.530	Practical Accounting I	3
WR120	Basic Writing Skills	3
2.515	Business Math w/Calculators	3
2.500	Business Orientation	1

Winter Term

SS122	Typing II	3
SS112	Stenography II or	
2.531	Practical Accounting II	3
2.551	Business Correspondence	3
2.650	Records Management for Ed Secretaries	3
2.515	Business Math w/Calculators	2
2.526	Duplicating Equipment	1

Spring Term

SS123	Typing III	3
SS113	Stenography III or	
2.532	Practical Accounting III	3
1.102	Occupational Writing	3
2.415	Human Relations in Business	3
2.610	Clerical Office Procedures	3

General Education Requirements
SOPHOMORE YEAR
Fall Term

9.317	Multi-Media First Aid and/or PE Activity Courses	1
	General Education Electives	3

(WR120 may be used to fill this requirement.)

Winter Term

	General Education Electives	3

Program Requirements
SOPHOMORE YEAR
Fall Term

2.510	Introduction to Data Processing	4
PY201	General Psychology	3
9.764	Oregon School Law	3
2.611	Office Simulations	3

Winter Term

PY202	General Psychology	3
HE252	First Aid	3
SP111	Interpersonal Speech Communications	3
2.613	On-The-Job Training	4

Spring Term

PY203	General Psychology	3
2.220	Personal Finance	3
9.500	Elements of Supervision	3
2.614	On-The-Job Training	4
2.535	Payroll Accounting	3

Legal Secretary

This two year degree should prepare students to enter the profession as a beginning legal secretary in a general practitioner's office. Through this degree, the student will have developed the ability to type and take shorthand as well as having a background in legal terminology and procedures.

FRESHMAN YEAR
Fall Term

WR120	Basic Writing Skills	3
SS121	Typing I	3
SS111	Stenography I	3
2.515	Business Math w/Calculators	3
2.500	Business Orientation	1
2.518	Business Law	3

Winter Term

1.102	Occupational Writing or	
WR121	English Composition	3
SS122	Typing II	3
SS112	Stenography II	3
2.515	Business Math w/Calculators	2
2.660	Legal Terminology	3
2.652	Filing	1

Spring Term

SS113	Stenography III	3
2.551	Business Correspondence	3
2.530	Practical Accounting I	3
2.661	Legal Typing	3
2.663	Legal Office Procedures	3

General Education Requirements
SOPHOMORE YEAR
Winter Term

1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or PE Activity Courses	4
	General Education Electives	6

(WR120 may be used toward this requirement.)

Program Requirements
SOPHOMORE YEAR
Fall Term

SS211	Applied Stenography	3
2.527	Transcribing Machines I	3
2.415	Human Relations in Business	3
2.647	Administrative Management	3
2.611	Office Simulations	3

Winter Term

2.662	**Legal Transcribing**	**3**
SS212	**App Stenography II**	**3**
2.645	**Business Conference Techniques**	**3**
2.613	**On-The-Job Training***	**4**
2.611	**Office Simulations**	**3**

Spring Term

2.614	On-the-job Training	3
2.653	Word Processing	3
2.535	Payroll Accounting	3

*This requires part-time employment in a legally-related office.

Medical Receptionist

The two-year medical receptionist program trains students to work in physicians' offices, clinics, hospitals and medical departments of government agencies or large companies. The receptionist performs the majority of secretarial duties including initial contact with patients. An Associate of Science degree is awarded upon completion of the program.

FRESHMAN YEAR
Fall Term

2.500	Business Orientation	1
SS121	Typing I	3
5.630	Medical Terminology I	3
2.652	Filing	1
WR120	Basic Writing Skills	3
2.515	Business Math w/Calculators	3

Winter Term

SS122	Typing II	3
5.633	Medical Terminology II	3
5.625	Clinical Office Procedures I	4
2.671	Medical Law and Ethics	2
2.537	Alphabetic Shorthand	3
2.515	Business Math w/Calculators	1

Spring Term

2.506	Medical Typing	3
5.634	Medical Terminology III	3
2.670	Medical Office Procedures	3
2.527	Transcribing Machines I	3
2.415	Human Relations in Business	3

General Education Requirements
SOPHOMORE YEAR
Fall Term

1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or PE Activity Courses	1
	General Education Electives	

Winter Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or PE Activity Courses	3

Spring Term

	General Education Electives	3

(WR120 may be used toward this requirement.)

Program Requirements
SOPHOMORE YEAR

Fall Term		
2.524	Medical Transcription I	3
2.530	Practical Accounting I	3
2.611	Office Simulations	3
1.102	Occupational Writing or	
WR121	English Composition	3
Winter Term		
2.525	Medical Transcription II	3
2.645	Business Conference Techniques	3
2.613	On-The-Job Training*	4
2.551	Business Correspondence	3
Spring Term		
2.614	On-The-Job Training*	4
2.510	Introduction to Data Processing	4
5.631	Pharmaceutical Terminology	2
2.535	Payroll Accounting	3

Medical Transcriptionist

This one-year program qualifies the student for a position as a medical transcriptionist in a clinic, hospital, or physician's office. Medical transcriptionists are trained in secretarial and medical terminology skills necessary to transcribe patient health reports and records. Most full-time employment opportunities exist in hospitals or clinics with part-time jobs available in doctor's offices. A Certificate of Completion is awarded upon graduation from the program.

Fall Term		
SS122	Typing II	3
2.500	Business Orientation	1
5.630	Medical Terminology I	3
WR120	Basic Writing	3
	Electives	2
1.131	Spelling	3
Winter Term		
2.506	Medical Typing	3
1.102	Occupational Writing or	
WR121	English Composition	3
2.527	Transcribing Machines I	3
2.671	Medical Law & Ethics	2
5.633	Medical Terminology II	3
	Electives	2
Spring Term		
2.529	Applied Medical Transcription	5
2.415	Human Relations in Business	3
2.551	Bus Correspond	3
5.634	Medical Terminology	3
5.631	Pharmaceutical Terminolgy	2

BA106 Leadership—FSA
■2 class hrs/wk ■1-2 cr. ■F/W/Sp
This course is designed to offer a student opportunities to develop leadership ability through active participation in a student organization.

BA199 Current Trends in Business
■3 hrs/wk ■1 cr. ■On Demand
Through the utilization of workshops, field trips, speakers, etc., this course will provide up-to-date information that relates to the business world. Students will be exposed to latest trends, new equipment, and changing procedures relevant to their current or future position in the business environment.

SS111 Stenography I
■5 class hrs/wk ■1-3 cr.
■Sm/F/W/Sp
Introduction to theory of Gregg shorthand, including the alphabet, brief forms, phrasing and abbreviating principles. Students are given the opportunity to advance at their own rate.

SS112 Stenography II
■5 class hrs/wk ■1-3 cr.
■Sm/F/W/Sp
Completion of shorthand theory and review of all principles. Development of ability to construct new outlines rapidly from dictation and to lay a solid foundation for further development of dictation and transcription skill. Students are given the opportunity to advance at their own rate. Prerequisite SS111 or equivalent.

SS113 Stenography III
■5 class hrs/wk ■1-3 cr.
■Sm/F/W/Sp
Emphasis on further development of speed and accuracy in dictation and transcription. Intensive practice in refining shorthand skills and producing mailable letters. Students are given the opportunity to advance at their own rate. Prerequisite: SS112 or equivalent.

SS211 Applied Stenography I
■6 class hrs/wk ■3 cr. ■F/W
A thorough and extensive review of Gregg shorthand, advanced principles, phrases and short cuts, dictation covering vocabularies representative of various types of business. Basic skills of office work are stressed. Prerequisite: SS113 or equivalent with a minimum of 80 wpm.

SS212 Applied Stenography II
■6 class hrs/wk ■3 cr. ■F/W
A continuation of SS211 with emphasis on speed, accuracy and secretarial standards. Included are legal and technical dictation and transcription. Prerequisite SS211 or equivalent.

SS121 Typewriting I
■5 class hrs/wk ■1-3 cr.
■Sm/F/W/Sp
Beginning typing for those with no previous instruction or those needing a review of basic techniques. Basic techniques of the touch system, speed and accuracy, manuscript writing, tabulation, correspondence, and centering. Individualized instruction. Students may advance at their own rate.
*A four-year school might accept only 2 credits.

SS122 Typewriting II
■5 class hrs/wk ■1-3 cr.
■Sm/F/W/Sp
Continued units on correspondence, tabulation, business forms, manuscripts, secretarial projects, speed and accuracy, and number proficiency. Individualized instruction. Students advance at their own rate. Prerequisite: SS121 or equivalent.
*A four-year school might accept only 2 credits.

SS123 Typewriting III
■5 class hrs/wk ■1-3 cr.
■Sm/F/W/Sp
Continued units on correspondence, tabulation, business forms, manuscripts, secretarial projects, speed and accuracy, and number proficiency. Individualized instruction. Students may advance at their own rate. Prerequisite SS122 or equivalent.
*A four-year school might accept only 2 credits.

SS124 Typing Skill Building
■5 class hrs/wk ■3 cr. ■Sm/F/W/Sp
Special emphasis on speed and accuracy. Special drills to work on numbers and remedial techniques. Prerequisite: SS121 or equivalent.
*A four-year school might accept only 2 credits.

2.500 Business Orientation
■2 class hrs/wk ■1 cr. ■F
Introduction to various career opportunities in the business field through films, speakers, and field trips.

2.504 Typewriting IV
■5 class hrs/wk ■3 cr. ■Sm/F/W/Sp
Additional units on correspondence, business forms, manuscripts, with special job-oriented projects and composition at the typewriter. Emphasis on speed and accuracy improvement. Individualized instruction. Students may advance at their own rate. Prerequisite: SS123 or equivalent.

2.506 Medical Typing
■5 class hrs/wk ■1-3 cr.
■Sm/F/W/Sp
Preparation of medical forms and projects, as well as continued drills for speed and accuracy. Prerequisite: SS122 or equivalent.

2.515 Business Mathematics with Calculators
■5 class hrs/wk ■1-5 cr.
■Sm/F/W/Sp
Students may advance at their own rate. Will provide the opportunity to learn to operate the electronic calculator. This knowledge will be applied to business mathematics in such areas as: payroll, banking, invoices, simple interest, compound interest, etc. Prerequisite: 1.109 or equivalent.

2.522 Advanced Office Machines
■5 class hrs/wk ■2 cr. ■Sm/F/W/Sp

Includes emphasis on building speed as well as practical business applications. Prerequisite: 2.515 or equivalent.

2.524 Medical Transcription I
■5 class hrs/wk ■3 cr. ■Sm/F/W/Sp
Transcription of medical terminology in word lists and paragraphs, as well as basic medical forms. Prerequisites: 5.630 and 2.527.

2.525 Medical Transcription II
■5 class hrs/wk ■3 cr. ■Sm/F/W/Sp
Further development of skill in preparation of medical forms and records from dictated material. Prerequisites 5.633 and 2.524.

2.526 Duplicating Equipment
■2 class hrs/wk ■1 cr. ■F/W
General background and specific instruction in a variety of duplicating processes. Prerequisite: SS121 or equivalent.

2.527 Transcribing Machines I
■5 class hrs/wk ■1-3 cr.
■Sm/F/W/Sp
Opportunity to develop a job-entry level skill on the transcribing machine. Prerequisite: SS122 or equivalent and WR120 or equivalent.

2.528 Transcribing Machines II
■5 class hrs/wk ■1-3 cr.
■Sm/F/W/Sp
Further develops the student's skill on the transcribing machine. Includes projects from a variety of business situations. Prerequisite: 2.527.

2.529 Applied Medical Transcription
■10 class hrs/wk ■1-5 cr.
■Sm/F/W/Sp
Introduction to transcription of medical terminology in word lists and paragraphs, followed by preparation of medical forms and records from dictated material. Prerequisite: 2.527 and 5.633.

2.537 Alphabetic Shorthand
■5 class hrs/wk ■1-3 cr. ■F/W/Sp
Designed for people needing a short and rapid method of writing both notes and verbatim dictation. Theory of ABC Stenoscript, including the dominant sound rule, hi-frequency words, hi-frequency letter groups, prefix and suffix rules, and phrasing and abbreviating principles. Emphasis on development of speed and accuracy in dictation and transcription.

2.538 Applied Alphabetic Shorthand
■5 class hrs/wk ■3 cr. ■F/W/Sp
Extensive review of ABC Stenoscript including theory, brief forms, phrases and short cuts. Dictation covers vocabularies representative of various types of business. Emphasis on development of transcription skills and greater speed and accuracy. Production of mailable copy is stressed. Prerequisite: SS121 and 2.537 with a minimum of 60 wpm.

2.551 Business Correspondence
■3 class hrs/wk ■3 cr. ■W/Sp
Composition of the principal types of present-day business letters. Includes practice in analyzing and revising words, sentences, paragraphs with letters. Emphasis on methods to humanize, clarify, and simplify written business communications. Prerequisite: WR120 and SS121 or equivalent.

2.590 Reading & Conferences for Secretarial Skills
■2-10 lab hrs/wk ■1-5 cr. ■On Demand
Subject areas of particular interest to the student or areas where additional work is needed. Number of credits to be determined by amount of time spent.

2.610 Clerical Office Procedures
■6 class hrs/wk ■3 cr. ■Sp
Includes instruction in telephone techniques, job interviewing, communications and office procedures. Students will be doing projects integrating all office skills and techniques. Prerequisite: SS122, WR120.

2.611 Office Simulations
■3 lab hrs/wk ■3 cr. ■F
This course will introduce realistic tasks that the student will perform as though they were firsthand experiences. All facets of secretarial work are included, from the routine to the most complex. Prerequisite 2.610 or 2.663 or 2.670.

2.613-5 On-The-Job Training (Secretarial)
■3-36 class hrs/wk ■1-12 cr.
■Sm/F/W/Sp
Supervised employment in a secretarial field primarily for sophomore students to provide practical experience related to the student's major field of interest. Prerequisite: 2.0 grade average and consent of Business Division before registration.

2.645 Business Conference Techniques
■3 class hrs/wk ■3 cr. ■W
Prepares students to effectively handle oral communications in business situations such as interviews, committees, briefings and presentations. Emphasis on effective oral communication of business ideas, statistics and research to business superiors and colleagues.

2.647 Administrative Management
■3 class hrs/wk ■3 cr. ■F
Includes office managerial topics such as office layout and equipment, records management, selection of office personnel, and automation.

2.650 Records Mgt. for Educational Secretaries
■3 class hrs/wk ■3 cr. ■On Demand
Is designed to assist educational secretaries in the creation, storage and disposal of business and school records, through the use of alphabetic, numeric and subject systems. A variety of storage and retrieval methods are explored.

2.652 Filing
■2 class hrs/wk ■1 cr. ■Sm/F/W/Sp
Basic principles and information for efficient performance in managing and using records in the office.

2.653 Word Processing
■5 class hrs/wk ■3 cr. ■On Demand
Operation of CPT Automatic Typewriter and IBM Memory Typewriter. Includes concepts of word processing, equipment available, field trips and guest speakers. Prerequisite: SS123.

2.654 CPT Operation
■2 class hrs/wk ■1 cr. ■Sm/F/W/Sp
Operation of the CPT Automatic Typewriter. Includes recording and reading information, using search and switch codes, skipping, adjusting, duplicating, and making single-and dual-tape revisions. Prerequisite: SS123.

2.655 IBM Memory Typewriter Operation
■2 class hrs/wk ■1 cr. ■Sm/F/W/Sp
Operation of the IBM Memory Typewriter. Course includes procedures for recording, reading, duplicating, skipping and revising information. Prerequisite: SS123.

2.660 Legal Terminology
■3 class hrs/wk ■3 cr. ■W
Offers basic knowledge of legal terminology in the following areas: general legal, real property, pleadings, medical, corporate, probate, and Latin expressions. Prerequisite: SS121 or equivalent.

2.661 Legal Typing
■5 class hrs/wk ■1-3 cr.
■Sm/F/W/Sp
Emphasis on typing legal documents. Continued drills on speed and accuracy. Prerequisite: SS122 or equivalent.

2.662 Legal Transcription
■5 class hrs/wk ■3 cr. ■Sm/F/W/Sp
Stresses the ability of students to take instructions via the dictaphone as well as to type legal documents verbatim. Prerequisites 2.660, 2.661, and 2.527.

2.663 Legal Procedures & Ethics
■6 class hrs/wk ■3 cr. ■Sp
Specifics of working in a legal office stressing confidentiality, methods of handling clients, interaction with the courthouse, the law library, etc. Prerequisites: 2.660, 2.661, 2.662, WR120.

2.670 Medical Office Procedures
■6 class hrs/wk ■3 cr. ■Sp
Specifics of working in a medical office stressed, including insurance, medical records, administrative office procedures, receptionist techniques and communications. Prerequisites: SS122.

2.671 Medical Law and Ethics
■2 class hrs/wk ■2 cr. ■W
Includes licensing, confidentiality, legal relationship of physician and patient, legal and ethical responsibilities of medical personnel.

Faculty:
Charles Dallmann, Chairperson
Rolfe Stearns

Culinary Arts and Restaurant Management Department

The Culinary Arts and Restaurant Management curriculum offers courses in all areas of the industry: food preparation, dining room service, catering and management. The curriculum is designed for students entering the food service industry and for food service workers who want to upgrade their knowledge and skills. Many first-year courses are individualized to enable full-time employees to study at their own pace and convenience.

First-year students take a core curriculum emphasizing sanitation, safety, short-order cooking and table service. They participate in preparation and service of cooked-to-order foods in the student-managed table service restaurant. Those completing the first-year program may receive a one-year Certificate in Culinary Arts and are qualified to enter the industry as cook's helpers, fry cooks, waiter/waitresses or management trainees.

Second-year students may enroll in the following cooking or food service management options:

Chef Training—Combines advanced cooking techniques with theory and application courses in menu planning and kitchen management. Students are enrolled on the basis of skill-level with approval of the department chairperson.

Hotel and Restaurant Cooking—Builds upon basic culinary skills and increases knowledge of soups, sauces, entrees and baked goods.

Restaurant and Catering Management—Emphasizes training for line management of restaurants and catering firms. Entry requires approval of the department chairperson. Students refine dining room skills, manage the table service restaurant and the banquet and catering service, and increase their culinary skills in natural foods, regional American and selected European and Asian cuisines.

Second-year students may enroll in more than one option with approval of the department chairperson. Two-year certificates and Associate of Science degrees are awarded graduates of the two-year program. Certain general education requirements must be completed to earn an AS degree.

First Year Core

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

Fall Term

1.102	Occupational Writing	3

Winter Term

1.103	Occupational Speech	3

Program Requirements

Fall Term

8.310	Professional Food Service I	4
8.324	Practical Menu Planning A	1
8.335	Orientation to the Hospitality Industry	1
8.336	Food Service Sanitation	1
8.337	Stations, Tools, Culinary Techniques	3
8.338	Internat. Food & Beverage Vocabulary	2
8.344	Techniques of Table Service	1
8.345	Dining Room Management	1
8.349	Banquet, Buffet & Catering Proc A	1

Winter Term

8.311	Professional Food Service II	6
8.325	Practical Menu Planning B	1
8.339	M & P: Gardemanger — Salads	2
8.350	Banquet, Buffet & Catering Proc B	1
8.347	Wine Service	1
8.357	Work Analysis and Simplification	1
8.358	Hiring and Training Employees	1
8.359	Supervising Restaurant Personnel	1
8.372	Scheduling Prod & Cont Labor Costs	1

Spring Term

8.312	Professional Food Service III	6
8.326	Practical Menu Planning C	1
8.340	M & P: Vegetables & Entrees	2
8.351	Banquet, Buffet & Catering Proc C	1
8.360	Foods I	1
8.361	Foods II	1
8.371	Purchasing Foodstuffs & Cont Food Costs	1
8.348	Beverage Management	1
2.515	Business Math	5

SECOND YEAR OPTIONS

1. Restaurant and Catering Management Option

General Education Requirements

Winter Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or	
	PE Activity Courses	2
	General Education Electives	3

Spring Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR	
	PE Activity Courses	2
	General Education Requirements	3

Program Requirements

Fall Term

8.378	Merchandising the Menu	1
8.321	Adv Cooking for Managers I	3
8.327	Adv Prac Menu Planning A	1
8.332	Management Lab A	3
8.341	M & P: Stocks, Soups, Sauces	2
8.353	Banquet, Buffet & Catering Mgmt A	1
HRM230	Hotel Law	1
8.363	Management Techniques	1
8.365	Planning the Restaurant	1
8.366	Designing and Using Control Systems	1
8.638	Creating the Menu	1
BA211	Principles of Accounting I	3

Winter Term

8.322	Adv Cooking for Managers II	3
8.328	Adv Prac Menu Planning B	1
8.333	Management Lab B	3
8.342	M & P: The Butcher Station	2
8.354	Banquet, Buffet & Catering Mgmt B	1
8.369	Pricing and Evaluating the Menu	1
8.367	Financing the Restaurant	1

Spring Term

8.323	Adv Cooking for Managers III	3
8.329	Adv Prac Menu Planning C	1

8.334	Management Lab C	3
8.343	M & P: The Bake Shop	
8.355	Banquet, Buffet & Catering Mgmt C	1
8.364	Data Processing in Food Service	1
8.375	Super of Sanitation and Maintenance	1
8.377	Promoting the Restaurant	1

2. Chef Training Option

General Education Requirements

Fall Term

	General Education Electives	3

Winter Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	3

Spring Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	1
	General Education Electives	3

Program Requirements

Fall Term

8.316	Intro Commercial Kitchen Prod & Management	6
8.327	Adv Practical Menu Planning A	1
8.341	M & P: Stocks, Soups, Sauces	2
8.353	Banquet Buffet & Catering Mgmt A	1
8.363	Management Techniques	1
8.365	Planning the Restaurant	1
8.366	Designing and Using Control Systems	1
8.368	Creating the Menu	1

Winter Term

8.328	Adv Practical Menu Planning B	1
8.342	M & P: The Butcher Station	2
8.354	Banquet Buffet & Catering Mgmt B	1
8.378	Merchandising the Menu	1
8.369	Pricing/Evaluating the Menu	1

Spring Term

8.317	Inter Commercial Kitchen Prod & Management	6
8.318	Adv Commercial Kitchen Prod & Managememt	6
8.329	Adv Practical menu Planning C	1
8.343	M & P: The Bake Shop	2
8.355	Banquet Buffet & Catering Mgmt C	1
8.364	Data Processing in Food Service	1
8.375	Super of Sanitation and Maintenance	1

3. Hotel and Restaurant Cooking Option

General Education Requirements

Fall Term

	General Education Electives	3

Winter Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or	3
	PE ActivityCourses	3

Spring Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	1
	General Education Electives	3

Program Requirements

Fall Term

8.313	Hotel and Restaurant Cooking I	6
8.327	Adv Practical Menu Planning A	1
8.341	M & P: Stocks, Soups, Sauces	2
8.353	Banquet Buffet and Catering Mgt A	1
8.363	Mgmt Techniques	1
8.368	Creating the Menu	1

Winter Term

8.314	Hotel and Restaurant Cooking II	6
8.328	Adv Practical Menu Planning B	1
8.342	M & P: The Butcher Station	2
8.354	Banquet Buffet and Catering Mgt B	1
8.378	Merchandising the Menu	1
8.369	Pricing and Evaluating the Menu	1

Spring Term

8.315	Hotel and Restaurant Cooking III	6
8.329	Adv Practical Menu Planning C	1
8.343	M & P: The Bake Shop	2
8.355	Banquet Buffet and Catering Mgt C	1
8.375	Super of Sanitation and Maintenance	1

Instructional Facilities

The Food production Lab contains virtually all types of equipment found in restaurant, hotel, or cafeteria kitchens. It includes separate dinner house, natural foods and fast foods kitchens; a bakeshop; and the cafeteria and banquet kitchen, which consists of pantry, butcher, vegetable, entree, sauce, and soup and stock stations.

The Dining Room Lab enables students to learn American, French and buffet service, as well as cashiering and maitre d'hotel skills.

The Management Lab includes: management stations for the restaurant, cafeteria and catering service; a conference area for seminars and daily management sessions; access to data processing for menu planning, puchasing, inventory control and management simulations; a graphics station with equipment for preparing menu mock-ups and advertising and equipment layouts; and a resource area which includes the department library, audiovisual aids and closed-circuit TV from the Food Production Lab.

Culinary Arts Club

Members plan and prepare banquets, buffets, concessions and catered events for college and community groups. The group also plans and prepares an Annual French Dinner and exchange banquets with neighboring community colleges. Income from these events and from the sale of ice carvings is used for field trips and dinners at finer restaurants. The club also holds cook-offs, potlucks and other special activities for members.

Career Opportunities

The local job market is good. However, opportunities are excellent for the student who is prepared to relocate to a regional resort or to an urban area. Potential employers include restaurants, hotels, catering firms, cafeterias, clubs and resorts. Hospitals, school and college food services, convalescent and retirement homes and airlines provide other employment opportunities. Additional openings exist in food service equipment design and sales of food and restaurant supplies. Entry-level salaries vary according to job location and student experience. Beginning salaries for graduates of cooking programs range from $550 to $650 monthly; chef trainees earn from $650 to $900 a month. Restaurant management graduates start from $700 to $1,000 a month.

Entering The Program

To enroll students must present evidence of a recent negative TB test. They should be able to read at a tenth to twelfth grade level or plan to improve their reading ability. Students must be able to work under pressure and they should demonstrate manual dexterity, physical stamina, and ability to work cooperatively with others.

Candidates for the Chef Training and Management options must either have completed the first-year core program or have had five years of verifiable experience in commercial food preparations.

Student Expenses

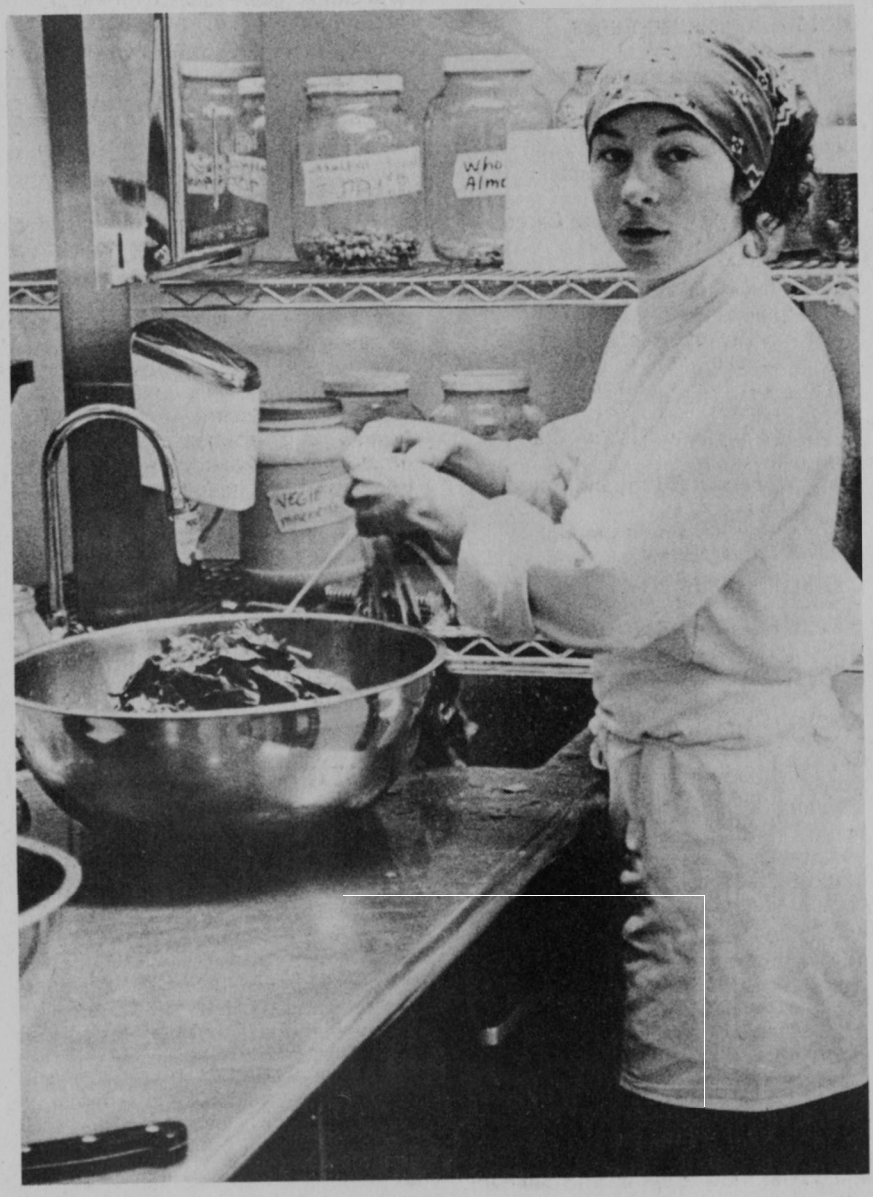
Personal accident insurance is recommended and non-slip work shoes are required. During the first two weeks of class the student is required to purchase a French knife and two chef coats. Estimated first-year expenses are $150 to $175 for books, coats and knife. Second-year expenses range from $125 to $175. These costs do not include tuition, student fees or insurance.

Cuisines of the World

The Cuisines of the World section offers students the opportunity to explore the various national and regional cuisines. Course offerings will change from term to term and year to year. The scope of a course may be wide and take in many national cuisines e.g. Oriental or Meditarranean cooking. Another course might explore an ethnic or speciality cuisine in detail e.g. Northwest cooking, Szechuan cuisine, Foods of New Mexico, and Vegetarian cooking or Minceur. National cuisines such as French, German, Italian, or American fill a middle ground in the scope of possible courses. New courses will be offered as they are developed and as student feedback indicates a need or a direction. Courses which have been developed so far are listed below.

8.380 Northwest Cooking
■2 lab hrs/wk & 1 class hr/wk ■2 cr. ■On Demand

Explores regional dishes based on locally available ingredients. Students learn to prepare appetizers, soups, salads, shellfish, fish, meats, vegetables, breads, and desserts. Covers the basic cooking procedures as they come up. Lab fee covers cost of food prepared (which students eat at the end of every class.)



8.394 Introduction to Vegetarian Cuisines
■1 lec/2 lab hrs/wk ■2 cr. ■On Demand

Each session includes the preparation of one or more vegetarian dishes from the traditional cuisines of the Middle East, Orient and the Mediterranean. Salads, soups, sauces and main dishes are emphasized. The course begins with an introduction to the principles of vegetarian and lactovegetarian menu planning utilizing appropriate ingredients and techniques. Discussion and lectures will cover selecting, storing and preparing the following food groups: fruits, vegetables, nuts, grains, soy products, cheese and condiments. The following techniques will be demonstrated: knife and cleaver skills for food in the raw, juicing, steaming and poaching, and wok cooking and sauteing.

9.382 Basic French Cooking
■2 lab hrs/wk & 1 class hr/wk ■2 cr. ■On Demand

Students will observe basic culinary techniques and perform by preparing actual dishes from French cuisine. Students will gain skill in using the French knife and will prepare basic stocks and sauces. Students perform basic cooking processes, by making crepes, omelettes, quenelles, quiches, sauteed, poached, and braised entrees.

8.383 Basic Italian Cooking
■2 lab hrs/wk & 1 class hr/wk ■2 cr. ■On Demand

Basic preparations of northern and southern Italian cuisine. Students observe techniques and practice cooking classic and regional dishes. Topics covered include antipasti, soups, pastas, pizza, fish, chicken, turkey, veal, beef, and dessert. Students will need to provide their own aprons. A lab fee will be charged each week.

8.385 Basic German Cooking
■2 lab hrs/wk & 1 class hr/wk ■2 cr. ■On Demand

Introduction to German-Austrian cuisine through preparation of appetizers,soups, fish, goose, veal, pork, beef, potatoes, noodles, vegetables, breads and desserts. Open to nonmajors. A lab fee will be charged.

8.395 Basic Mexican Cooking
■1 lec/2 lab hrs/wk ■2 cr. ■On Demand

Each course meeting will cover the preparation of one or more dishes by the student. The student will prepare appetizers, soups, fish, meats, poultry, chiles, and desserts from Mexican cuisine. An additional lab fee will be

charged each week to cover the cost of foods prepared. Course open to non-majors.

8.386 Wine Regions of the World
■2 lab hrs/wk & 1 class hr/wk ■2 cr.■On Demand

An arm chair tour of the world's major wine regions covering grape varietals, soil, climate, styles of wine making, outstanding vineyards, important growers and shippers, labels, famous restaurants, and regional history and culture. Includes a tour of Northwest wineries. Regions covered vary from year to year.

Vocational Courses Open to Non-Majors

8.300 Restaurant A La Carte
■3 lab hrs/wk ■1-8 cr. ■ F/W/Sp

Basic food preparation with emphasis on foods cooked to order. Opportunity to work the broiler, fry, griddle, and saute stations as well as to prep foods in the pantry and back kitchen areas. Depending upon the hour, students prepare a variety of short order dishes, from omelets and grilled sandwiches to broiled steaks and sauteed vegetables. Opportunity to learn breakfast, lunch, and dinner cooking. Variable credit and hours for the working student. May be repeated for credit.

8.301 Banquets, Buffets and Catering for Non-Majors
■3 lab hrs/wk ■1 cr. ■ F/W/Sp

Menu planning, purchasing, pricing, production scheduling, preparation and service of banquets, buffets, and catered dinners.

8.302 Practical Cooking for Non-Majors
■6 lab hrs/wk ■2 cr. ■ F/W/Sp

Practical food preparation procedures for students not pursuing a career in the foods industry. Students will have the opportunity to prepare salads, dressings, stocks, soups, sauces and vegetables for cooking and service. International foods are stressed. May be repeated for credit. Registered students must present proof of a recent TB test.

8.303 Salads and Gardemanger for Non-Majors
■2 class hrs/wk ■2 cr. ■W

A course in salads, dressings, and techniques for adding eye appeal to foods. Non-majors attend the same lectures and demonstrations as majors but have different assignments and projects, which have been developed for home instead of restaurant use.

8.304 Vegetables and Entrees for Non-Majors
■2 class hrs/wk ■2 cr. ■Sp

Essentially the same course as for majors, but reading assignments put emphasis on home cooking quantities and techniques.

8.305 Stocks, Soups and Sauces for Non-Majors
■2 class hrs/wk ■2 cr. ■F

The basics of stock, soup, and sauce preparation. Emphasis in readings and homework on home preparation and small quantities.

8.306 Meat Cutting Lab for Non-Majors
■3-15 lab hrs/wk ■1-5 cr.■F/W/Sp

Provides opportunity to practice meat cutting skills covered in Materials and Processes: The Butcher Station. Students may schedule from 3-15 hours per week in the morning to cut meat to be cooked and served for the school cafeteria and restaurant. Materials and Processes: The Butcher Station is a prerequisite which may be taken concurrently. Open to non-majors.

8.307 Baking for Non-Majors
■2 class hrs/wk ■2 cr. ■Sp

A basic course in the techniques of preparing and evaluating baked goods. Reading assignments, class lecture and discussion will provide the background for practical baking in the college kitchen. This discussion class will provide knowledge of leavening action the uses of fats and sugars, pastry, sweet dough and cake baking. Readings, lectures and practice on bread and dessert products. Basic techniques with the pastry bag.

8.381 Cut your own Beef
■3 lab hrs/wk ■1 cr.■On Demand

A course for people who have a whole, half or quarter of beef they wish to cut with hand tools. A different student will provide meat each week and the entire class will practice cutting it up according to the "muscle-boning" Style.

Food Service Fundamentals

8.384 Orientation to the Hospitality Industry
■2 lab hrs/wk ■1 cr.■F

Orientation to the LBCC program. Exploration of hospitality careers. Survey of hospitality operations. Professional work habits. Conservation of energy and materials. Safety procedures and fire prevention. The use of standardized recipes. Teamwork and communication techniques.

8.336 Food Service Sanitation
■2 lab hrs/wk ■1 cr. ■F/W/Sp

Foodborne diseases, personal hygiene, safe food handling, receiving and storage, warewashing and environmental sanitation.

8.337 Stations, Tools and Culinary Techniques
■6 lab hrs/wk ■3 cr. ■ F/W/Sp

Safe and sanitary use of tools, and equipment. How to set-up and clean-up the kitchen and dining room stations. The basic principles of cooking. The basics of weights and measures.

8.338 International Food and Beverage Vocabulary and History
■2 class hrs/wk ■2 cr. ■F

Culinary vocabulary from all over the world as seen on menus and employed in commercial kitchens in the U.S. The French system of order for classical service forms the basis for study of foods, wines, tools and techniques associated with French cuisine. Study of historical development of western cuisines reveals the reason for the international flavor of kitchen argot. Open to non-majors.

Materials and Processes

8.339 Materials and Processes: Gardemanger—Salads
■2 class hrs/wk ■2 cr. ■W

Lectures, demonstration, and discussions of proper techniques for the preparation of appetizers, hors d'oeuvres, salads and dressings, sandwiches, coffee and eggs. Basics of the buffet, chaud-froid pieces, ice carving, and cold soups. Complements and supplements kitchen laboratory practice in winter term.

8.340 Materials and Processes: Vegetables and Entrees
■2 class hrs/wk ■2 cr. ■Sp

Basic knowledge and techniques through lecture-demonstrations and discussions on the preparation of green, red, yellow, and white vegetables. The various market forms of vegetables from raw to frozen precooked. Rice, pastas, legumes and dried vegetables. Instructions and procedures for preparing entrees from beef, veal, lamb, pork, poultry, fish, variety meats, pastas, vegetables, and dairy products.

8.341 Materials and Processes: Stocks, Soups and Sauces
■2 class hrs/wk ■2 cr. ■F

Students will receive theory and training in preparation of basic and specialty stocks, classic and innovative soups, and the leading mother and secondary warm sauces.

8.342 Materials and Processes: The Butcher Station
■1 class hr/wk & 1 lab hrs/wk ■2 cr.■W

Cutting of beef hindquarter, arm chuck and portion steaks. Student butchers break a leg of veal and a lamb or pork carcass. How to split a chicken, skin and filet a fish, peel prawns and shuck clams and oysters for service. Safety stressed, along with proper sanitation, grades and cuts of beef.

8.343 Materials and Processes: The Bake Shop
■1 class hr/wk & 2 lab hrs/wk ■2

cr. ■Sp

A lecture-discussion class which provides knowledge of leavening action, the uses of fats and sugars, pastry, sweet dough and cake baking. Readings, lectures, and practice on bread and dessert products. Basic techniques with the pastry bag.

Service Management

8.345 Techniques of Table Service
■2 lab hrs/wk ■1 cr. ■F

Elements of service, qualifications of staff; hand and tray skills; taking the order and writing the check; coordinating with the kitchen; serving the guest; bussing and setting table; Opening and closing side work, Organization and teamwork, Carving and cooking at the table.

8.346 Dining Room Management
■2 lab hrs/wk ■1 cr. ■F

Cashiering and hostmanship. Styles of service and types of staffing. Training, scheduling and supervising the staff. Building the check average and maintaining a sales history. Controlling cash and guest checks.

8.347 Wine Service
■2 lab hrs/wk ■1 cr. ■W

Techniques of serving and selling wine. Wine evaluation terms. Food/wine combinations. Classification of wines. Geography of major wine regions. How to evaluate wine for color, bouquet, taste, and finish characteristics. Theory course, does not include wine tasting.

Banquet, Buffet and Catering Management

8.350 Banquet, Buffet & Catering Procedures A
■3 lab hrs/wk ■1 cr. ■F

A course in kitchen and dining room banquet procedures. Students will plan and put on banquets during the fall term with special emphasis on the annual French or International Banquet. Setting the banquet room, serving the guests, and portioning the meals are stressed. The exact content of the course depends to some extent on the number and type of functions booked each year.

8.351 Banquet, Buffet & Catering Procedures B
■3 lab hrs/wk ■1 cr. ■W

Students will work together to put on buffets and banquets during the winter term. Students plan, prepare and serve food to large groups of people. Special attention will be given to buffets although all types of banquets may be served. Setting the buffet, including chaud-friod and ice sculpture centerpieces, will be stressed. Students evalute foods for appearance, taste and portion consistency.

8.352 Banquet, Buffet & Catering Procedures C
■3 lab hrs/wk ■1 cr. ■Sp

The emphasis in this course is on catering, although students will also participate in planning and serving sit-down banquets as well as buffets. Topics covered will include food preparation, loading, and transport, as well as catering set-up service, clean-up and reloading. A large scale banquet is usually scheduled for the spring term and students will have the opportunity to work large and small scale catered parties.

8.353 Banquet, Buffet & Catering Management A
■3 lab hrs/wk ■1 cr. ■F

Advanced students will plan, supervise, and work on banquets and/or buffets and caterings during the fall term. Second-year students will assist in training new students in the basics of banquet procedures. Additional emphasis is placed on planning, promoting, costing and billing of banquets. Students will apply their knowledge under actual service conditions.

8.354 Banquet, Buffet & Catering Management B
■3 lab hrs/wk ■1 cr. ■W

Advanced students will plan, serve and supervise large and small banquets, buffets and caterings as scheduled winter term. Advance planning, preparation and training for large scale events. Evaluation and judging foods for eye appeal, taste, color and arrangement. Buffet planning, setup and cleanup are emphasized but actual service depends somewhat on scheduling and demand.

8.355 Banquet, Buffet & Catering Management C
■3 lab hrs/wk ■1 cr. ■Sp

This course emphasizes catering management and procedures. Students will also participate in planning and serving large banquets and/or buffets during the spring term. Students will actually plan and work on banquets and caterings. Special equipment and problems of catering are stressed.

8.356 Trail Cooking Procedures & Management
■3-15 lab hrs/wk ■1-5 cr. ■On Demand

An individualized course for the advanced student with a special interest in catering and catering management. The student will plan, cost, price, tansport, prepare and clean-up meals catered for groups on the trail. Students earn one credit for every thirty-three hours spent in planning and actually preparing the meals.

Personnel Management

8.357 Work Analysis & Simplification
■2 lab hrs/wk ■1 cr. ■F

Analyzing tasks, flowcharting work, and simplifying tasks. Grouping tasks into functions and departments. Writing job descriptions.

8.358 Hiring and Training Employees
■2 lab hrs/wk ■1 cr. ■W

Job pricing, recruiting and interviewing techniques. Selecting and orienting new employees. Preparing operating manuals. Conducting on-the-job training. Conducting effective meeting.

8.359 Supervising Restaurant Personnel
■2 lab hrs/wk ■1 cr. ■W

Motivating the staff. Styles of management, supervisory techniques and communication skills. Evaluating and promoting employees. Handling grievances, discipline and terminations. Delegating authority and responsibility.

8.372 Scheduling Production and Controlling Labor Costs
■2 lab hrs/wk ■1 cr. ■W

Analyzing the sales history, forecasting sales volume and menu mix, scheduling production and staff. Analyzing payroll reports. Payroll procedures, government regulations and employee benefits.

Food and Beverage Management

8.360 Foods I
■2 lab hrs/wk ■1 cr. ■Sp

Fresh and processed fruits and vegetables. Herbs, spices and condiments. Staples, grains and cereals.

8.361 Foods II
■2 lab hrs/wk ■1 cr. ■Sp

Dairy products, poultry, fish, beef, veal, lamb, pork and variety meats. Non-alcoholic beverages and convenience foods.

8.371 Purchasing Foodstuffs and Controlling Food Costs
■2 lab hrs/wk ■1 cr. ■W

Specifications, market practices, and purchasing procedures. Receiving procedures and reports. Storage facilities, procedures and security. Issuing and inventorying. Determining food costs by sales area and food type. Simplified food cost control systems.

8.348 Beverage Mangement
■2 lab hrs/wk ■1 cr. ■Sp

Types of spirits and their methods of distillation. Types of mixed drinks; cocktail service. Bar layout and the liquor storeroom. Liquor controls and pricing drinks. Liquor regulations. Theory course, does not include tasting.

8.387 Planning Special Menus
■4 lab hrs/wk ■2 cr. ■On Demand

Survey of the nutritional requirements of different age groups.

Practice in preparing modified menus for individuals based on age, personal preferences, special needs and monetary constraints.

Marketing Management

8.365 Planning the Restaurant
■2 lab hrs/wk ■1 cr. ■F

Setting investment returns and performance goals. The feasibility study: Analysis of concept, market, community comprehensive plan and site. Projecting sales, operating expenses, capital costs and breakeven points.

8.368 Creating the Menu
■2 lab hrs/wk ■1 cr. ■F

Types of commercial foodservice operations and their markets and menus. Multi-market restaurants. Writing time block and specialty menus. Projecting sales and direct costs for individual time block/specialty menus. Analyzing and adjusting the mix of all menus within a single operation.

8.349 Composing the Wine List
■2 lab hrs/wk ■1 cr. ■On Demand

An individual project course. Coordinating the wine list with a restaurant's menus, style of service, storage facilities, financial resources and promotional strategy. Selecting aperitifs, sparkling wines, still wines, dessert wines and port. Pricing, designing and printing the list.

8.369 Pricing and Evaluating the Menu
■2 lab hrs/wk ■1 cr. ■W

Yield tests and standardized recipes. Precosting food and labor. Pricing based on cost and on market. Measuring the relative popularity of menu items. Achieving a profitable sales mix.

8.378 Merchandising the Menu
■2 lab hrs/wk ■1 cr. ■W

Menu layout, illustration, and copy. Costing the artwork and printing. Internal selling techniques; coordinating the menu with the dinning room atmosphere.

8.377 Promoting the Restaurant
■2 lab hrs/wk ■1 cr. ■Sp

The sales function. Restaurant marketing strategy. Advertising budget. Public relations. Selling banquets and catering. In house promotions.

8.379 Advertising Media
■2 lab hrs/wk ■1 cr. ■On Demand

Copy, layout, and illustration. Using newspaper, direct mail, radio and television media for restaurant advertising.

8.389 Front Desk Procedures
■2 lab hrs/wk ■1 cr. ■On Demand

Selling rooms and booking reservations. Registering and checking out guests. Using sales and accounting records. Operating transcript and posting machines. Coordinating customer services. Handling complaints and emergencies.

8.388 Entertainment Management
■2 lab hrs/wk ■1 cr. ■On Demand

An individual project course. Types of entertainment and their promotional advantages. Developing special events around entertainment contracts and facilities. Controlling entertainment costs.

Financial Management

8.363 Management Techniques
■2 lab hrs/wk ■1 cr. ■F

Time management. Planning and problem solving methods. Introduction to financial statements and the uniform systems of accounts used in the hospitality industry. Preparing short term and long term operating budgets.

8.366 Designing and Using Control Systems
■2 lab hrs/wk ■1 cr. ■F

Establishing an effective management organization. Setting up management function areas and controls for labor, food, supplies, energy use and cash. Interpreting financial statements, ratios, and breakeven analyses; using them to improve profitability. Monitoring the effectiveness of control systems.

8.367 Financing the Restaurant
■2 lab hrs/wk ■1 cr. ■W

Types of ownership and their tax implications. Leasing, franchising and buying. Methods and sources of financing a food service operation. Insurance. Managing working capital. Financing new equipment, remodeling and expansion.

8.364 Data Processing Applications in Foodservice
■2 lab hrs/wk ■1 cr. ■Sp

This course is directed to the non-DP major who will be a user of a computer-data processing system. Course includes explanations of computer terminology and functional operations. Procedures for systems analysis will be described.

HR230 Hotel Law
■2 lab hrs/wk ■1 cr. ■F

Innkeeper's responsibilities and liability exposure. Torts and liens. Contracts and leases. Zoning, alcoholic beverage, truth-in-menu and labor laws.

Facilities Management

8.376 Designing the Restaurant
■2 lab hrs/wk ■1 cr. ■On Demand

An individual project course. The steps of the decision process. Translating the restaurant concept into rough plans. Establishing the budget. Zoning. Building and health code checklists. Developing the design theme of the public areas. Preliminary selection of lighting, furnishings, and appointments.

8.374 Equipment Layout
■2 lab hrs/wk ■1 cr. ■On Demand

An individual project course. Analyzing the menu for production and service requirements. Determining space and equipment requirements for receiving and storage, warewashing, cooking, service and dining room areas. Arranging equipment for efficiency and compactness.

8.393 Constructing and Remodeling Foodservice Facilities
■2 lab hrs/wk ■1 cr. ■On Demand

An individual project course. refining the plans and budget. Relations with consultants, architects and builders. Obtaining estimates and bids. Project scheduling using PERT. Monitoring construction and government inspection to prevent delays, cost overruns, oversights and mistakes.

8.375 Supervising Sanitation and Maintenance
■2 lab hrs/wk ■1 cr. ■Sp

Safety, energy conservation, and pollution control programs. Housekeeping and sanitation schedules; equipment and facilities maintenance schedules. Supervising sanitation and maintenance personnel. Purchasing supplies, utensils and contract services. Repair and replacement of equipment.

Professional Foodservice

8.310 Introduction to Professional Food Service I
■18 lab hrs/wk ■4 cr. ■F/W/Sp

A laboratory and work experience class in which the beginning student will spend time as an assistant on the following stations: entree salad, vegetable, soup & stock, bakery, storeroom, warewashing and dining room. Instructor demonstrates safe use of machines and hand tools, sanitation and hygiene procedures, basic cooking processes, and proper station set-up and clean-up. Basic table service skills are emphasized. Students take part in actual preparation, set-up and service of a small dining room to learn how a restaurant really works. Class begins fourth week of term.

8.311 Introduction to Professional Food Service II
■18 lab hrs/wk ■6 cr. ■F/W/Sp

A laboratory course in food preparation, with emphasis on mastery of the basic salads and dressings. Students will continue to rotate stations on a two-week basis but will begin to take on more responsibility in producing a salable product for the cafeteria and

restaurant customers. Students continue to practice their table service skills in the department's sit-down restaurant.

8.312 Introduction to Professional Food Service III
■18 lab hrs/wk ■6 cr. ■F/W/Sp

This laboratory section focuses on vegetable and entree preparation. Students will cook vegetables, starches and ain dishes for service in the college cafeteria. Student cooks will prepare entrees according to the various styles of service: restaurant, hotel and institutional. The student will begin in this quarter to assume responsibility for directing a station as he or she rotates duties every two weeks. Students continue to practice their table service in the departments restaurant.

Hotel and Restaurant Cooking

8.313 Hotel and Restaurant Cooking I
■18 lab hrs/wk ■6 cr. ■F/W/Sp

An advanced course in the kitchen under service conditions. For the first time students will take charge of a station and be responsible to the student chef and instructor for its efficient operation. Students may begin to specialize on a station and rotate at monthly or quarterly intervals.

8.314 Hotel and Restaurant Cooking II
■18 lab hrs/wk ■6 cr. ■F/W/Sp

The advanced cooking student will begin to make a menu for his or her station and coordinate the activities of the station with that of the chef and the rest of the kitchen, and will order and receive merchandise for the station.

8.315 Hotel and Restaurant Cooking III
■18 lab hrs/wk ■6 cr. ■F/W/Sp

In this final quarter of lab experience the student has more responsibility for developing menus and recipes for service. The student may continue to specialize for entry level or may wish to broaden knowledge at instructor's discretion.

Chef Training

8.316 Introduction to Commercial Kitchen Production and Management
■18 lab hrs/wk ■6 cr. ■F/W/Sp

More responsible kitchen stations: entrees, sauces and second cooks, sous chef, and student chef. Students are entirely responsible for the efficient running of the kitchen. Chef trainees familiarize themselves with job descriptions for every station of kitchen in order to delegate authority properly.

8.317 Intermediate Commercial Kitchen Production and Management
■18 lab hrs/wk ■6 cr. ■F/W/Sp

Chef-trainee works as chef or sous chef to coordinate kitchen activities from planning and ordering to receiving, storing, cooking and serving.

8.318 Advanced Commercial Kitchen Production and Management
■18 lab hrs/wk ■6 cr. ■F/W/Sp

Students in their last quarter assume title, responsibility and authority of student chef. Under instructor's guidance the student prepares a two-week menu and order sheet and oversees the ordering, receiving, preparation, and service of food for the college cafeteria.

Cooking for Restaurant Managers

8.321 Advanced Cooking for Restaurant Managers I
■9 lab hrs/wk ■3 cr. ■F/W/Sp

A lab course with emphasis on stock, soup, and sauce preparation. Beginning familiarity with international cuisines as well as new cuisine. Student managers will plan, cost and price menus. Practice of formal dining room skills. Supervision of student cooks and service personnel is stressed.

8.322 Advanced Cooking for Restaurant Managers II
■9 lab hrs/wk ■3 cr. ■F/W/Sp

A lab course with emphasis on meat grades, cuts and preparation. International dishes are dressed. New cuisine is explored in greater depth. Kitchen and dining room service and management techniques are continued. Students deliver routine demonstrations to the class.

8.323 Advanced Cooking for Restaurant Managers III
■9 lab hrs/wk ■3 cr. ■F/W/Sp

Cooking/Managing lab. Vegetables, entrees, and baked goods are stressed in production and theory. Production forecasting and portion controls are implemented by student managers. Refinements in dinner house cooking, including tableside preparation techniques and practice. Students assume responsibility for total dining room operation.

Management Labs

8.332 Management Lab A
■9 lab hrs/wk ■3 cr. ■F/W/Sp

Practice interviewing job applicants, training student employees, handling grievances, writing job descriptions and making performance evaluations. Students revise station set-up and clean-up procedures, employee and clean-up schedules. Students are assigned to one of three lab restaurants.

8.333 Management Lab B
■9 lab hrs/wk ■3 cr. ■F/W/Sp

Student managers will be assigned to one of three lab areas. Administration of prices, orders receiving, issuing and inventory for foods, utensils and supplies is emphasized. Management trainees prepare food cost analysis and design menu for assigned restaurant.

8.334 Management Lab C
■9 lab hrs/wk ■3 cr. ■F/W/Sp

Prepare and analyze budgets, P & L statements and balance sheets for assigned restaurant. Develop promotional campaign. Labor cost analysis, payroll procedures, and employee regulations are stressed.

Practical Menu Planning

8.324-6 Practical Menu Planning A,B,C
■3 lab hrs/wk ■1 cr. ■F/W/Sp

Complements the first-year cooking labs and is to be taken concurrently. Students assist in planning and preparing menu items on a daily basis. Students make daily presentations to the class regarding the day's menu. Students are responsible for knowing the names and ingredients of all menu items for the term. Daily critique of previous day's menu.

Advanced Practical Menu Planning

8.327-9 Advanced Practical Menu Planning A,B,C
■3 lab hrs/wk ■1 cr. ■F/W/Sp

Second-year students write menus, purchase orders, and line set-up sheets. Students in charge of a station direct that station and coordinate activities with the student chef as well as with other station heads. Daily oral presentations on the current menu items, their preparation and coordination. Students are responsible for knowing the names and ingredients of all menu items for the term. Each term covers a menu series and differing menu items.

Miscellaneous

8.330 Dining Room Lab
■6 lab hrs/wk ■2 cr. ■F/W/Sp

Provides waiter/waitress experience in coffee shop and tray service settings.

8.335 Projects and Conferences
■3-15 lab hrs/wk ■1-5 cr. ■F/W/Sp

Subject areas of particular need or interest to the student can be given additional attention in this independent study course. Projects are to be planned in detail and approved by the instructor prior to the second week of class. Instructor's permission required. Hours and credits by arrangement.

Health Occupations and Physical Education Division

Director:
H. Richard McClain

This Division provides career preparation for health occupations as well as classes in physical education, personal health and first aid.

Programs in health-related fields include Associate Degree Nursing (RN). Nursing Assistant, Dental Assistant and related health areas.

Preparation includes both classroom and clinical experience. Students completing these programs are qualified to pursue various occupations in the health services field in hospitals, nursing homes, clinics, doctors or public health offices.

Activity classes are offered for students who must take physical education to meet graduation requirements and for those who wish to participate in individual or team activities.

Personal health and first aid are also a part of the division's curriculum.

Linn-Benton Community College encourages students to make career choices based on interests, needs and abilities, without regard to the traditional roles of men, women or minorities.

Faculty:
Judith Benoff
Lyndall Johnson
Martha Miles
Jacqueline Paulson
Evon Wilson, Coordinator, Associate Degree Nursing
Adella Wood

Associate Degree Nursing

This two year program is open to both men and women and is designed to prepare students to be highly skilled bedside nurses (R.N.) oriented to patient care. Students who complete the course receive an Associate of Science Degree in Nursing and are eligible to take the Oregon State Test Pool Examination for Registered Nurse Licensure. Clinical facilities utilized are the hospitals, nursing homes and community health agencies in Linn and Benton Counties, as well as the State Hospital in Salem.

See Admission Procedure for special admissions for Associate Degree Nursing Program.

Accreditation

The program is approved by the Oregon Board of Education, Oregon State Board of Nursing, and is fully accredited by the National League for Nursing.

Standards of Performance

Following acceptance into the Nursing Program, the student is expected to achieve a minimum of a "C" grade in each required course in the Nursing Program. Nursing courses are to be taken in sequence in the order listed below. A student is graded in all aspects of the program including clinical practice. The student is expected to participate on a daily basis; absence is made up through an agreement made with the instructor.

A student who is unable to meet the level of competency required in the Nursing Program may be advised of other alternatives to meet his/her goal. Permission to continue in the Nursing Program with an "Incomplete" in any required courses will be determined on an individual basis.

Should the student petition to complete the Nursing Progam at a later time, the Program Coordinator and Health Occupations Director will endeavor to help the student achieve this goal.

All nursing courses are to be completed at Linn-Benton Community College, unless special permission for transfer credit is arranged. Related courses may be taken before enrolling in the Nursing Program or concurrent with the Nursing Program.

Students who are admitted to the Nursing Program may be required to hold student nurse liability insurance in addition to the coverage by LBCC. Evening clinicals are required.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

1.110	Elements of Alg	4

SOPHOMORE YEAR
Fall Term

WR121	Eng Comp	3
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR or PE Activity Courses	2

Winter Term

SP111	Interpersonal Speech Comm	3
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR or PE Activity Courses	1

Spring Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR or PE Activity Courses	1

Program Requirements

FRESHMAN YEAR
Fall Term

5.711	Nursing I	6
BI221	Hum Biology	3
EN225	Nutrition	4
5.732	Pharmacology I	2

Winter Term

5.712	Nursing II	7
5.726	Nursing C.S.	1
BI222	Hum Biology	3
PS201	Psychology	3
4.215	Microbiology	2

Spring Term

5.713	Nursing III	10
BI223	Hum Biology	4
PS202	Psychology	3

SOPHOMORE YEAR
Fall Term

5.721	Nursing IV	10
	Humanities Elective	3

Winter Term

5.722	Nursing V	10
5.727	Nursing C.S.	1

Spring Term

5.723	Nursing VI	10
	Sociology Elective	3

5.711 Nursing I
■10 class hrs lab/wk ■6 cr. ■F
5.712 Nursing II
■14 class hrs lab/wk ■8 cr. ■W
5.713 Nursing III
■20 class hrs lab/wk ■9 cr. ■Sp
Introduction to the role of the nurse

in meeting the needs common to patrients of all ages. Basic "fundamentals" plus normal prenatal care, growth and development, developmental tasks for all ages and beginning communication. Beginning physical and mental illness for all ages including lab and delivery and post-partum care, with emphasis on practice in problem solving. Independent learning tasks, demonstrations, audio-visual aids, discussion and lecture are used in the classroom. Supervised campus lab may be required. Supervised practice in the clinical area is provided with pre- and post-conferences to evaluate planned patient care. Individually scheduled tutorial sessions are offered in addition to published schedules. Must be taken in sequence.

5.721 Nursing IV
■19 class hrs lab/wk ■10 cr. ■F

5.722 Nursing V
■20 class hrs lab/wk ■10 cr. ■W

5.723 Nursing VI
■20 class hrs lab/wk ■10 cr. ■0Sp

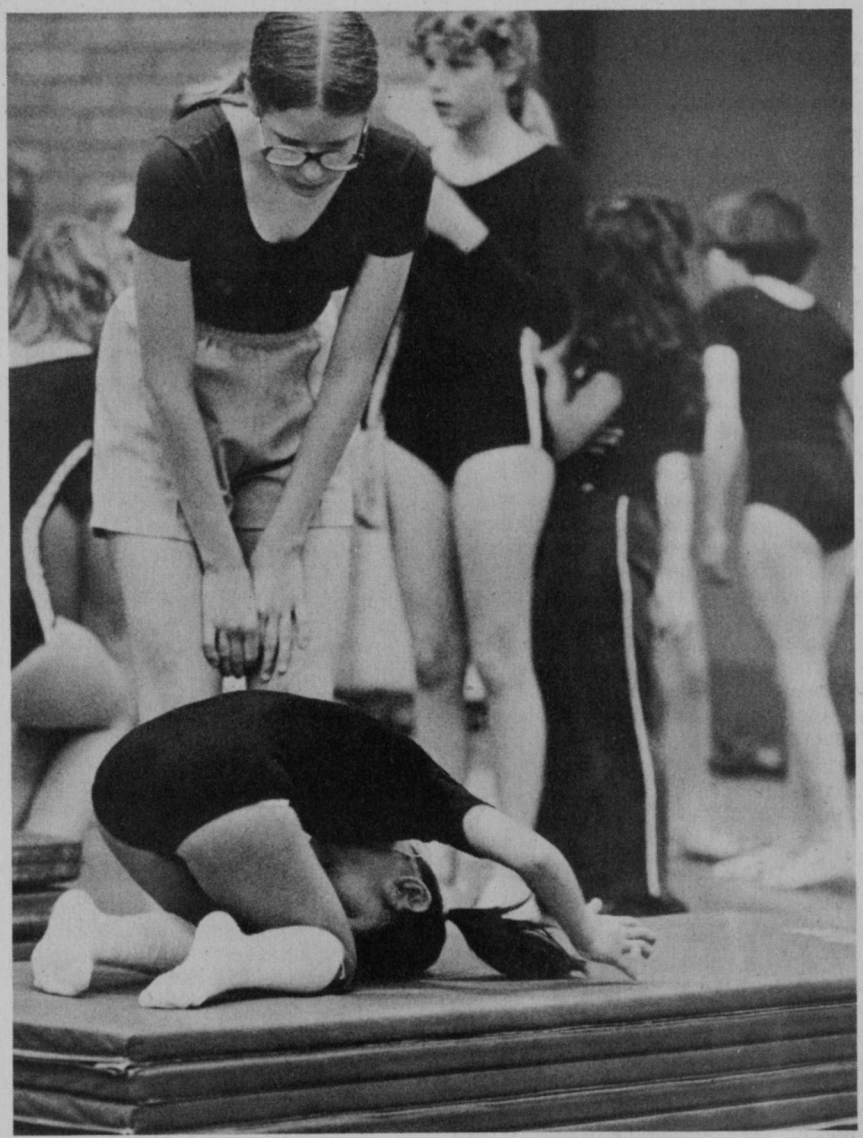
Continued study of major areas of illness from pediatrics to geriatrics, including complications of pregnancy. Consideration to scope, prevention, diagnosis, treatment and psychosocial aspects of illness with an emphasis on decision making. Deviations from normal growth and development which predisposes to illness. Rehabilitative aspects of nursing care with consideration of available community agencies. Study of basic concepts of personality and behavior with the attention given to psychological processes ranging from "normal" to extreme deviation in mental health. Additional topics include legal aspects and trends in nursing, community health, leadership skills and an overview of specialty nursing areas. Prerequisite: Full sophomore standing in Nursing. Must be taken in sequence.

5.726-7 Nursing in Contemporary Society
■1 class hrs/wk ■1 cr. ■On Demand

The nursing role defined, based on the history of the profession, current theories pertaining to the nature of heath and disease and selected responsibilities of the role of the nurse in society and as practitioner. The reciprocal influences between society and nursing are identified as they relate to biological, sociological, psychological and therapeutic setting. Must be taken in sequence. Prerequisite: Permission of instructor.

9.402 IV Therapy and Monitoring Venipuncture
■20 class hrs/wk ■2 cr. ■On Demand

A three-day course designed for LPN's licensed in Oregon who will participate in IV therapy and IV monitoring. This 20 hour course follows the criteria set by the Oregon State Board of Nursing to prepare LPN's in the practice of IV therapy. The course also provides a beneficial review for RN's. LPN's wishing to be trained in venipunctures must have a note signed from their employing agency stating they will be provided an opportunity to complete three successful venipunctures under the supervision of a preceptor (Registered Nurse and/or physician) within one year of completion of a theory class. Those LPN's wishing to attend the class without completing the three successful venipunctures, may do so without a signed note. Prerequisite: RN or LPN who will participate in IV therapy and monitoring.



9.413 Medical Law and Ethics Update for the Medical Assistant
■3 class hrs/wk ■1 cr. ■On Demand

A three session workshop designed for medical assistants, receptionists, and other medical office personnel. Provides a beneficial review for the participant regarding medical law and ethics. Three lecturers will provide the information with question and discussion time planned for each consecutive session. Prerequisite: Employed in field.

9.416 Food Service Supervisors Course
■3 class hrs/wk ■3 cr. ■On Demand

This course is designed to give Food Service Supervisory personnel in health care facilities information at their level about nutrition, therapeutic diets, menu planning (both regular and special diets), food preparation, purchasing, sanitation, safety and supervisory techniques. Prerequisite: Employed in the food service supervisory field. High school diploma.

9.418 The Health Professionals Perspective on Patient Education: A Modern Approach
■3 class hrs/wk ■3 cr. ■On Demand

This 10 week course will focus on increasing the ability of health professionals to plan and implement preventive education programs in various health care settings. Topics for discussion include current trends in patient education, supports and blocks to patient education, writing objectives, program planning and evaluation, and learning theory. Prerequisite: Course recommended for health workers.

9.419 Mini-Physical Assessment Workshop
■1-2 class hrs/wk ■1 cr. ■On Demand

The purpose of this workshop is to provide the practicing Registered Nurse with the basic skills necessary to assess the chest and abdomen. This workshop will include a review of related anatomy and physiology, physical examination techniques used in assessing the thorax and abdomen, integration of common re-occuring pathophysiology of the thorax and abdomen, identification of heart sounds, adventitious breath sounds and abnormal bowel sounds. Appropriate nursing intervention is also included. Prerequisites: RN or related medical employment.

9.424 Independent Nursing Studies
■1-5 class hrs/wk ■1-5 cr. ■On Demand

Provides supervised individual study for matriculating and non-matriculating pre-RN or post-RN nursing students. Content geared to the needs of the individual student. One-to-one conference with instructors, field trips, research assignment, and audio-visuals are utilized for learning.

9.425 Re-Entry into Nursing
■20 class hrs/wk ■10-12 cr. ■On Demand

For registered nurses who have not been active in the practice of nursing for the past five years. If not currently licensed in the State of Oregon, the student is required to make application for licensure prior to course enrollment. This course meets the State Board of Nursing requirements of a re-entry into nursing; also those Registered Nurses who would like to take the course to meet their own needs for increased knowledge. The variable credit option allows the student to increase the number of clinical practice hours, as well as participate in specific fields of interest in nursing practice.

9.426 Coronary Care Nursing
■10 class hrs/wk ■10 cr. ■On Demand

Information needed for the registered nurse in the coronary care unit. Emphasis on recognition and treatment of cardiac arrhythmia and emergency procedures such as cardio-pulmonary resuscitation and electrical resuscitation. Review of normal and abnormal anatomy and physiology of the heart, diagnostic methods, and treatment of cardio-vascular disease will be covered. Principles of cardiac monitoring and electrocardiography will be applied. Individual liability insurance is required.

9.427 Continuing Education for Nurses
■26 hrs/total ■3 cr. ■On Demand

"Effective Charge Nurse in a Long Term Care Facility." This workshop is designed for RN's and LPN's employed as a charge nurse in a long term care facility. The course includes supervisory principles, interviewing skills, time management, evaluation and communication skills.

9.410 Medications and Nursing Implications
■3 class hrs/wk ■3 cr. ■On Demand

This course is designed for RN's and LPN's and includes an overview of pharmacology with emphasis on commonly administered drugs and some aspects of drug abuse and methods of intervention. Prerequisite RN-LPN or nursing student. It will be asumed that the student is already familiar with basic anatomy and physiology.

9.430 Introduction to Basic Medical Laboratory Procedures
■35 hrs/total ■1 cr. ■On Demand

This three session workshop is designed for health workers employed in physicians' offices. It provides the worker with basic information and techniques needed for routine lab procedures.

9.436 The Whys and Hows of Wellness—An Introduction to Health Promotion
■8 class hrs/wk ■1 cr. ■On Demand

Designed to meet the needs of health professions, individuals concerned about improving their health, employers interested in the health and productivity of their workers. Health promotion and wellness concepts are simple yet often overlooked in the practices of health professionals. Good health is more than just the absence of disease. The purpose of this class is to explore means by which individuals can insure their continued well-being. The effects of nutrition, excercise, stress and relaxation habits will be emphasized. The importance of incorporating health promotion activities into the work setting, medical practice and daily living will be discussed.

Allied Health Related Courses

Bobbie Lamberton, Coordinator

The following courses are provided by the Health Occupations Division as specialized courses to supplement programs in other divisions.

5.625 Clinical Office Procedures I
■4 class hrs/wk ■4 cr. ■On Demand

A survey of the requirements and qualities for success as a medical assistant. Medical assisting techniques, methods, and procedures including assisting the physician with examination, medical and surgical aceptic procedures, obtaining vital signs, care of equipment and supplies as well as drugs and solutions. Prerequisite Medical Terminology I.

5.626 Clinical Office Procedures II
■4 class hrs/wk ■4 cr. ■On Demand

Theory and practice of basic diagnostic and treatment procedures; collection, preparation, and preservation of specimens for diagnostic studies. Prerequisite: Clinical Office Procedures I.

5.627 Clinical Office Procedures III
■3 class hrs/wk ■3 cr. ■On Demand

Continuation of Clinical Office Procedures II, with further development of skills necessary to assist the physician. Prerequisite: Clinical Office Procedures II.

5.629 Introduction to Medical Terminology
■3 class hrs/wk ■3 cr. ■On Demand

This is a one-term course introduction to basic root words, prefixes and suffixes which are fundamental to the understanding of medical terminolgy.

5.630 Medical Terminology I
■3 class hrs/wk ■3 cr. ■F

Introduction to basic root words, prefixes and suffixes. Includes the terminology of anatomy and physiology fundamental to the understanding of the physician's diagnosis and treatment.

5.631 Pharmaceutical Terminology
■2 class hrs/wk ■2 cr. ■On Demand

Terminology of pharmaceutical (drugs) supplies as it relates to the physician's office, clinic, or hospital.

5.633 Medical Terminology II
■3 class hrs/wk ■3 cr. ■W

Continuation of Medical Terminology I with special emphasis on terminology as it relates to body systems. Prerequisite: Medical Terminology I.

5.634 Medical Terminology III
■3 class hrs/wk ■3 cr. ■Sp

Continuation of Medical Terminology II with special emphasis on specific pathology and medical practice areas. Prerequisite: Medical Terminology II.

9.405 Medical Assistant I
■3 class hrs/wk ■3 cr. ■On Demand

Helps doctor's office personnel understand the health problems of the patient, the physician's diagnosis and treatment, patient needs as they relate to the doctor's office.

9.406 Medical Assistant II
■3 class hrs/wk ■3 cr. ■On Demand

Oral and written communications,

bookkeeping, insurance, credit, collection, medical records, and administrative and secretarial procedures for doctor's office personnel.

9.407 Medical Assistant III
■3 class hrs/wk ■3 cr. ■On Demand

Includes preparation of patient and specimen for laboratory tests, basic knowledge of the most frequent laboratory tests, procedures such as blood pressure, temperature, pulse rate, sterilization of equipment and knowledge of the care and use of electrical, optical and examining equipment.

9.416 Food Service Supervisors Class
■90 hrs ■3 cr. ■On Demand

This class is an approved and accredited class by the American Dietary Association for Food Service Supervisors and Dietary Technicians. This will be a ninety hour course designed to give Food Service Supervisory personnel in health care facilities information at their level, about nutrition, therapeutic diets, menu planning (both regular and special diets), food preparation, purchasing, sanitation, safety, and supervisory techniques.

9.417 Food Service Supervisors Lab
■1 hrs ■5 cr. ■On Demand

This class is an approved and accredited class by the American Dietary Association for Food Service Supervisors and Dietary Technicians. This will be a laboratory course designed to give Food Service supervisory personnel in health care facilities information at their level, about nutrition, therapeutic diets, menu planning (both regular and special diets), food preparaton, purchasing, sanitation, safety, and supervisory techniques.

5.735 Independent Studies for Health Occupations
■1-3 class hrs/wk ■1-3 cr. ■On Demand

Provides supervised individual study for Health Occupations students. Content geared to the needs of the individual student. One-to-one conference with instructors, field trips, research assignments, and audio-visuals are utilized for learning. Number of credits will be determined by instructor according to project or type of study needed by student. Instructor permission required.

Faculty
Beverly Moore

Emergency Medical Technician

The EMT one year certificate program is designed to provide the graduate with the technical competencies to function as an EMT I through EMT IV. In addition, the program will provide the student with an opportunity to increase his/her understanding and skills through additional related course work, particularly in the area of related basic science.

Students who complete each level will be eligible to take the examination for certification by the Oregon State Health Division and the Board of Medical Examiners.

Clinical facilities utilized are ambulance services, hospitals, and community health agencies.

Admission procedures are being developed. Information regarding admission policy is available in the Health Occupations Division or Registration.

First Quarter		
9.313	EMT I	8
BI221	Human Biology	4
5.630	Medical Terminology	3
HD199	Assertiveness Training	1
Second Quarter		
9.314	EMT II	3
BI222	Human Biology	4
2.671	Medical Law & Ethics	2
1.606	Intro to Psych of Human Rel	3
1.103	Occupational Speech	3
Third Quarter		
9.315	EMT III	11
5.732	Pharmacology	2
9.320	CPR Instruction	1
Fourth Quarter		
9.316	EMT IV	10
9.322	Patient Assessment	2
9.323	Disaster Plan/Management	2
9.500	Elements of Supervision	3

9.313 Emergency Medical Technician I
■120hrs ■8 cr. ■F/W/Sp

A basic training program includes classroom theory, practice exercises and clinical experience in problems encountered by ambulance personnel that involves, a) the overall role and responsibilities of the emergency medical technician in emergency care and operational aspects of the job, b) developing skill in life-saving techniques and all emergency treatment procedures short of those rendered by physicians or by paramedical personnel under the direct supervision of a physician; and c) developing skill in the use of and care for all equipment required to accomplish his job. Offered evenings. Agency sponsored personnel given priority for clinical experience.

9.314 Emergency Medical Technician II
■33 hrs ■3 cr. ■W

Upgrades the skills of all basically trained EMT's. Presents a standardized IV therapy course for the entire state. It is the second step in a career development pattern. Advanced training in certain aspects of Intravenous Therapy. Offered evenings. Prerequisite: EMT-1.

9.315 Emergency Medical Technician III
■13 hrs/wk ■11 cr. ■Sp

Trains emergency medical technicians - ambulance who have completed the basic 1 hr. EMT-I program satisfactorily. Provides additional skills required to function effectively in certain cardiac emergencies. The success of this type of program depends upon close medical supervision. Offered evenings. Prerequisite: EMT-I & EMT-II.

9.316 Emergency Medical Technician IV
■130hrs/total ■10 cr. ■F

The EMT-IV course prepares the EMT to function as a paramedic after satisfactory completion of the Paramedic Certification Examination given by the Board of Medical Examiners. The course provides the EMT-III with additional and advanced skills to assess and care for patients with central nervous system disorders, emergencies associated with childbirth, petiatric problems, advanced rescue techniques and crisis intervention. Prerequisite: 9.315.

9.322 Patient Assessment
■2 class hrs/wk ■2 cr. ■F

The purpose of this course is to provide the Emergency Medical Technician III with the basic skills necessary to assess the patient in an emergency situation. This course will include a review of related anatomy and physiology, the techniques of examination, and integration of common re-occuring pathophysiology. A major portion of classroom time will be spent in practicing techiques. Prerequisite: EMT III and consent of instructor.

9.323 Disaster Planning/Management
■2 class hrs/wk ■2 cr. ■F

The purpose of this course is to provide the Emergency Medical Technician III with the necessary skills for disaster management. The course will include planning and organizational skills for mass casualty situations, community resources, development of a disaster plan and participation in the organization and testing of a

mock disaster drill. Prerequisite: EMT III and consent of instructor.

Faculty
Molly McCauley, Coordinator
Gerald Morgan

Dental Assistant

The Dental Assistant curriculum is designed to prepare students for receptionist-office management or chairside assistant positions and for performing inter-office laboratory procedures.

Students are trained in fundamental techniques and use of equipment and they become familiar with principles, procedures, problem solving and professional standards of the technologies. The course is accredited by the Commission of Accreditation of the Dental Association Council of Dental Education, and graduating students are eligible to take the certification examination administered by the Certifying Board of the American Dental Assistants Association. An endorsement in expanded duties will be issued to the graduates who meet the requirements of the Oregon State Board of Dental Examiners.

Oregon law requires dental assistants who expose dental x-rays to hold a Certificate of Radiological Proficiency. The radiology sequence prepares students for examination by the Oregon State Board of Dental Examiners.

The courses required of students in the Dental Assistant Program are outlined below. Training includes supervised clinical experience, with emphasis on high professional standards for patient treatment, work habits and continuing education.

The program accepts two classes per year, fall and spring term. Class size is limited. See special admission procedures for Dental Assistant Program.

First Quarter

1.150	Technology of Reading/Studying	3
5.494	Clinical Practice I	3
SS121	Typing I	3
4.220	Integrated Basic Science I	4
5.445	Intro to Dental Assisting	1
5.461	Dental Radiology	2
5.500	Oral Anatomy	1
5.454	Dental Health Education I	1

Second Quarter

4.221	Integrated Basic Science II	3
5.462	Dental Radiology	2
5.484	Dental Materials I	3
5.495	Clinical Practice II	3
5.498	Dental Health Education II	1
1.103	Occupational Speech Comm	3
5.488	Expanded Duties I	1
9.317	First Aid	1

Third Quarter

5.463	Dental Radiology III	2
5.485	Dental Materials II	3
5.496	Clinical Practice III	4
5.491	Dental Office Records	1
5.499	Dental Health Education III	1
5.489	Expanded Duties II	1
5.453	Dental Pathology	2
1.606	Psychology of Human Relations	3

Fourth Quarter

5.510	Office Practicum	8
5.515	Office Practicum Seminar	2
0.571	CPR	1
5.490	Expanded Duties III	1
5.515	Office Emergencies	1

5.455 Intro to Dental Assisting
■5 class hrs/wk ■4 cr. ■W/Su
Introduction to the practice of dentistry, dental terminology and the various aspects concerned with the profession and the Dental Assistant.

5.453 Dental Pathology
■3 class hrs/wk ■3 cr. ■W/Su
A study of common pathological diseases, injured and normal tissue, developmental anomalies. Prerequisite: Integrated Basic Science I,II.

5.454 Patient Education
■3 class hrs/wk ■3 cr. ■F/Sp
Basic principles of patient education including oral hygiene, preventive dentistry and the techniques involved in communicating with patients.

5.461 Dental Radiology I
■2 class hrs/wk ■2 cr. ■W/Su
Introduction to the history and principles of x-ray terminology, the hazards of radiation and safety factors. Introduction to the techniques for intra-oral periapical and bitewing film.

5.462 Dental Radiology II
■3 class hrs/wk ■2 cr. ■F/Sp
Techniques of radiology, positioning the patient and angulation. X-ray film, chemistry of development and fixation and complete darkroom procedures. Actual working procedures introduced. Prerequisite: Dental Radiology I.

5.463 Dental Radiology III
■3 class hrs/wk ■2 cr. ■W/Su
Working procedure dealing with the difficult patient. A study of pathological conditions. Review in entirety in preparation for Radiology Certification by the Oregon State Board of Dental Examiners. Prerequisite: Dental Radiology II.

5.484 Dental Materials Lab I
■4 class hrs/wk ■3 cr. ■F/Sp
An introduction to dental restorative material properties, uses manipulation, composition, structure, preparation equipment, advantages, disadvantages, types and brand names. Prerequisite: Admittance to Dental Assistant Program.

5.485 Dental Materials Lab II
■4 class hrs/wk ■3 cr. ■W/Su
Continuation of dental materials and dental lab procedures and experiences. Prerequisite: Dental Materials I.

5.491 Dental Office Records
■3 class hrs/wk ■2 cr. ■W/Su
Dental office records, patient reception, appointment scheduling, record maintenance, financial arrangements and coordination and supply control.

5.494 Clinical Practice I
■9 class hrs/wk ■6 cr. ■F/Sp
Designed to provide opportunity for students to train in the dental office. The student also receives, through classroom lecture and lab, the information and procedures which he/she may experience and apply in the dental offices. Content presented in the classroom includes patient slating and dismissal, charting, anesthesia, instrumentation, and restorative procedures. Prerequisite: Introduction to Dental Assisting.

5.495 Clinical Practice II
■12 class hrs/wk ■7 cr. ■W/Su
Continuation of Clinical Practice I in general chairside assisting. Practical applications of dental procedures. Prerequisite: Clinical Practice I. Acquaints the student with various specialties.

5.488 Expanded Duties I
■1 class hrs/wk ■1 cr. ■W/Su
An introduction to the dental assisting expanded duties delegated by the Oregon State Board of Dental Examiners.

5.489 Expanded Duties II
■2 class hrs/wk ■1 cr. ■F/Sp
Laboratory and clinical application of dental assisting expanded duties delegated by the Oregon State Board of Dental Examiners.

5.490 Expanded Duties III
■2 class hrs/wk ■1 cr. ■W/Su
The student continues to perform expanded duties on appointed patients within scheduled clinical sessions. Completeness and competency of clinical assignments and communication between operator and patient is emphasized. Supervised practice and task proficiency analysis continues throughout this session.

5.492 Office Emergencies
■1 class hrs/wk ■1 cr. ■W/Su
The student will become familiar with the basic dental pharmacopeia, uses of anesthetics, antibiotics, analgesics, hypnotics and other

medications and drugs used by the dentist in treating patients. The procedures used in handling dental office emergencies include diabetic emergencies; anaphylactic reactions; heart problems; drug overdose, abuse and poisoning; and medical emergencies common to the geriatric patient.

5.496 Clinical Practice III
■6 class hrs/wk ■4 cr. ■F/Sp

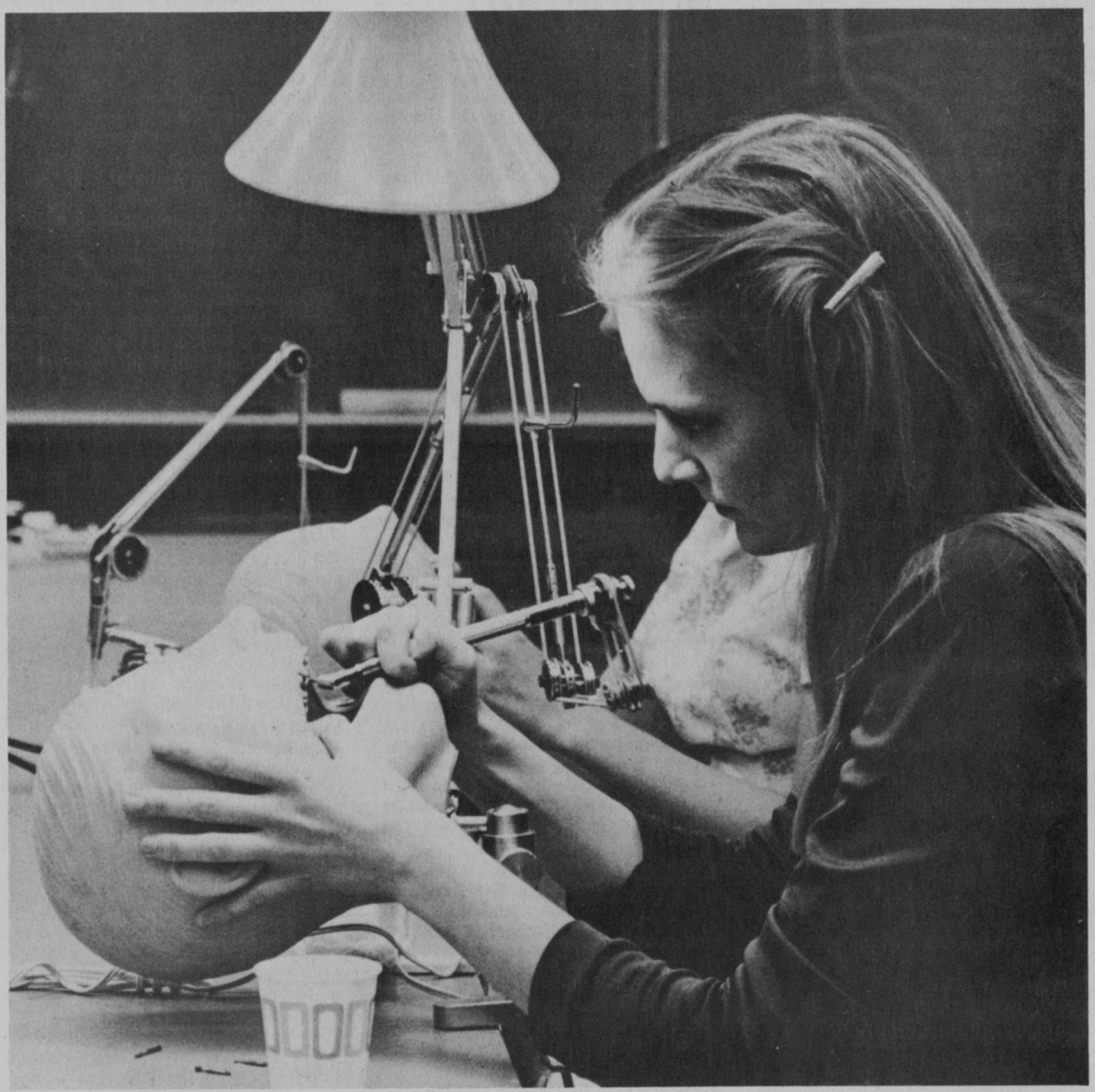
The last in the three-term sequence designed to provide academic background for dental assistant clinical practice. Practical experience in the private offices continues with special emphasis on dental specialty exposure. This session will help to aid the student in preparing for practical board exams.

5.497 Dental Health Education I
■1 class hrs/wk ■1 cr. ■F/Sp

This is the first term of a three-term sequence. Concepts and principles of patient education including oral hygiene, preventive dentistry and techniques of communication and motivating the patient, public and community are emphasized. The student will be required to gain and maintain oral healthiness and cleanliness. Deletion of dental diseases by preventive methods and an understanding of patient behavior will be discussed. Students will organize a patient preventive dentistry control manual and prepare a case for peer review.

5.498 Dental Health Education II
■1 class hrs/wk ■1 cr. ■W/Su

This is the second term of a three-term sequence and will include clinical session where the student actively applies the principles learned in Patient Education I. Procedures and techniques dealing with saliva testing and nutritional counseling are included and emphasized. Students will prepare and illustrate a clinical dietary analysis for peer evaluation.



5.499 Dental Health Education III
■2 class hrs/wk ■1 cr. ■F/Sp

This is the last of a three-term sequence. Patient Education III is a continuation of Patient Education I, stressing principles of communication and patient motivation. The student continues to study control of dental disease by preventive methods, recognize the need for patient education, understand patient behavior and motivation, and continues to maintain individual oral health. Evaluation and assessment of various instructional materials for various age levels (preschool through geriatric) will be included. Dental health education in the community via exploration of local agencies will be mentioned.

5.510 Office Practicum
■24 clinical hrs/wk ■8 cr. ■F/Sp

Students are assigned to clinical practices for practical application of dental assistant procedures. Properly supervised training.

5.515 Office Practicum Seminar
■2 class hrs/wk ■2 cr. ■F/Sp

Discussion of office situations which arise after the student has entered externship in the dental office. A general review of the Dental Assistants Program.

Note: Prerequisite for admission to second, third, and fourth terms is satisfactory completion of each preceding term. Exceptions will be considered on an individual basis.

Faculty
Carol Metcalf

Nursing Assistant

The Nursing Assistant Program is a twelve week course which prepares men and women of all ages for positions as nurse aides, orderlies, or home health aides. positions are available in hospitals, nursing homes, and home health services. Graduates of this program often use this program as a starting point toward related health careers. Classroom and on-the-job experience provides the student with the background needed to care for the moderately ill or convalescent patient under the supervision of a professional nurse.

5.406-7 Nursing Assistant Lecture/Lab
■60 class hrs/wk ■12 cr. ■F/W/Sp

The combined lecture and lab includes instruction in the following areas: physical environment; social environment; daily living activities; therapeutic health measures; nursing care planning; and job application procedures. Clinical experience is provided concurrently in a local hospital. The last two weeks are spent in the home health agency setting.

Faculty:
David Bakley
Arlene Crosman
David Dangler
Jean Irvin, Department Chairperson
Verlund Kimpton

Physical Education and Health

The Physical Education and Health Department provides a comprehensive program for students who want to gain knowledge about the value and need for preventive and corrective health practices, and who want to participate in physical activities to gain and maintain physical fitness while learning skills.

Health related instruction includes the theory and application of facts and attitudes for maintaining optimum health for the individual and society.

Physical activity is provided through three distinct learning and participation opportunities. Students can learn lifetime recreational skills. There are developmental courses which stress conditioning of the body and maintenance of a specific level of physical condition. There are team sport courses which provide a high level of conditioning and activity.

0.582 Compulsory Gymnastics
■3 class hrs/wk ■non-credit ■On Demand

Instruction of the skills and movements leading up to and including Class I and II compulsory routines of USGF competition.

1.120 Industrial Body Conditioning
■4½ class hrs/wk ■2 cr. ■On Demand

The course is designed to prepare students to meet the physical demands of blue collar industrial work. Special emphasis will be given: all-round fitness, development of arm and shoulder girdle strength, eye-hand coordination, mechanics of lifting and pushing.

PE180 Body Conditioning
■3 class hrs/wk ■1 cr. ■F/W/Sp

Instruction and practice in exercises that condition the body to develop a level of strength, flexibility and endurance which enables one to maintain an erect alignment, complete one's work, participate in active recreation and possess a reserve supply of energy.

PE185 Body Conditioning
■3 class hrs/wk ■1 cr. ■F/W/Sp

Instruction and practice in exercises that condition the body to develop a level of strength, flexibility and endurance which enables one to maintain an erect alignment, complete one's work, participate in active recreation and posses a reserve supply of energy.

PE190 Body Conditioning
■3 class hrs/wk ■1 cr. ■F/W/Sp

Instruction and practice in exercises that condition the body to develop a level of strength, flexibility and endurance which enables one to maintain an erect alignment, complete one's work, participate in active recreation and possess a reserve supply of energy.

PE185 Adapted Body Conditioning
■3 class hrs/wk ■1 cr. ■On Demand

Physical activity for the physically handicapped.

PE185 Flexibility and Relaxation
■3 class hrs/wk ■1 cr. ■On Demand

Instruction and practice in exercise to increase muscle flexibility and relaxation.

PE180 Techniques in Movement
■3 class hrs/wk ■1 cr. ■On Demand

Dance as a creative art actively representing total personality growth. The course includes training and practice in movement as expression. The exploration of movement as a form of creative expression. Training and practice in both individual and group experiences will be included.

PE180 Gymnastics
■3 class hrs/wk ■1 cr. ■On Demand

Gymnastics: Instruction and practice in tumbling, unevens, balance beam, floor exercise, vaulting.

PE185 Gymnastics
■3 class hrs/wk ■1 cr. ■On Demand

Instruction and practice in tumbling and apparatus.

PE190 Gymnastics
■3 class hrs/wk ■1 cr. ■On Demand

Instruction and practice in tumbling, floor exercise, vaulting, parallel bars, side horse, high bar, and rings.

PE185 Beginning Ballet
■3 class hrs/wk ■1 cr. ■On Demand

Introduction to classical ballet techniques; positions of the feet, the plie, various body positions, poses, and directions. Work at the barre, where proper warm-up methods are taught and emphasized.

PE185 Intermediate Ballet
■3 class hrs/wk ■1 cr. ■On Demand

Extension of the beginning course, introduces the student to more sophisticated and difficult movements. Beginning steps are practiced and perfected at each class, new steps being added as the students progress. Attention given to music for ballet and to elementary choreography.

PE185 Beginning Ballroom Dance
■3 class hrs/wk ■1 cr. ■On Demand
Introduction to and mastery of the basic steps and patterns of ballroom dance, including swing, foxtrot, waltz, cha-cha, samba, rhumba and tango.

PE185 Folk Dance
■3 class hrs/wk ■1 cr. ■F/W/Sp
A course desinged to teach the fundamentals (basic steps, etc.) of folk dance. The students will learn several beginning and intermediate level dances from many other countries.

PE185 Modern Dance
■3 class hrs/wk ■1 cr. ■On Demand
An introduction to the modern dance idiom. History and personalities, basic technique. This course introduces use of principles of composition in combination with elements of dance in developing a dance. Short, creative studies. Understanding how to critique.

PE185 Creative Dance
■3 class hrs/wk ■1 cr. ■On Demand
Dance as a creative art actively representing total personality growth. The course includes training and practice in movement as expression.

PE180-190 Beginning Basketball
■3 class hrs/wk ■1 cr. ■F/W
Basic basketball skills and concepts for the beginner. Begins with fundamentals and works toward a full court situation.

PE180-190 Intermediate Basketball
■3 class hrs/wk ■1 cr. ■W
This course is designed to advance the beginning basketball player's skills toward better success in a game situation. Prerequisite: Beginning Basketball.

PE180-190 Advanced Basketball
■3 class hrs/wk ■1 cr. ■F/W
This course prepares the student for competition at the inter-collegiate level. Course requirements are 5 meetings a week plus participation in 30 games. Prerequisite: Instructor consent.

PE185 Beginning Baseball
■3 class hrs/wk ■1 cr. ■F
A course which allows a student to learn or improve basic baseball skills and knowledge.

PE185 Baseball Conditioning
■3 class hrs/wk ■1 cr. ■W
Physical conditioning with emphasis on developing strength and agility for better efficiency in baseball skills.

PE185 Baseball Skills
■3 class hrs/wk ■1 cr. ■W
Offers students the opportunity to learn and improve individual baseball skills.

PE190 Advanced Baseball
■3 class hrs/wk ■1 cr. ■Sp
A course designed to prepare students for intercollegiate competition in baseball.

PE180 Softball
■3 class hrs/wk ■1 cr. ■Sp
Provides experience and learning in fundamental skills of softball as well as providing game experience. Emphasis on slow pitch rather than fast pitch style of play.

PE190 Softball
■3 class hrs/wk ■1 cr. ■Sp
Provides experience and learning in fundamental skills of softball as well as providing game experince. Emphasis on slow pitch rather than a fast pitch style of play.

PE185 Beginning Volleyball
■3 class hrs/wk ■1 cr. ■F/W/Sp
To provide performance skills and techniques basic to volleyball. To learn different offensive and defensive forms of team play. Instruction and practice of strategies, etiquette, and rules of the game.

PE185 Intermediate Volleyball
■3 class hrs/wk ■1 cr. ■F/W/Sp
This course is designed to teach basic volleyball skills to the beginner. A major emphasis will be to increase player abilities within a team situation.

PE190 Flag Football
■3 class hrs/wk ■1 cr. ■F
Designed to provide experience to develop various skills fundamental to flag football. Organization of class depends upon skill level of class.

PE185 Beginning Bowling
■3 class hrs/wk ■1 cr. ■F/W/Sp
A coeducational bowling class which stresses fundamentals. Provides basic foundation from which students may progress to advanced bowling skills.

PE185 Intermediate Bowling
■3 class hrs/wk ■1 cr. ■F/W/Sp
A coeducational class to increase skills and techniques of bowling. Rules and courtesies of the game as well as social recreational value to the student stressed.

PE185 Advanced Bowling
■3 class hrs/wk ■1 cr. ■F/W/Sp
An advanced coeducational class for increasing skills and techniques of bowling. Rules and courtesies of the game as well as social recreational value to the student stressed.

PE185 Beginning Badminton
■3 class hrs/wk ■1 cr. ■F/W/Sp
Instruction and practice in stances, grips, service, strokes, scoring, rules and strategy. Demonstration of singles and doubles play, plus teamwork involved.

PE185 Intermediate Badminton
■3 class hrs/wk ■1 cr. ■F/W/Sp
A more advanced class of instruction and practice in stances, grips, service, strokes, scoring, rules and strategy. Demonstration of singles and doubles play, plus teamwork involved.

PE185 Beginning Golf
■3 class hrs/wk ■1 cr. ■On Demand
Introduction to the mental and physical needs involved in golf participation. This includes grip, stance, swing techniques, rules, strategy, and etiquette.

PE185 Intermediate Golf
■3 class hrs/wk ■1 cr. ■On Demand
Designed to improve and correct basic swing errors. A more detailed presentation of golf techniques and strategy.

PE185 Advanced Golf
■3 class hrs/wk ■1 cr. ■Sp
Intercollegiate as well as recreational golf with the emphasis on development of skills during competitive play.

PE185 Jogging
■3 class hrs/wk ■1 cr. ■F/Sp
Instruction and practice in jogging to increase maximum amount of oxygen that the body can process in a given time.

PE185 Beginning Swimming
■3 class hrs/wk ■1 cr. ■F/Sp
Instruction and practice in individual basic water skills and knowledge to make one safe while in, on, or about the water.

PE185 Intermediate Swimming
■3 class hrs/wk ■1 cr. ■F/W/Sp
Instruction and practice in individual water skills and knowledge to make one safe while in, on, or about the water; an opportunity to learn elements of good swimming.

PE185 Advanced Swimming
■3 class hrs/wk ■1 cr. ■F/W/Sp
Instruction and practice in water skills and knowledge to increase endurance and versatility in the water by providing opportunity to coordinate the parts of the strokes into the whole stroke.

PE291 Lifesaving
■3 class hrs/wk ■2 cr. ■On Demand
Basic skills of lifesaving in aquatic programs; leads to American Red Cross Certification in senior lifesaving. Open to students who pass qualifying tests in swimming.

PE292 Water Safety Instruction (WSI)
■3 class hrs/wk ■2 cr. ■W/Sp
Analysis methods of instruction, and evaluation at all age levels; leads to American Red Cross certification in water-safety instruction. Open to men and women students who pass qualifying tests in swimming and lifesaving. Includes basic life support.

PE185 Advanced Life Saving
■3 class hrs/wk ■1 cr. ■On Demand
Life saving instruction and practice in lifesaving skills that will enable one to take care of him/herself and be able to aid or rescue anyone in danger of drowning, when rescue is humanly possible. Personal safety and self

rescue skills are stressed. This training is not intended to be a complete lifeguard training course. Red Cross cards will be given to those passing Red Cross exam. Prerequisite: Instructor permission.

PE185 Aquatic Fitness
■3 class hrs/wk ■1 cr. ■F/W/Sp
Water exercises controlled to use muscles of a specific area of the body, while submerged in water.

PE185 Modern Canoeing
■3 class hrs/wk ■1 cr. ■On Demand
Training in all types of beginner and intermediate flat water and white water canoeing.

PE180 Beginning Tennis
■3 class hrs/wk ■1 cr. ■F/Sp
Instruction and practice in rules, etiquette, grips, stances, forehand and backhand drive, service, receiving, playing position and class play.

PE180 Intermediate Tennis
■3 class hrs/wk ■1 cr. ■F/W
This course is to develop advanced tennis strategies and skills.

PE185 Beginning Tennis
■3 class hrs/wk ■1 cr. ■F/Sp
Instruction and practice in rules, etiquette, grip, stance, forehand and backhand drives, service, volley, lob, overhead smash, receiving, playing position and class play, game strategy (singles and doubles).

PE185 Intermediate Tennis
■3 class hrs/wk ■1 cr. ■F/W
This course is to develop advanced tennis strategies and skills.

PE190 Beginning Tennis
■3 class hrs/wk ■1 cr. ■F/Sp
Instruction and practice in rules, etiquette, grip, stance, forehand and backhand drives, service, volley, lob, overhead smash, receiving, playing position and class play, game strategy (singles and doubles).

PE190 Intermediate Tennis
■3 class hrs/wk ■1 cr. ■F/W
This course is to develop advanced tennis strategies and skills.

PE185 Racquetball
■3 class hrs/wk ■1 cr. ■F/W/Sp
Instruction in the basic strokes of racquetball. Lectures on rules, history strategy and the etiquette of the sport.

PE232 Backpacking
■3 class hrs/wk ■3 cr. ■F/Sp/Su
This course is designed to prepare the individual for safe, challenging and enjoyable wilderness trips. Emphasis is placed on physical conditioning, equipment, clothing, food, safety and the use of map and compass.

PE185 Karate
■3 class hrs/wk ■1 cr. ■On Demand
An introduction to the practices and principles of Tae Kwan Do (Korean Karate) as practiced by the World Tae Kwan Do Association.

PE185 Judo
■3 class hrs/wk ■1 cr. ■On Demand
Contact sport with great emphasis on the fundamentals of Kodokan judo skills. Concentration on defensive and offensive workouts. The objective and philosophy of Kodokan judo is the cultivation of one's mind and body to the fullest.

PE190 Wrestling
■3 class hrs/wk ■1 cr. ■F/W
Designed to acquaint the student with the fundamentals of collegiate wrestling as set forth by the NCAA. Included will be instruction, demonstration, and practice in all aspects of wrestling.

PE131 Introduction to Health and Physical Education
■3 class hrs/wk ■3 cr. ■F
Professional orientation; basic philosophy and objectives; professional opportunities and qualifications. Designed for students to learn about the physical education and health profession as a career.

PE194/195/294/295 Professional Activities
■6 class hrs/wk ■2 cr. ■F/W/Sp
Two credit courses meeting six hours a week, providing technical information for the student who desires to teach various physical education activities.

HE250 Personal Health
■3 class hrs/wk ■3 cr. ■F/W/Sp
Health attitudes, outlooks and feelings as these affect the individual, community, nation and world. Emphasis on improving the quality of health by providing reliable information to achieve a long and productive life.

HE252 First Aid
■3 class hrs/wk ■3 cr. ■F/W/Sp
First aid instruction and practice in first aid skills that will enable one to take care of oneself and others in the event of an accident or illness.

9.317 First Aid Multi-Media
■10 class hrs ■1 cr. ■On Demand
The theory and practice in immediate and temporary care given in case of accident or sudden illness is taught according to American Red Cross requirements through the Red Cross Multi-Media method. Completion of the course earns the student the Standard First Aid Certificate of the American Red Cross.

9.318 Standard First Aid
■15 class hrs ■1 cr. ■On Demand
Theory and practice in immediate and temporary care given in case of accident or sudden illness. Complies with American Red Cross requirements.

4.108 Industrial Safety
■3 class hrs/wk ■3 cr. ■F/W/Sp
Accident prevention and first aid in industry through the development of safety practices relating to personnel, design, equipment and maintenance. The requirements for first aid certification by the American Red Cross will be met.

Recreation Technology (Proposed)

Recreation Technology is currently being proposed for the 1980-81 school year. If approved, it will provide a vocational program in the area of recreation, which will be guided by a curriculum developed by an advisory committee of recreational specialists.

The program is designed so students will receive a broad education in human relations and specific recreational skills. The recreational skills will include learning technical skills and abilities in the areas of drama, dance, music, arts and crafts, various sports, aquatics and outdoor recreation. A knowledge of private, public, volunteer, military, industrial, commercial and religious organizations which provide recreational services will be explored. Completion of this curriculum should prepare the student to enter the field of recreation as a well-trained paraprofessional.

If this program is approved by the local Board of Education and the State Board of Education, it will be the desire of Linn-Benton Community College to implement this program in the Fall of 1980.

Humanities and Social Services Division

Director:
Kenneth Cheney

The Humanities and Social Services Division embraces a wide variety of academic subjects typically classified as the liberal arts. These include both the humanities (art, English, music, drama, speech, philosophy, religion) and the social sciences (anthropology, economics, geography, history, political science, psychology, and sociology.) In addition, the division offers specific occupational preparation in criminal justice administration (law enforcement, and correction) and graphic communications (printing technology, graphic design, advertising and promotion, and journalism).

The objectives of the Humanities and Social Services Division are to offer complete lower division preparation in the liberal arts for students planning entrance to a four-year college; to provide specific occupational and vocational skills for non-transfer students; and to stimulate in all students the development of human thought and imagination, and to satisfy the desire for creative enrichment, aesthetic development, and social sensitivity.

Linn-Benton Community College encourages students to make career choices based on interests, needs, and abilities without regard to the traditional roles of men, women or minorities.

The Humanities and Social Services Division offers the following types of courses and programs to meet a variety of student needs.

Two-Year Programs

A two-year program leading to an Associate of Arts Degree which is fully transferable to a four-year institutation may be earned in the following areas: Fine Art, Criminal Justice, Elementary Education, English, Music, Philosophy and Religion, Secondary Education, Social Science, and Speech and Drama.

A two-year program leading to an Associate of Science Degree may be earned in the following areas: Graphic Communications and Law Enforcement.

Cooperative Work Experience

Cooperative Work Experience is an instructional program for transfer program students designed to complement or reinforce the students' major field of study. The student enhances the learning opportunity by coordinating classroom theory and actual on-the-job experience.

Students considering Humanities and Social Science majors are encouraged to investigate the transferability of coop credits as a part of their major field of study. Additional information is available through Humanities and Social Services faculty or through the Cooperative Work Experience office.

Faculty:
W.J. Brick
Judith Rogers
Clinton Tobey
Sandra Zimmer, Department Chairperson

Art

The Art curriculum is designed to promote the students' flexibility in communicating expressive ideas through art and to increase their ability to recognize historic influences in their own and other's works. The department offers wide variety of studio courses which are fully transferable, but which also have significant value as creative, avocational activities for the non-transfer student.

1.140 Study Skills Art
■2-6 lab hrs/wk ■1-3 cr. ■F/W/Sp
Individualized instruction to develop specific skills in art programs. The instruction will be supplemental to the regular course offerings and will not substitute for that instruction. Diagnosis of deficiencies and interests of students determines level of instruction. Prerequisite: Concurrent enrollment in specific art classes.

AR101 Weaving I
■6 class hrs/wk ■3 cr. ■F/W/Sp
Introduction to techniques of construction with fiber through weaving, macrame, stitchery on a variety of loom types. Emphasis on design considerations. $2.00 take home material charge.

AR115 Art Appreciation
■3 class hrs/wk ■3 cr. ■F/W/Sp
A critical survey of the visual arts: painting, architecture, and sculpture. It will stress contributions to civilization, aestetic values and local art resources. A short course in the history of the western art.

AR151 Basic Drawing
■3 class hrs/wk ■2 cr. ■F
A basic level drawing course which begins investigating 3-D form, from the simplest to the most complex, focusing on rendering techniques and form development.

AR152 Portraiture
■3 class hrs/wk ■2 cr. ■W
An introductory course in painting the human head preceded by drawing studies where necessary. Major emphasis will be placed on color mixing and form development.

AR153 Life Drawing
■3 class hrs/wk ■2 cr. ■Sp
An introductory course in drawing the human figure, studying its anatomy, gesture, 2-D shapes and 3-D forms.

AR195 Design I
■6 class hrs/wk ■3 cr. ■F/W/Sp
An introductory study, using values of black and white, of concepts relating to shape; its structure, unity and proportion.

AR196 Design II
■6 class hrs/wk ■3 cr. ■F/W/Sp
An introductory study of concepts relating to color and its interaction with shape; its properties, proportions and harmonies. Prerequisite: AR 195.

AR204/205/206 Introduction to Art History
■3 class hrs/wk ■3 cr. ■F/W/Sp
Three quarter sequence of history, aesthetics, and significance of the visual arts as they reveal man's concepts of his place in time and space; includes related contemporary thought in the fields of anthropology, religion, psychology and media studies. (204) Art Origins; (205) Christian era to Industrialization; (206) Modern.

AR233 Textile Design
■6 class hrs/wk ■3 cr. ■On Demand
Introduction to processes of textile design through batik, dye painting block printing, and screen printing on fabric. Studio experience with design guidance. $5 take-home materials charge.

AR235 Jewelry and Metalsmithing I
■6 class hrs/wk ■3 cr. ■F/W/Sp
General introduction to use of tools involved in fabricating jewelry; guidance in design; demonstration of major processes involved in design and creation of jewelry and other metal fabrication. In-depth study of lost wax casting. $5.00 take home material charge.

AR236 Jewelry and Metalsmithing II
■6 class hrs/wk ■3 cr. ■F/W/Sp
Continued work in the design and creation of jewelry and other metal fabrication. Prerequisite: AR 235. $5.00 take home material charge.

AR250 Weaving II
■2 lec/4 lab hrs/wk ■3 cr. ■F/W/Sp
This course is planned to be an exploration of loom processes as compared to off loom processes. Warping a loom understanding basic mechanical weaves, exploring the basic weaves, are all important considerations for the student. Prerequisite: AR156.

AR255 Ceramics I
■6 class hrs/wk ■3 cr. ■F/W/Sp
Introduction to clay as an expressive and utilitarian material. Composition of clay bodies and basic forming processes; slab, pinch, coil, press mold, and potter's wheel. Emphasis on form and surface treatment. Some firing and glazing included. $3.00 take home material charge.

AR256 Ceramics II
■6 class hrs/wk ■3 cr. ■F/W/Sp
Further work in clay for the somewhat-experienced student. Advanced and specialty construction; glazing and firing techniques. Prerequisite: AR 255, or consent of instructor. $3.00 take home material charge.

AR270 Printmaking
■3-6 class hrs/wk ■3 cr. ■ On Demand
Introduction to relief printing: woodcuts, linoleum cuts, and wood engraving.

AR280 Drawing Fundamentals
■6 class hrs/wk ■3 cr. ■F/W/Sp
Introduction to drawing still life and landscape using a variety of materials and techniques; training in observation and selection of significant elements.

AR281 Intermediate Drawing
■6 class hrs/wk ■3 cr. ■W
Advanced problems in drawing with greater emphasis on individual approaches in a variety of techniques and materials. Prerequisite: AR 291 or consent of instructor.

AR282 Figure Drawing
■6 class hrs/wk ■3 cr. ■Sp
Introduction to drawing the clothed and unclothed model using a variety of materials and techniques. Prerequisite: AR280 or consent of instructor.

AR290 Painting I
■6 class hrs/wk ■3 cr. ■F/W/Sp
Introduction to the conventions of visual representation of a two-dimensional surface. Space division, color, and surface treatment with acrylic and oil paints. Designed for the inexperienced painter. It is preferred that the student is taking or has taken a drawing or design class.

AR291 Painting II
■6 class hrs/wk ■3 cr. ■F/W/Sp
Further work in composition, surface, and color for the student who has had some painting experience. Individual vision is encouraged in a variety of expressions and techniques. Prerequisite: AR290 or consent of instructor.

AR292 Water Color Painting
■6 class hrs/wk ■3 cr. ■Sp
Exploration of watercolor techniques with subjects taken from life, landscape, and imagination. It is preferred that the student has taken or is taking a drawing or design class.

AR293 Elementary Sculpture
■6 class hrs/wk ■3 cr. ■On Demand
Provides an understanding of sculptural techniques and theories explored through the use of clay, plaster, wire, wood, plastics, and casting materials and their relation to forms compatible with those materials and techniques.

AR294 The Sculptural Figure
■6 class hrs/wk ■3 cr. ■On Demand
Concentrated study in clay of the surface and structural anatomy of the human figure. Aiming at a greater understanding and use of the figure in three-dimensional art.

AR295 Sculpture: Metal Casting
■6 class hrs/wk ■3 cr. ■On Demand
A sculpture course designed for the student with prior sculpture training who desires to learn lost-wax foundry casting process. Using wax as the direct sculptural medium, preparing the sculpture for casting, and the foundry process of burn out, melting and pouring.

AR297 Welded Sculpture
■6 class hrs/wk ■3 cr. ■On Demand
Concentrated work in the use of ferrous and non-ferrous metals in creation of sculpture. Instruction in the use of oxy-acetylene and are welders to increase technical skills.

Criminal Justice

Criminal Justice Administration

The Criminal Justice Administration curriculum is designed to provide in-service personnel with the opportunity to increase their professional competence and their value to their employing agencies, and to make available educational experiences for students who desire careers in the criminal justice system. Two-year programs leading to either an Associate of Science or an Associate of Arts degree are available.

Cooperative Work Experience

Students may, upon the recommendation of the program coordinator, receive transfer or non-transfer college credit by participating in Cooperative Work Experience (CWE). Further information may be found in the Cooperative Work Experience section of this catalog.

1.200/WE201 Cooperative Work Experience
■3-48 class hrs/wk ■1-16 cr. ■F/W/Sp
Cooperative Work Experience gives the student actual work experience which closely parallels the field of study. Further information available in the Cooperative Work Experience section of this catalog.

1.201/WE202 Cooperative Work Experience Seminar
■1 class hrs/wk ■1 cr. ■S/F/W/Sp
Refer to the Cooperative Work Experience section of this catalog.

Associate of Science Degree Program

A two-track curriculum exists for students seeking the Associate of Science degree. Students may achieve an emphasis in either Law Enforcement (including police and deputy sheriff), or Corrections (including probation, parole and correctional personnel). See requirements listed below.

By special agreement between LBCC and Oregon College of Education, Law Enforcement and Corrections students may transfer as elective, lower-division credit up to twenty-one hours of the occupational course (5. numbers) listed in the following curriculum toward graduation requirements at OCE in the fields of social science, corrections, and law enforcement.

Associate of Arts Program

Increasingly, criminal justice agencies are requiring a four-year degree at the entry level. Although many four-year colleges will allow some transfer of occupational courses, students may more conveniently transfer an Associate of Arts degree throughout the state educational system. A suggested curriculum guide for transfer students is located on page 32.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR
Fall Term
1.102 Occupational Writing or
WR121 English Comp 3

Winter Term

1.110	Elements of Algebra	4

SOPHOMORE YEAR
Fall Term

1.103	Occupational Speech or	
SP111	Interpersonal Speech	
	Comm or	
SP112	Fundamentals of Speech	3

Winter Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR or	
	PE Activity Courses	4

Spring Term

	General Education Electives	6

Program Requirements Law Enforcement

FRESHMAN YEAR
Fall Term

CJ100	Survey of the Criminal Justice System	3
CJ110	Intro to Law Enforcement	3
	Electives or CWE	6

Winter Term

CJ120	Intro to the Judicial Process	3
CJ220	Intro to Substantive Law	3
	Electives or CWE	4

Spring Term

CJ130	Intro to Corrections	3
CJ222	Procedural Law	3
	Electives or CWE	9

SOPHOMORE YEAR
Fall Term

CJ200	Intro to Community Relations	3
CJ223	Rules of Evidence	3
	Electives or CWE	3

Winter Term

CJ210	Intro to Criminal Investigation	3
	Electives or CWE	8

Spring Term

CJ201	Juvenile Delinquency	3
	Electives or CWE	7

Program Requirements Corrections

FRESHMAN YEAR
Fall Term

CJ100	Survey of the Criminal Justice System	3
CJ224	Civil Law	3
	Electives or CWE	8

Winter Term

CJ120	Intro to the Judicial Process	3
CJ220	Intro to Substantive Law	3
	Electives or CWE	6

Spring Term

CJ130	Intro to Corrections	3
	Electives or CWE	12

SOPHOMORE YEAR
Fall Term

CJ101	Intro to Criminology	3
CJ200	Intro to Community Relations	3
CJ223	Rules of Evidence	3
	Electives or CWE	3

Winter Term

5.229	Intro to Interviewing	3
	Electives or CWE	6

Spring Term

CJ201	Juvenile Delinquency	3
5.233	Institutions and Agencies	3
	Electives or CWE	3

CJ100 Survey of the Criminal Justice System
■3 class hrs/wk ■3 cr. ■F/W/Sp

Nature of crime and criminal responsibility; the criminal justice process; professionals in the criminal justice system; career orientation.

CJ101 Introduction to Criminology
■3 class hrs/wk ■3 cr. ■F

Introduction to major types of criminal behavior, role careers of offenders, factors which contribute to the production of criminality or delinquency methods used in dealing with violators in the justice system; the changing roles of police, courts, and after-care process of sentence, probation, prisons, and parole: changes of the law in crime control and treatment processes.

CJ110 Introduction to Law Enforcement
■3 class hrs/wk ■3 cr. ■F

Exploration of theories, philosophies, and concepts related to the role expectations of line enforcement officers. Emphasis upon patrol, traffic, and public service responsibilities and their relationship to the administration of justice system.

CJ120 Introduction to the Judicial Process
■3 class hrs/wk ■3 cr. ■W

Survey of process of justice from arrest to return of offender to society; jurisdiction of city, county, state, and federal police agencies, constitutional rights of individuals in America.

CJ130 Introduction to Corrections
■3 class hrs/wk ■3 cr. ■Sp

Examination of the total correctional process from law enforcement through administration of justice, probation, prisons and correctional institutions, and parole. History and philosophy, career oriented.

CJ200 Introduction to Community Relations
■3 class hrs/wk ■3 cr. ■F

An in-depth exploration of the roles of administration of justice practitioners and their agencies. Interrelationships and role expectations among the various agencies and the public. Principle emphasis upon the professional image of the system of justice administration and the development of positive relationships between members of the system and the public.

CJ201 Juvenile Delinquency
■3 class hrs/wk ■3 cr. ■Sp

Definition, development and patterns of delinquent behavior; institutional controls and treatment; legal methods of dealing with delinquency.

CJ210 Introduction to Criminal Investigation
■3 class hrs/wk ■3 cr. ■W

Fundamentals of criminal investigation, theory and history; crime scene to courtroom with emphasis on techniques appropriate to specific crimes.

CJ220 Introduction to Substantive Law
■3 class hrs/wk ■3 cr. ■W

Historical development, philosophy of law and constitutional provision; definitions, clasifications of crimes, and their application to the system of administation of justice; legal research, study of case law, methodology, and concepts of law as a social force.

CJ222 Procedural Law
■3 class hrs/wk ■3 cr. ■Sp

Development history of English common law and U.S. case law, constitutional and statutory provisions relating to arrest, search and seizure. Rights and responsibilities of citizens and criminal justice personnel and agencies.

CJ223 Rules of Evidence
■3 class hrs/wk ■3 cr. ■F

Origin, development, philosophy and constitutional basis of evidence; constitutional and procedural considerations affecting arrest, search, and seizure; kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights and case studies.

5.225 Civil Law
■3 class hrs/wk ■3 cr. ■W

Fundamentals of the law of contracts, torts, and personal property, including liens, landlord and tenant as they apply to the criminal justice system.

CJ229 Introduction to Interviewing
■3 class hrs/wk ■3 cr. ■Sp

Introduction to behavior modification approaches through interviewing and counseling. Counseling and interviewing techniques available to entry level practitioners in corrections. Advanced methods utilized by professional counselors. Traces development of positive relationships between client and corrections personnel.

5.233 Institutions and Agencies
■3 class hrs/wk ■3 cr. ■W

History, objectives, and evaluation of community, state, and federal agencies involved in the disposition of offenders and potential delinquents.

Faculty:
Arthur Bervin, Department Chairperson
Shirley Call
Thomas Chase
Donald Minnick
William Sweet
Barbarajene Williams

English

The English curriculum is designed to provide skill-building opportunities in written communication as well as aesthetic appreciation and understanding of the various literary genres.

Literature

EN101/102/103 Survey of English Literature
■3 class hrs/wk ■3 cr. ■F/W/Sp
Study of the principal works of English literature based on readings selected to represent great writers, literary forms, and significant currents of thought. Provides both an introduction to literature and a background that is useful in the study of other literature and other fields of cultural history. (101) Medieval ballads through Milton, (102) Defoe through Wordsworth, Keats, and Mary Shelley, (103) Browning to Joyce.

EN104 Introduction to Literature
■3 class hrs/wk ■3 cr. ■F/W/Sp
Introduction to narrative fiction (the short story and the novel) through careful reading and discussion of American, English, and European short stories and a novel.

EN105 Introduction to Literature
■3 class hrs/wk ■3 cr. ■F/W/Sp
Introduction to drama as it was developed in ancient Greece and transmitted to successive historical periods up to the present. The course introduces the student to Greek, Medieval, Shakespearean, and the modern plays. It stresses conventions of drama as they developed in succeeding historical periods.

EN106 Introduction to Literature
■3 class hrs/wk ■3 cr. ■F/W/Sp
Study of poetry and the nature of literary experience through the reading of great poetry, drawn from American, English, and world literature. Works are read in entirety when possible with emphasis on such elements as structure, style, imagery, figurative language, and musical devices.

EN107/108/109 World Literature
■3 class hrs/wk ■3 cr. ■F/W/Sp
A sequence to acquaint the student with outstanding works of ancient, medieval, Renaissance, and modern literature that have permanent and wide appeal outside his own country. (107) Greece, Rome, and the early Middle Ages; (108) The Middle Ages and the Renaissance to the 18th Century; (109) The 18th Century to the Present.

EN112 The Literature of Science Fiction
■3 class hrs/wk ■3 cr. ■On Demand
Reviews the history of science fiction, or its predecessors, from the Greeks through Jules Verne and H.G. Wells to Asimov, Ray Bradbury, Arthur Clarke and Andre Norton. Course focuses on contributions of twentieth-century writers.

EN201/202/203 Shakespeare
■3 class hrs/wk ■3 cr. ■F/W/Sp
Chronological reading of important plays — comedies, tragedies, and histories — with emphasis upon Shakespeare as a dramatist and poet. The background of the Elizabethan period, its dramatic tradition, theatre, and culture is emphasized. (201) Histories; (202) Tragedies; (203) Comedies.

EN222 Images of Women in Literature
■3 class hrs/wk ■3 cr. ■On Demand
Analysis of images, archetypes, and stereotypes of women characters in selected literature and exploration of effects of these literary images upon actual women. An examination of the various definitions and roles suggested for women in literature.

EN253/254/255 Survey of American Literature
■3 class hrs/wk ■3 cr. ■F/W/Sp
Development of U.S. literature from its beginning to the present day through intensive reading of significant authors representing major literary periods. Provides an understanding and appreciation of American culture as expressed in literature. (253) Puritanism through the Civil War; (254) Transcendentalism to the beginning of Realism; (255) Realism and Naturalism to the present.

EN275 The Bible as Literature
■3 class hrs/wk ■3 cr. ■On Demand
Surveys selected Old and New Testament readings to acquaint students with literary forms, styles and content of biblical materials; and to point to literatures indebtedness to the biblical heritage.

Writing

WR120 Basic Writing Skills
■3 class hrs/wk ■3 cr. ■F/W/Sp
Emphasizes the mechanics and standard usage of written English. Basic syntax of the sentence and paragraph organization are stressed. Close attention is paid to grammar, spelling, and punctuation. Will not satisfy institutional writing requirements for the transfer student.

WR121 English Composition
■3 class hrs/wk ■3 cr. ■F/W/Sp
Emphasizes the content and organization of the unified expository prose essay. Topic selection and limitation is stressed. Attention is paid to sentence and paragraph development; effective use of transitions, introductions, conclusions. Study and practice of diction. Competence in mechanics and usage is assumed; students who are deficient in these areas may be advised to enroll in WR 120 prior to attempting this course.

WR122 English Composition
■3 class hrs/wk ■3 cr. ■F/W/Sp
Emphasizes the development of logic and style in expository writing. The ability to define statements and issues, recognize evidence, use inductive and deductive argument, and avoid logical fallacies is stressed. Continued emphasis on the rhetorical concerns of WR 121 and on the necessity for accuracy in mechanics and usage. Prerequisite: WR 121.

WR123 English Composition
■3 class hrs/wk ■3 cr. ■F/W/Sp
Introduction to use of library, research methods, proper use of sources, documentation. Students will write one or more research papers, making use of an outline, note cards, footnote, bibliography and MS forms. Continued emphasis on the rhetorical concerns of WR 121 and on the necessity for accuracy in mechanics and usage. Prerequisite: WR 121.

WR227 Technical Report Writing
■3 class hrs/wk ■3 cr. ■F/W/Sp
A course for students who must report the results of research which is not basically literary. Technical writing concentrates on sources of material organization and presentation of information. It includes business letters and memorandum forms as well as technical report format. Prerequisite: WR120.

1.102 Occupational Writing
■3 class hrs/wk ■3 cr. ■F/W/Sp
Emphasizes expository writing used and needed by vocational and technical students. Students gain core skills in paragraphing and rhetorical forms and complete selected exercises pertaining to their occupational programs. Prerequisite: WR120.

Creative Writing

WR199 Personal Journal Writing
■3 class hrs/wk ■3 cr. ■On Demand
Study of technique and content in personal journal writing. Offers disciplined practice in recording observations, reflective thoughts, and events of historic and humanistic importance to the journal writer. Primary emphasis on developing awareness of the writer's world and exploring styles of writing in articulating that awareness.

WR241 Introduction to Imaginative Writing
■3 class hrs/wk ■3 cr. ■F/W/Sp
Combines three weeks of formal lecture concerning the elements of

short fiction (dialogue, setting, character, conflict, etc.) with less formal "workshop" sessions.

WR242 Introduction to Imaginative Writing
■3 class hrs/wk ■3 cr. ■F/W/Sp

Introduction to basic techniques of peotry writing such as rhythm, rhyme, and image. Major emphasis will be place on the fostering and development of individual style.

WR243 Introduction to Imaginative Writing
■3 class hrs/wk ■3 cr. ■F/W/Sp

Advanced courses in style and technique designed to allow students to further their skills in fiction, poetry, or play writing. Major emphasis placed on revision of work in progress. May be taken in conjunction with WR241 or WR242. Prerequisite: WR241, WR242 or consent of instructor.

Faculty:
Judith Hedberg-Duff
Jennifer Spiker
James Tolbert, Department Chairperson

Graphic Communications and Journalism

Graphic Communications is a 90 hour, Associate of Science Degree program in which students have the option of majoring in Graphic Design or Printing Technology.

Journalism credits may be applied toward a college transfer program in Journalism.

Cooperative Work Experience

Students may, upon the recommendation of the program coordinator, receive transfer or non-transfer college credit by participating in Cooperative Work Experience (CWE). Further information may be found in the Cooperative Work Experience section of this catalog.

1.200/WE201 Cooperative Work Experience
■3-48 class hrs/wk ■1-16 cr. ■F/W/Sp

Experience gives the student actual work experience which closely parallels the field of study. Further information available in the Cooperative Work Experience section of this catalog.

1.201/WE202 Cooperative Work Experience Seminar
■1 class hrs/wk ■1 cr. ■S/F/W/Sp

Refer to the Cooperative Work Experience section of this catalog.

Printing Technology

The Printing Technology curriculum requires 20 hours of general education, 16 hours of electives, 31 hours of basic graphic arts and related courses, and 23 hours of specialized production courses. Students electing the Printing Technology option may anticipate vocational opportunities as darkroom technician, process camera operator, paste-up technician, stripper, platemaker, duplicating machine operator, offset press helper, screen printer, or bindery worker. Most positions in the industry require individuals with skills in several of the above areas.

Candidates for the associate degree in Graphic Communications with a specialization in Printing Technology must complete the following courses:

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR
Fall Term

1.102	Occupational Writing or	
WR121	English Comp	3
Winter Term		
4.202	Math II or	
2.515	Business Math	4

SOPHOMORE YEAR
Fall Term

1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3
Winter Term		
HE250	Health and/or	
HE252	First aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR or	
	PE Activity Courses	4
Spring Term		
	General Education Electives	6

Program Requirements

FRESHMAN YEAR
Fall Term

3.150	Intro to Graphics	3
2.110	Prin of Salesmanship	3
2.501	Typing*	3
Winter Term		
BA101	Intro to Business	4
3.153	Survey of Visual Design	3
JN216	Reporting I	3
Spring Term		
JN215	Journalism Lab	1
2.134	Retail Merchandising	3
3.152	Layout and Pasteup Procedures	3
	Electives	8

SOPHOMORE YEAR
Fall Term

PY216	Social Psychology	3
3.158	Typography	3
3.162	Photography	2
3.180	Publication Lab	2
3.182	Typesetting	3
Winter Term		
3.163	Photography	2
3.180	Publication Lab	2
3.164	Process Camera	3
2.308	Advertising	3
	Electives	3
Spring Term		
JN225	Advertising/Public Relations	3
3.151	Publication Design	3
	Electives	2

**Students with a demonstrated typing proficiency

Graphic Design

The Graphic Design curriculum requires 12 hours of general education, 18 hours of electives, 28 hours of basic graphics courses, and 32 hours of specialized training in the field of graphic design. Vocational opportunities for those majoring in Graphic Design include: commercial illustrator, window designer, ad layout designer, brochure designer, educational media designer and illustrator, newspaper layout and pasteup, photographer's assistant, darkroom assistant, director of photographic advertising, screen printer, typographer/letterer/signwriter, package designer, and three-dimensional display designer.

Students selecting the Graphic Design Program reasonably may expect to spend about $500 for materials and supplies during the 2-year program. Camdidates for the associate degree in Graphic Communications with a specialization in Graphic Design must complete the following courses:

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR
Fall Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid	3

Winter Term

1.102	Occupational Writing or	
WR121	English Comp	3

Spring Term

0.571	CPR or	
	PE Activity	1

SOPHOMORE YEAR

Fall Term

1.103	Occupational Speech	
SP111	Interpersonal Speech Comm	3

Winter Term

4.202	Math II	4

Spring Term

	General Education Electives	6

Program Requirements

FRESHMAN YEAR

Fall Term

3.150	Intro to Graphic Comm	3
AR195	Design I	3
AR291	Drawing Fund	3

Winter Term

3.158	Adv Typog/Lettering	3
3.170	Illustration	3
SS121	Typing**	3
AR282	Inter Drawing	3

Spring Term

3.154	Pkging & 3-D Design	3
3.152	Layout & Pasteup Proc	3
AR281	Figure Drawing	3
AR196	Design II	3

SOPHOMORE YEAR

Fall Term

3.151	Publication Design	3
3.162	Photography	2
3.172	Graphic Design	3
3.180	Publication Lab	2
SS124	Typing Skill Building***	3

Winter Term

3.163	Photography	2
3.173	Graphic Design	3
3.180	Publication Lab	2
3.181	Typesetting	3
	Technical Drawing****	2

Spring Term

3.174	Graphic Design	3
3.180	Publication Lab	2
	Technical Drawing****	2
	General Education Electives	2

***Demonstrated proficiency

****4.109 Tech Sket, 4.115 Pres Drawing, 4.123 Tech III.

1.139 Study Skills—Photography
■2-6 class hrs/wk ■3 cr. ■F/W/Sp

Provides opportunity for students to develop skills in darkroom procedures and techniques. Course will supplement regular course offerings and will not substitute for that instruction. Diagnosis of deficiencies and the interests of individuals will determine the scope of the activity.

3.150 Introduction to Graphic Communications
■3 class hrs/wk ■3 cr. ■F/W/Sp

History of Graphic Communications; overview of basic reproduction processes--letterpress, offset, gravure, electrostatic and screen printing. Copyfitting, proofreading, printer's measurements and terminology.Introduction to printing papers.

3.151 Publication Design
■6 class hrs/wk ■3 cr. ■F/Sp

Introduction to arranging elements of printed media. Students learn to arrange heads, pictures, and body type for maximum unity, readability, and aesthetic effect. Lectures and design projects are intended to provide a fundamental understanding and competence in the tasks of publication and advertising art direction. Prerequisite: 3.150, 3.152

3.152 Layout and Pasteup Procedures
■6 class hrs/wk ■3 cr. ■Sp

Preparation of mechanical art. Terminology and practice of layout and pasteup techniques, including use of headlines, body copy, line cuts and halftones. Imposition, screened prints, screen tints, overlays, color preparation. Prerequisite 3.150 (may be taken concurrently)

3.153 Survey of Visual Design
■6 class hrs/wk ■3 cr. ■W

An introduction to the design field through a study of art elements, basic color theory and systems, black and white and value studies in composition and design. Students will explore applications; emphasis will be on developing sound judgement and individual creative growth.

3.154 Packaging and 3-Dimensional Design
■6 class hrs/wk ■3 cr. ■Sp

Introduction to merchandising and display projects involving two and three dimensional graphic, structural and marketing solutions; stressing suitability of concept, design and color of the product. Materials and methods of printing, cutting and folding, and assembly are explored to elicit both tactile and visual expression. Prerequisite: 3.170 or consent of instructor.

3.158 Typography/Lettering
■6 class hrs/wk ■3 cr. ■F/W

Type layout and design. Hand lettering for the artist is studied on the basis of standard and unusual type faces, number and letter forms. Finished production lettering, type specifications and indications and calligraphy as an element of typographical design. The use of letterpress equipment, phototypesetting and transfer lettering sheets are studied. Prerequisite: 3.150 or consent of instructor.

3.162 Introduction to Photography
■1 lec/4 lab hrs/wk ■3 cr. ■F/W/Sp

An introduction to black and white photography. Students calculate their exposures, develop film and print enlargements. Includes instruction on cameras, lenses, film, filters, lighting, photographic chemistry, composition, and printing techniques. Demonstrations and individual projects. A limited number of cameras are available for check-out. $5.00 take-home materials charge.

3.163 Intermediate Photography
■1 lec/2 lab hrs/wk ■2 cr.■F/W/Sp

Introduces refinements in black and white photography: composition, lighting, exposure, darkroom techniques and presentation. A limited number of cameras are available for c h e c k - o u t .
Prerequisite 3.162

3.164 Process Camera
■6 class hrs/wk ■3 cr. ■W/Sp

Functions and uses of the process camera for making line and halftone negatives, and photo-mechanical transfer positives. Related darkroom techniques including outline type and color imaging. Prerequisite: 3.150 (may be taken concurrently), 3.162.

3.166 Screen Printing
■6 class hrs/wk ■3 cr. ■F

Practice in screen printing techniques using hand-cut paper and aqua stencils, tusche and glue, and photostencil materials. Use of various types of ink for printing on glass, textiles, plastics and paper.

3.167 Graphic Production I
■6 class hrs/wk ■4 cr. ■W

Introduction to the theory and practice of offset lithography. Press operation, ink and water systems. Ink mixing to the Pantone system. Use of presensitized and direct-image plates. Safety. Project assignments and critiques. Prerequisite: 3.152, 3.164, 3.166.

3.168 Graphic Production II
■6 class hrs/wk ■4 cr. ■Sp

Advanced theory and practice in offset lithography. Emphasis on multicolor reproduction. Skill-building in ink matching, plate and blanket packing, close register presswork. Students will take a job through all production phases using skills learned in previous courses. Prerequisite: 3.167.

3.170 Illustration
■6 class hrs/wk ■3 cr. ■W/Sp

Pen and ink, brushes, water colors, markers, inks, fixatives, colored pencils, washes, compass, rapidiographs, pastels, matt knives, tapes, drafting machines, pencil pointers, templates, acrylics. Class projects explore and develop skill in using the artist's tools. The course intent is to make the student aware of the techniques used by the graphic artist. Prerequisite: 3.150, AR 280 (both may be taken concurrently).

3.172 Graphic Design I
■6 class hrs/wk ■3 cr. ■F

Basic course in graphic design for reproduction. Projects explore the methods and techniques of contem-

porary design. Preparation of illustrated matter including visual instructional materials. Layout and design are of primary intent. Matting, framing presentation, papers, board, effects, are all discussed. Prerequisite: 3.170 or consent of instructor.

3.173 Graphic Design II
■6 class hrs/wk ■3 cr. ■W

Advanced course in graphic design. Layout and design and effects of color on various subjects included. Proposed use of reproduction is of prime consideration. Projects cover a wide application of materials, techniques and styles. Prerequisite: 3.172 or consent of instructor.

3.174 Graphic Design III
■6 class hrs/wk ■3 cr. ■Sp

An advanced course in color and black and white illustration/design. Individual work and study is emphasized. Prerequisite: 3.173 or consent of instructor.

3.180 Newspaper Makeup
■4-8 lab hrs/wk ■2-4 cr. ■F/W/Sp

Students work on the college newspaper (the Commuter) to gain practical experience in the application of graphic arts skills. Maximum of 6 credits. Prerequisite: 3.164 or consent of instructor.

3.181 Special Projects
■2-12 lab hrs/wk ■1-6 cr. ■F/W/Sp

With coordination by the instructor, the student may select projects that will provide practical experience within the major field. Maximun of 6 credits.

3.182 Typesetting
■6 class hrs/wk ■3 cr. ■F/W/Sp

Operations of photo typesetting devices. Production of headlines, body type, tabular matter, and advertising composition.Prerequisite: 3.150

3.186 Experimental Darkroom Techniques
■1 lec/2 lab hrs/wk ■2 cr. ■F/W/Sp

Experimental darkroom techniques. Emphasis on posterizations, solarizations (Sabattier effect), photograms, multiple print and double exposure prints, textural prints, negative prints, etc. This course is open to students with knowledge of beginning photography.

Journalism

Community College journalism credits are transferable as lower-division course work toward a four-year journalism degree or as electives toward other two-year and four-year degrees. JN 215 and JN 216 are required for the Advertising/Promotion curriculum of the Graphic Communications Associate in Science Degree. Most journalism careers favor four-year degrees, but students who combine community college journalism with related courses such as graphic communications and business often can find jobs in small media publications, business, and agency outlets in combinations of writing, advertising sales and design, layout and pasteup, photography, printing technology and promotion.

JN215 Journalism Laboratory: Newspaper
■3 lab hrs/wk ■1 cr. ■F/W/Sp

Work on the student newspaper in reporting, photography, editing or advertising. The lab for JN 216, 217, 218; may also be taken independently from those courses.

JN216 Reporting I
■3 class hrs/wk ■3 cr. ■F/W/Sp

Basics of journalistic writing with an emphasis on real assignments to be used in the student newspaper. Students study interviewing, other news gathering techniques, effective writing of news and features and journalistic ethics while they are actually reporters. JN 215 required in conjunction with this course.

JN217 Reporting II
■3 class hrs/wk ■3 cr. ■Sp

Journalistic writing with emphasis on backgrounding, depth reporting, interpretive writing and newer journalism forms. Students submit articles for actual publication, most often in student newspaper. JN 215 required in conjunction with this course.

JN218 Copy Editing and Makeup
■3 class hrs/wk ■3 cr. ■W

Copy editing, page makeup, photo editing, headline writing, editorial decision making and proofreading. Students apply their skills to the student newspaper. JN 215 required in conjunction with this course.

JN225 Advertising/Public Relations
■3 class hrs/wk ■3 cr. ■F

An overview of advertising and public relations emphasizing the communication and production skills needed to produce advertising, promotion, and public relations materials. Study includes copywriting, design, marketing research, use of printing technology, and the historical and journalistic perspectives of these fields.

Interior Decorating (Proposed)

Note: At the time of catalog printing, the Interior Decoration Program has been proposed only. It has not, at this date, been approved. Information about the current status of the program can be obtained from the Humanities and Social Services Division.

Combining elements from interior design, fine art, drafting, business, and general education, the Interior Decoration Program is designed to train technical sales personnel and/or consultants for the home furnishings, decoration, and construcion industries. Employment opportunities include work as sales personnel for paint, floor, and wall covering retail stores, furniture and home accessory stores, aides to interior designers and architects, and as consultants to clients of home building contractors. Students who complete the curriculum prescribed below may earn an Associate of Science Degree from Linn-Benton Community College.

The following course work will satisfy all college requirements for the Associate of Science degree:

GENERAL EDUCATION REQUIREMENTS		
Wr121 or 1.102		3
SP111 or 112 or 1.103		3
Math 1.110 or 4.202		4
Health and/or PE		4
Electives		6
INTERIOR DECORATION COURSES		
CT250	Textiles	3
CT251	Textiles Lab	1
CT231	Home Furnishings	3
7.200	Cost/Material Estimating	3
7.201	Furniture Design/Construction	3
7.202	History of Arch. & Interiors	3
7.203	Interior Design I	4
7.204	Interior Design II	4
7.205	Interior Design III	4
FINE ART COURSES		
AR195	Design I	3
AR196	Design II	3
AR115	Survey of Visual Art	3
AR156	Weaving I	3
AR250	Weaving II	3
DRAFTING COURSES		
3.494	Construction Methods	2
4.110	Drafting Lab I	3
4.111	Drafting Lab II	3
BUSINESS COURSES		

BA101	Introduction to Business	4
2.110	Salesmanship	3
2.134	Retail Merchandising	3
2.135	Visual Merchandising	4
2.308	Principles of Advertising	3
2.530	Practical Accounting I	3

Faculty:
Jane Donovan
Harold Eastburn
Stephen Rossberg, Department Chairperson
Gary Ruppert

Performing Arts

The Performing Arts Department provides instruction in the fundamentals of speech, drama and instrumental music and voice, as well as many opportunities for performance. In developing their potential in these areas, students may acquire occupational skills and life-long avocational interests.

All areas of the department work closely together. The faculty encourages students to take courses which develop skills in communication, voice movement and music.

Dance

D192 Folk Dance Performance
■4 lab hrs/wk ■2 cr. ■F/W/Sp
A course designed to give students opportunities to perform suites of international songs and dances. Students will become aware of all aspects of folk dance performance (Costuming, music, etc.). Audition required.

Drama and Speech

The speech and drama curriculum is designed to provide skill-building opportunities in spoken inter- and intrapersonal communications as well as performance and technical opportunities in theatre. All courses satisfy lower division college transfer requirements for those students seeking the bachelor's degree, but also offer professional instruction for those students whose interests are primarily vocational or avocational.

TH110 Fundamentals of Acting
■3 class hrs/wk ■3 cr. ■F/W/Sp
Classroom activities designed to develop skills and improvisation, pantomime, movement and voice. Basic training in the art of acting; increases the student's understanding of the performing artist; increases sensitivity in communication situations. An experience oriented class.

TH202 Introduction to Theatre
■3 class hrs/wk ■3 cr. ■On Demand
Survey of theatre past and present. Development of dramatic literature, performers, theatres and theatre organizations. Detailed look at modern theatre organizations and opportunities. Not a performance class.

TH210 Intermediate Acting
■3 class hrs/wk ■3 cr. ■On Demand
A follow-up of Th 110. Intended to further polish a student actor's skills primarily through improvisation. A performance class. Prerequisite: TH 110 or consent of instructor.

TH244 Stagecraft
■2 lec/3 lab hrs/wk ■3 cr. ■On Demand
A study of the principles, practices and procedures of technical production. Practical experience in the construction, painting and handling of scenery.

TH245 Stage Lighting
■2 lec/3 lab hrs/wk ■3 cr. ■On Demand
A study of stage lighting theory, practices and procedures in theatrical productions. Practical experience in the use and functions of stage lighting equipment.

TH248 Backstage Arts/Sound
■2 lec/3 lab hrs/wk ■3 cr. ■On Demand
Theoretical and practical introduction to theatre support skills. Students may select area of concentration; make-up and costumes; design and construction; lighting and sound. Projects emphasized.

TH250 Production Workshop
■2-6 lab hrs/wk ■1-3 cr. ■F/W/Sp
Student preparation of scenery, costumes, properties or publicity for a college production. Prerequisite: permission of instructor.

TH252 Stage Makeup
■3 class hrs/wk ■3 cr. ■On Demand
A study of the principles and techniques of basic stage makeup.

TH255 Rehearsal and Performance
■2-6 lab hrs/wk ■1-3 cr. ■F/W/Sp
For students participating in a public performance theatre production of the college. Productions provide both extracurricular activity for nonmajors and practical application of classroom theory for students of theatre.

TH265 Creative Dramatics
■3 class hrs/wk ■3 cr. ■On Demand
Exploration of the use of drama as an aid to those who work with children and young adults in instructional or recreational areas.

SP111 Interpersonal Speech Communication
■3 class hrs/wk ■3 cr. ■F/W/Sp
Practical approaches to developing effective interpersonal and small group communication skills listening, nonverbal communication, message construction, group interaction, leadership, and communication barriers.

SP112 Fundamentals of Speech
■3 class hrs/wk ■3 cr. ■F/W/Sp
Projects in oral communication to develop skill and confidence in speaking before larger groups, with emphasis on content, organization, audience motivation and language.

SP122Reader's Theatre
■3 class hrs/wk ■3 cr. ■F/W/Sp
Assemble performance of poetry, prose, and drama for audience response. Emphasis not on acting, but on oral interpretation of literature. Special stress placed on the student's planning and selection of appropriate reader's theatre programs.

SP229 Interpretive Reading
■3 class hrs/wk ■3 cr. ■F/W/Sp
Study of literature through oral performance. Analysis and performance of poetry, prose fiction, non fiction and drama. Recommended for those interested in voice, singing, elementary teaching and the study of literature.

1.103 Occupational Speech Communication
■3 class hrs/wk ■3 cr. ■F/W/Sp
Practical approaches to the development of oral communication for vocational/technical students to prepare them in the areas of telephone usage, interviewing, personnel interaction, public speaking situations, and information sharing/problem solving situations that occur on the job.

Music

The Music curriculum is designed to provide skill building opportunities in vocal and instrumental music and to develop aesthetic appreciation and theoretical knowledge. The majority of classes are designed to satisfy lower division college transfer requirements for those students seeking the bachelor's degree, but offer as well professional instruction for those students whose interests are primarily vocational or avocational.

MU101 Music Fundamentals
■3 lec hrs/wk ■3 cr. ■F/W/Sp
For the non-music major. Fundamentals of music reading, simple chord structures, use of harmonic voice and instruments.

MU111/112/113 Music Theory I
■5 class hrs/wk ■5 cr. ■F/W/Sp
Elements of music science (melodic, harmonic, and rhythmic) through analysis of the styles of Bach, Haydn, Mozart, and other eighteenth and nineteenth century composers. Must be taken in sequence.

MU131/132/133 Group Piano - Beginning
■2 class hrs/wk ■2 cr. ■F/W/Sp

Classroom instruction for the beginning piano student.

MU134/135/136 Group Voice
■2 class hrs/wk ■2 cr. ■F/W/Sp
Classroom instruction for the beginning voice student.

MU137/138 Group Guitar
■2 class hrs/wk ■2 cr. ■F/W/Sp
Class lessons for the beginning player that will work with basic chording techniques as well as note reading and fretboard harmony.

MU154/155 Jazz Improvisation
■1 lec/2 lab hrs/wk ■2 cr. ■F/W/Sp
A course to develop visual and aural skills enabling the performer to improvise freely and upon given material. An examination of all improvisational styles with an emphasis on jazz. In-class student performance required. Prerequisite: MU 101 or MU 111 or consent of instructor.

MU161 Music Appreciation
■3 class hrs/wk ■3 cr. ■On Demand
A general survey of all musical styles and directed study of how to listen to music. For the non-music major.

MU201/202/203 Introduction to Music and It's Literature
■3 class hrs/wk ■3 cr. ■F/W/Sp
Cultivation of understanding and intelligent enjoyment of music through a study of its elements, forms, and historical styles. (201) Music Forms, (202) Middle ages to Classical, (203) Romantic to contemporary. Need not be taken in sequence.

[5]MU205 Introduction to Jazz Literature
■3 class hrs/wk ■3 cr. ■On Demand
A listener's approach to the development of Jazz through its various styles. For the non-music major.

MU211/212/213 Music Theory II
■4 class hrs/wk ■4 cr. ■F/W/Sp
Study of the disciplines of hearing, performing, analyzing, improvising and composing different kinds of music, terminology concepts, and keyboard application of these skills. Must be taken in sequence. Prerequisite: MU 111, 112, 113

MU214/215/216 Keyboard Harmony
■1 class hr/wk ■1 cr. ■F/W/Sp
Keyboard application of the theoretical principles studied in MU211, 212, 213. Exercises are figured bass realization, modulation, transposition, score reading. To be taken concurrently with MU211, 212, 213. Prerequisite: MU111, 112, 113.

MUSIC PERFORMANCE CLASSES (All classes may be taken for credit three times)

MP104/204 Pep Band
■2 lab hrs/wk ■1 cr. On Demand
Performance of popular small band arrangements at college athletic and other events. May be taken 3 time for credit.

MP105/205 Jazz Ensemble
■4 lab hrs/wk 2 cr. F/W/Sp
A performing organization which draws upon the recent trends in jazz and rock as well as traditional big band charts. Audition may be required.

MP122/222 Concert Choir
■4 lab hrs/wk ■2 cr. ■F/W/Sp
A performance oriented class, practice in performance material as well as music that presents different problems and styles in singing.

MP125/225 Vocal Jazz Ensemble
■4 lab hrs/wk ■2 cr. ■F/W/Sp
Performance of popular vocal arangements. Exploration of various swing choir concepts. Audition and concurrent enrollment in Concert Choir required.

MP131/231 Madrigal Singers
■2 lab hrs/wk ■1 cr. ■F/W/Sp
Study and performance of early to contemporary madrigal literature. Concurrent enrollment in MU197 or 297 required.

MP150/250 Rehearsal and Performance
1-3 cr.
Credit for music rehearsal with performance directly related to Performing Arts Department productions.

PRIVATE PERFORMANCE STUDIES CLASSES
1 cr.
Basic and advanced instruction in own particular instrument. $50.00 additional tutorial tuition. Requires instructor approval.

MP171/271 Performance Studies: Piano
MP174/274 Performance Studies: Voice
MP181/281 Performance Studies: Flute
MP183/283 Performance Studies: Clarinet
MP184/284 Performance Studies: Saxophone
MP186/286 Performance Studies: Trumpet
MP187/287 Performance Studies: French Horn
MP188/288 Performance Studies: Trombone
MP190/290 Performance Studies: Tuba

Philosophy and Religion

The Philosophy curriculum is designed to provide an awareness and understanding of civilized man's ethical, moral, and religious thought and the process of his ability to reason critically. All courses carry college transfer credit.

RE201 Religions of the World
■3 class hrs/wk ■3 cr. ■On Demand
A comparative survey of the development and doctrines of the Biblical religions and of several far Eastern religions.

RE202 The Old Testament and Its Background
■3 class hrs/wk ■3 cr. ■On Demand
An introduction to the themes

within the major Old Testament traditions set against the background of the cultural and political history of the Hebrew people.

RE203 The New Testament and Its Background
■3 class hrs/wk ■3 cr. ■On Demand
An introduction to New Testament theology and to the traditions about Jesus and Paul.

PH202 Elementary Ethics
■3 class hrs/wk ■3 cr. ■On Demand
A survey of moral strategies, including existentialist, situationist, and Taoist as well as several rule approaches; introduction to the analysis of ethical language and the justification of moral values.

PH203 Elementary Logic
■3 class hrs/wk ■3 cr. ■On Demand
Introduction to informal logic and symbolic logic. Recognizing, analyzing and criticizing arguments. Main topics include deduction, invalid forms, connectives, truth tables, logical relations and interpretation of proofs.

PH204 Philosophy of Religion
■3 class hrs/wk ■3 cr. ■On Demand
Introduction to the analysis of religious behavior and concepts found in modern Eastern and western religions. Topics include: the existence and nature of gods, problem of evil, religious experience, the functions of religious language and the status of religious knowledge. A companion course to RE 201.

Faculty:
Douglas Clark
Russell Durham
Max Lieberman
Maribel Montgomery
Martin Rosenson
Regina Vee, Department Chairperson

Social Sciences

The general objective of the Social Science curricula is to develop in the student accurate and extensive knowledge of society (past and present) and the activities of its members. Specific content fields are anthropology, the study of the varieties of man's physical and cultural characteristics; economics, the study of the things man wants and how he goes about getting them; geography, the study of man's relationship to the surface of the earth and its climates, plants, animals and natural resources; history , the study of man in relationship to his recorded past; political science, the study of man's political institutions, or of the principles, organization, and methods of government; psychology, the study of man's individual behavior; and sociology, the study of man's group interaction, the forms of organization of social groups, the relationships among them, and group influences on individual behavior.

Anthropology

Anthropology curriculum may be used to fulfill general education requirements in social science. Transfer students should not complete both AN 101, 102, 103 and AN 207, 208, 209.

AN101 Introduction to Physical Anthropology
■3 class hrs/wk ■3 cr. ■F
Examination of man's place in nature, physical evolution and history of fossil man.

AN102 Introduction to Archaeology/Prehistory
■3 class hrs/wk ■3 cr. ■W
Examination of man's prehistorical cultural traditions, cultural change, and prehistorical civilizations and cultures.

AN103 Introduction to Cultural Anthropology
■3 class hrs/wk ■3 cr. ■Sp
Examination of man's cultural variation throughout the world. Methods of analyzing the elements of culture such as: religion, social organization, family structure, language, and political systems.

AN104 General Anthropology Lab
■1 lec/3 lab hrs/wk ■3 cr. ■W/Sp
Laboratory exercises in archaeological reconstruction and analysis.

AN107 Popular Anthropology
■3 class hrs/wk ■3 cr. ■On Demand
Examination of anthropological data presented in popular forms of media, i.e., current books and visual media. Of special interest will be authors: Crech con Daniken, Robert Audry, and J. Desmond Morris.

AN117 North American Indians
■3 class hrs/wk ■3 cr. ■On Demand
A general survey course dealing with early man in the New World including discussions of: archaeological evidence of these first Americans; customs before white contact; westernization; and contemporary issues.

AN208 Cultural Anthropology
■3 class hrs/wk ■3 cr. ■W
Examination of state level cultural traditions (industrial and preindustrial), with major theoretical concepts of cultural anthropology that apply to that level of cultural evolution as well as ethnographic examples.

AN210 Selected Topics in Ethnology
■3 class hrs/wk ■3 cr. ■On Demand
An in-depth examination of selected anthropological topics such as marriage and kinship practices, religion and magic, acquisition of sex roles, and others.

AN211 Archaeological Field Survey
■3 cr. ■Summers Only
Theory of and field practice in archaeological site surveying, mapping. and reconnaisance. Must be taken concurrently with AN 211 and An 213.

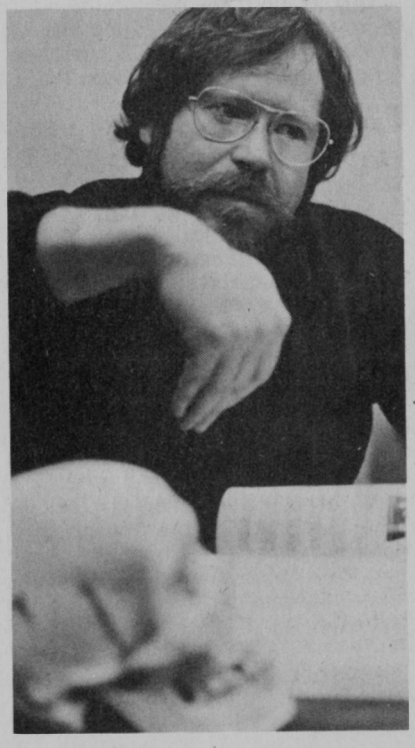
AN212 Archaeological Field Methods
■3 cr. ■Summers Only
Theory of and field practice in archaeological excavating methods and recording techniques. Must be taken concurrently with AN 211 and AN 213.

AN213 Archaeological Field Analysis
■3 cr. ■Summers Only
Theory of and practice in methods of analyzing, interpreting and reconstructing archaeological data collected in the field. Importance of record keeping will be stressed. Must be taken concurrently with AN 211 and AN 212.

Economics

EC115 Outline of Economics
■4 class hrs/wk ■4 cr. ■F/W/Sp
For those whose major is other than Business or Economics. Emphasis on such major economic activities as supply and demand, fiscal policies of the United States, Federal Reserve functions, unemployment and international trade.

EC201 Principles of Economics
■3 class hrs/wk ■3 cr. ■F
Introduction to micro-economic theory, policy and institutions. Includes principles underlying produc-



tion, exchange and distribution.

EC202 Principles of Economics
■3 class hrs/wk ■3 cr. ■W
Introduction to macro-economic theory, policy and institutions. Includes problems relating to money and banking, consumption, investment, unemployment and inflation. Prerequisite: EC 201.

EC203 Principles of Economics
■3 class hrs/wk ■3 cr. ■Sp
Introduction to international economics and economic development. Includes principles underlying international trade, trade regulations, exchange rates, economics development in both developing and developed parts of the world. Prerequisite: EC 202.

EC215 Economic Development of the US
■3 class hrs/wk ■3 cr. ■F
A historical study of US economic institutions including industry, agriculture, commerce transportation, labor, finance and the economic program of the United States.

EC216 Introduction to Labor Economics
■3 class hrs/wk ■3 cr. ■W/S
A first detailed look at the theory and policy of manpower economics, the role of trade unions, the causes of unemployment, the problems of maintaining full employment, negotiation techniques, methods of settling labor disputes including grievance procedures, concilliation and arbitration.

EC220 Contemporary US Economic Issues
■3 class hrs/wk ■3 cr. ■S
Application of economic principles to selected issues affecting the US economy including such topics as poverty, pollution and urbanization.

Film Arts

FA257 Film Themes and Genres
■3 class hrs/wk ■3 cr. ■W
An examination of a number of films representing particular genres (westerns, comedies, etc) or expressing common themes in an attempt to focus on the various directors involved and the diverse styles, techniques, and personal expression they bring to their subject.

FA259 Films and Society
■3 class hrs/wk ■3 cr. ■F/Sp
Introduction to the development of movies used to create and reflect our view of society. Themes include: American films of the Thirties, propaganda films, films from the Silent Era, American documentaries, anti-war films, "Serious" films of the fifties and sixties.

Geography

GE105 Natural Environments
■3 class hrs/wk ■3 cr. ■F
Introduction to man's physical environment, with emphasis upon the basic concepts of the earth as a planet; weather, climate, vegetation, and geology.

GE106 Regional World Geography
■3 class hrs/wk ■3 cr. ■Sp
An examination of the occurrences, patterns and interrelations of man's economic activities. The principles of economics and human behavior which structure our use of resources will be stressed.

GE107 Cultural Geography
■3 class hrs/wk ■3 cr. ■W
Overview of man's occupance of the earth. Emphasis on the division of the world into regions of similar environments, the potential of each region for human use, and man's cultural and economic adaptations to such regions.

History

HS101 History of Western Civilization
■3 class hrs/wk ■3 cr. ■F
Origins and development of Western Civilization from ancient times to medieval civilization at its height. Emphasis is placed on the important influence of Greece, Rome, India, China as well as Byzantium and Islam to modern times.

HS102 History of Western Civilization
■3 class hrs/wk ■3 cr. ■W
Origins and development of Western Civilization form Medieval Times through the French Revolution.

HS103 History of Western Civilization
■3 class hrs/wk ■3 cr. ■Sp
Development of Western Civilization from the French Revolution to the present.

HS235 Oregon History
■3 class hrs/wk ■3 cr. ■On Demand
Exploration of historical events and influences upon the development of the local area.

HS201 History of the United States
■3 class hrs/wk ■3 cr. ■F
In-depth study of the exploration and colonization of the American colonies, the attainment of independence, the formation of government under the Constitution and subsequent events up to the presidency of Jackson.

HS202 History of the United States
■3 class hrs/wk ■3 cr. ■W
History of the United States from the presidency of Jackson, through the Civil War and Radical Reconstruction, the conquering of the West, the ascendancy of industry, the early labor movement, and the ultimate emergence of our nation as a world power.

HS203 History of the United States
■3 class hrs/wk ■3 cr. ■Sp
Analysis of the United States in the 20th Century encompassing the "War to end all Wars," The Roaring Twenties, The Great Depression, World War II, The Cold War, the Viet Nam conflict, Nixon, Watergate and post Nixon through Ford.

HS215 Social History of Oregon
■3 class hrs/wk ■3 cr. ■F/W/Sp
A course designed to familiarize students with the variety of social forces which with the variety of social forces which have shaped Oregon over the last 150 years. Emphasis on immigration patterns; the changing modes of transportation from river to rail to highway; the prominant and not-so-prominant people and places in Oregon's past.

Political Science

PS199 China: A New Society
■3 class hrs/wk ■3 cr. ■On Demand
General examination of contemporary China with particular emphasis on the post revolutionary period from 1949. Strategies and experiences of the Chinese experiment in social organization.

PS199 Energy, Politics and Economics
■3 class hrs/wk ■3 cr. ■On Demand
An introduction to the economic and political implications of energy use patterns in industrialized societies, particularly the US.

PS201 American Government
■3 class hrs/wk ■3 cr. ■F
Focuses on the structure of power in the United States; the functions, source, and uses of power in American politics.

PS202 American Government
■3 class hrs/wk ■3 cr. ■W
Focuses on public policymaking; what political institutions do and how they do it. Also emphasizes the mechanisms and outcomes of the policymaking process.

PS203 American Government
■3 class hrs/wk ■3 cr. ■Sp
Focuses on local political institutions and their relationship to citizens. Special emphasis on examining the meaning and operation of participatory institutions.

PS205 International Relations
■3 class hrs/wk ■3 cr. ■F/W/Sp
Structural characteristics of the relations among nations with particular emphasis on the predominant economic and political mechanisms in the world today.

PS207 Introduction to Political Science
■3 class hrs/wk ■3 cr. ■F/W/Sp
Theories, concepts and research methods appropriate to understanding

how conflicts among people are resolved; emphasizes community political analysis, and organizations which operate to resolve conflict.

PS215 Contemporary Middle East
■3 class hrs/wk ■3 cr. ■On Demand
A course examining the roots of the Middle East conflict. Topics include: Western imperialism, oil and Arab power, revolutionary and reactionary Arab states, the Arab-Israeli conflict and the future of the Palestinians.

Psychology

PY201 General Psychology
■3 class hrs/wk ■3 cr. ■F/W/Sp/Su
Introduction to the use of objective scientific procedures in the study of behavior. A brief overview of the variety of fields of psychology followed by a more concentrated study of social psychology, personality and psycho pathology. Sophomore standing recommended.

PY202 General Psychology
■3 class hrs/wk ■3 cr. ■F/W/Sp/Su
Survey of current knowledge about special areas of individual functioning including development, intelligence, language, learning and memory, motivation and perception. Prerequisite: PY 201.

PY203 General Psychology
■3 class hrs/wk ■3 cr. ■Sp
Primarily for the psychology major. Examination of psychophysics, biological processes in perception, learning and memory, and comparative psychology. Independent research assignment required. Introduction to biological psychology. Prerequisite: PY 201, 202.

PY205 Applied Psychology
■1-3 class hrs/wk ■1-3 cr. ■F/W
Offered as a supplement to the General Psychology sequence: Three one-credit classes, each meeting once a week, may be taken separately. Credit may not transfer unless all three parts are completed. Creative Thinking (1 credit); Variety Applications (1 credit); Behavior Modification (1 credit). Prerequisite: PY 201 prior or concurrent.

PY216 Social Psychology I
■3 class hrs/wk ■3 cr. ■F/W/Sp
The influence of psychology on culture, society, groups, and individuals. Topics: Group dynamics, leadership, socialization, attitude change, achievement of goals. Emphasis on learning to use social psychology in life situations. Will not substitute for General Psychology.

PY217 Social Psychology II
■3 class hrs/wk ■3 cr. ■W/Sp
The influence of psychology on culture, society, and individuals. Topics Altruism and helping, aggression, sexual behavior, social exchange, cooperation and competition, environment and social behavior. Emphasis on learning to use social psychology in Life situations. Will not substitute for General Psychology.

PY231 Human Sexuality
■3 class hrs/wk ■3 cr. ■F/W/Sp
Physiology, terminology and varieties of human sexual response. Emphasis upon the in-cultural and cross-cultural breadth of normal sexual expression. The kinds and treatments of sexual dysfunction, anomalous development and behavior will be considered. Prerequisite: one quarter of PY 201, or SO 204,205,206; or consent of instructor.

Sociology

SO204 General Sociology
■3 class hrs/wk ■3 cr. ■F/W
Introduction to the sociological perspective: the components of society and social organization; culture; socialization; stratification.

SO205 General Sociology
■3 class hrs/wk ■3 cr. ■W/Sp
Analysis of major sociological institutions: Religious, Family, Political, Economic, and Educational.

SO206 General Sociology
■3 class hrs/wk ■3 cr. ■F/Sp
Social issues and social movements. Stresses application of basic concepts to the analysis of contemporary problems in group life.

SO222 Marriage Relationships
■3 class hrs/wk ■3 cr. ■F/W/Sp
A sociological approach to the institution of marriage including: preparation for marriage, mate selection, adjustment to marriage, marital problems to expect and solve, and the changing styles of family relationships.

Women's Studies

WS100 Women in Transition
■3 class hrs/wk ■3 cr. ■W
Exploring the nature of role conflict and ambiguity; methods and tools for change and alternative behaviors, attitudes and world views.

WS101 Introduction to Women's Studies
■3 class hrs/wk ■3 cr. ■F
An examination of the research and theories in the area of sex-role ascription from the sociological perspective and the social stereotypes to which both men and women are expected to conform. Diversified roles and status of women in the community, their involvement in education, politics, business, economics, religion and the family are examined.

Industrial Division

Director:
Dr. Marvin Seeman

Both male and female students are encouraged to seek a major area of study in one or more of the nine departments of the division. Programs in the Industrial and Apprenticeship Division have been planned to meet the educational needs of many kinds of students, including those already employed full time in industry.

A variety of courses for students with special needs are provided. Many of these are offered in the evenings and on weekends, for the convenience of those who are currently employed and want ot improve their skills and knowledge of new technology and production techniques. Basic skill and Designated Job-Entry Level Certificates may be earned through a departmental competency based evaluation related to the student's acquired knowledge, skills, and attitudes.

An Associate of Science Degree may be earned upon successful program completion. (20 credits must be general education courses.)

Students should communicate with an advisor in the major area of concentration concerning specific requirements for certification and degree programs.

Apprenticeship Program

The Industrial and Apprenticeship Division serves as the center for apprenticeship training. Specialized curricular offerings have been developed to meet the needs of apprentices working full time in various trades. Individualized learning materials have been adapted for the apprentices training for those trades that have minimal numbers needing related training.

Apprenticeship is a two-fold program; the indentured apprentice is employed as a learner of skills through on-the-job work experience and receives approximately 144 clock hours of related training in the classroom. Classes are currently being offered at Linn-Benton Community College for the following crafts and trades: Inside Wireman, Machinist, Carpenter, Industrial Maintenance Mechanic, Industrial Pipefitters, Industrial Welder, Manufacturing Plant Electrician, Power Lineman, Industrial Instrumentation and Industrial Millwright. Being an indentured apprentice is a condition for entering related training classes. Information on entrance procedures and requirements for apprenticeship related training is available from the Industrial and Apprenticeship Division office at Linn-Benton Community College.

Upon completion of the required training program, the apprentice is eligible to take a state required examination for journeyman standing. Linn-Benton Community College offers the journeyman the opportunity to earn an Associate Degree in the Industrial Trades. The recognized journeyman will be granted 45 credits toward the Industrial Trades degree. An additional 45 credits must be earned; of these credits, 20 must be General Education courses.

Cooperative Work Experience

All Industrial and Apprenticeship students may, upon recommendation of the program chairman, receive transfer or non-transfer college credit by participating in cooperative work Experience. Further information may be found in the Cooperative Work Experience section of this catalog.

1.200/WE201 Cooperative Work Experience (CWE)
■3-48 class hrs/wk ■1-16 cr.
■F/W/Sp/Sm

Cooperative Work Experience is designed to give the student actual work experience which closely parallels his or her field of study. Further information is available in the Cooperative Work Experience section of this catalog.

1.201/E202 Cooperative Work Experience
■1 class hrs/wk ■1 cr. ■F/W/Sp/Sm

Refer to the Cooperative Work Experience section of this catalog.

Faculty:
Clifford Harrison
Daryl Hogan
Larry Thornton, Chairperson

Auto Body Repair

The Auto Body Repair curriculum is designed to develop the skills, habits, attitudes and knowledge necessary to prepare students for a wide range of job opportunities in vehicle collision repair and refinishing. Skills are taught in a series of individualized vocational instructional packages in which students may progress at their own rate of learning. Students interested in specializing in a particular field of study such as frame straightening, supervision, custom painting or insurance adjusting, may elect to take the fundamentals in that area of Auto Body Repair training.

The Auto Body Repair program combines variable credit 'open-entry/open exit' block classes with individualized 'hands-on' instruction. This means that a student may enter the program anytime during the year on a space available basis. This system places students of all training levels within a block class, thereby creating an industry type environment.

Any previous experience a student might have may be accredited after a performance test and/or written test has been taken to allow training to progress at the appropriate level.Each day the student is assigned classroom and laboratory learning experience activities to coordinate with the instructional learning packages currently undertaken.

Students registered in any of the daily auto body repair block classes conducted the first four days of the week are eligible and encouraged to register and participate in the Friday open laboratory session. This eight hour study skills period offers the student an opportunity for make-up work, Special learning activities, and/or additional credit.

Either an Associate of Science Degree program or a Designated Certificate program are available. An Associate of Science Degree is awarded upon successful completion of a minimun of 96 program credits (20 of these must be general education required courses).Either a Designated Basic Skills Certificate or a Job Entry-Level Certificate may be awarded upon successful student competency evaluation by the instructor in required designated skills. Students are urged to consult with the instructor concerning their chosen program of study.

The student will be required to purchase a set of auto body hand tools for personal use.The identified tool costs may vary from $180 to $265 depending upon the quality, source and inflation.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR
Fall Term
1.102 Occupational Writing 3
Winter Term
1.103 Occupational Speech 3

SOPHOMORE YEAR
Fall Term
4.202 Math II 4
HE250 Health and/or
HE252 First Aid and/or
9.317 Multi-Media First Aid and/or
0.571 CPR and/or
PE Activity Courses 1
Winter Term
General Education Electives 3
Spring Term
HE250 Health and/or
HE252 First Aid and/or
9.317 Multi-Media First Aid and/or
0.571 CPR and/or
PE Activity Courses 3
General Education Electives 3

Program Requirements

FRESHMAN YEAR
Fall Term
3.511 Auto Body Repair I 10
4.151 Welding I 2
3.195 Auto Body Study Skills 1
Winter Term
3.512 Auto Body Repair I 10
4.152 Welding II 2
4.108 Industrial Safety 3
3.195 Auto Body Study Skills 1
Spring Term
3.513 Auto Body Repair III 10
4.153 Welding III 2
3.195 Auto Body Study Skills

SOPHOMORE YEAR
Fall Term
3.514 Auto Body Repair V 10
3.195 Auto Body Study Skills and/or
1.200 Cooperative Work Experience 1
Winter Term
3.515 Auto Body Repair IV 10
2.110 Salesmanship 3
3.195 Auto Body Study Skills and/or
1.200 Cooperative Work Experience 1
Spring Term
3.516 Auto Body Repair VI 10

1.134 Auto Body Study Skills Laboratory
■8 class hrs/wk ■1-3 cr. ■F/W/Sp
Individualized "hands-on" instruction to provide additional basic skills and knowledge in actual auto collision rebuilding and refinishing shop practices. This eight hour open study skills period offers the student an opportunity for special learning activities and/or additional credits on a space available basis.

3.511 Auto Body Repair I
■20 class hrs/wk ■10 cr. ■F/W/Sp
Introduction to correct shop procedure, cleanliness, care, use and safety of tools and equipment. Types and use of sandpaper and grinding discs, operation and maintenance of paint guns, masking, priming, sealing and panel painting, auto body and chassis construction, procedures of metal working, assembly and dis-assembly of components, alignment practices, preparation of vehicle surfaces, use of solder and plastic materials, application of primer and spray painting surface finishes.

3.512 Auto Body Repair II
■20 class hrs/wk ■10 cr. ■F/W/Sp
Procedures for pulling out areas of impact, shrinking, and restressing metal areas, sheet metal coorections, damage correction planning, displaced metal. Principles of heat corrections to metal, filing, picking, and metal finishing.

3.513 Auto Body Repair III
■20 class hrs/wk ■10 cr. ■F/W/Sp
Minor collision damage repair, alignment of doors, fenders, hood and trunk lids. Forming curvature of metal, repairing holes in panels, sectioning and welding torn and damaged areas. Introduction to door and panel replacement including sectioning, sanding, priming, and painting. Diagnosis and correction of water and dustleaks.

3.514 Auto Body Repair IV
■20 class hrs/wk ■10 cr. ■F/W/Sp
Principles of conventional and unitized frame member construction and alignment. Straightening frame damage, replacing necessary members, tramming, heating, and methods of damage correction. Principles of steering geometry and front system alignment and alignment of sheet metal. Replacement of glass, moulding, hardware, headlinings and interior trim.

3.515 Auto Body Repair V
■20 class hrs/wk ■10 cr. ■F/W/Sp
Unitized body repair and major section replacement. Body structure alignment, panel replacement, custom styling and fabrication. Principles of estimating all collision damage, appearance reconditioning and refinishing. Instruction in parts and materials purchasing, retail labor rate, flat rate, time and materials jobs, and judgment items. Agreed prices and guaranteed bids are contrasted.

3.516 Auto Body Repair VI
■20 class hrs/wk ■10 cr. ■F/W/Sp
Major collision rebuilding, vehicle structure fabrication, major section replacement, detailing final repairs, and complete refinishing. Employer-employee relations, employment search techniques and final preparation for occupational employment. Principles of insurance claim handling techniques, policies coverage and types of loss. Instruction in types of payment forms. Adjustor-shop manager relations are clarified.

Faculty:
David Carter, Chairperson
M. Allan Jackson
Keith Pond

Automotive Technology

The Automotive Technology Program provides students with the facilities, equipment and instruction necessary to develop the skills and abilities to perform mechanical work for the purpose of entering the auto service trade as an Auto mechanic, as a specialty shop operator, or a related position in the auto mechanical trade.

The Automotive curriculum leads to a two-year Associate of Science Degree or a one-year Vocational Certificate or courses within the curriculum to achieve a specialty certificate.

The curriculum is designed so that students may enter the program at the beginning of each term and in any auto course (except tune-up) depending upon the availability of course openings.

Successful completion of the Automotive program will lead to the following job opportunities:

As a job entry mechanic - Auto dealership, independent shops, mill mechanic.

As a specialty shop operator - Auto machine shop, alignment shop, brake shop, tune-up specialist, rebuilder shop.

Related positions - Service station operator and mechanic, farm equipment mechanic, small engine mechanic (saw shop, cycle or snowmobile shop), parts man at parts house, mechanic shop or related shop.

Starting salaries range from $5 to $7.50 per hour, depending upon the size of the city or shop and the state in which the job is located.

Former students are employed from Alaska to California which signifies the mobility of the auto mechanic. The Placement Office of the College or the faculty will assist the student in seeking a post college position.

Successful completion of the program requires an interest in mechanics and basic science coupled with the motivation of curiosity for the purpose of "wanting to know what makes a mechanical unit work" in a constantly changing technical field.

To adapt to the constant technical

change, the student should be able to read and comprehend and to understand basic math at the tenth grade-level (determined by a general aptitude test) prior to entering the program, or to concurrently upgrade reading and math skills through LBCC entry level courses while progressing through the first year of the program.

Physical requirements include the willingness to get involved with grease, oils and sludge, and to be able to lift and carry up to 75 pounds.

In addition to the usual textbooks, the student will need safety glasses, a set of tools adequate for disassembly and assembly of units, and gloves. Tool lists are available upon request from the Automotive Department. Tools adequate for disassembly and assembly of units cost approximately $275.00.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term

	Occupational Writing	3
	PE Activity Courses	1

Winter Term

4.202	Math II	4

SOPHOMORE YEAR

Fall Term

1.103	Occupational Speech	3

Winter Term

	General Education Electives	3

Spring Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or	
	General Education Electives	3

Program Requirements

FRESHMAN YEAR

Fall Term

3.294	Industrial Concepts and Safety and/or	
3.295	Mechanics I	10
3.528	Automotive Refrigeration	2

Winter Term

3.296	Mechanics II	10
4.108	Industrial Safety	3

Spring Term

3.297	Mechanics III	10
2.415	Human Relations in Business	3
4.130	Machine Processes	2

SOPHOMORE YEAR

Fall Term

3.298	Auto Mechanics III	10
3.447	Metallurgy for Mechanics	3

Winter Term

3.299	Auto Mechanics IV	10
4.151	Welding	2
	Technical Electives or Cooperative Work Experience	3

Spring Term

3.300	Auto Mechanics V	10
	Technical Electives or Cooperative Work Experience	3

3.294 Industrial Concepts & Safety
■20 hrs/wk ■10 cr. ■V lec/lab ■F/W/Sp

This is the introductory course required for those students entering the mechanics programs in the industrial area. It consists of competencies required for entrance into the various mechanical areas and students must demonstrate their abilities and mastery of basic concepts related to industrial operations. Students will be assigned to a given subject contingent upon demonstrated ability and proven competency. Those who wish may pre-test for the content of this course, but will be required to demonstrate their abilities and competencies prior to the issuing of credit.

3.295 Mechanics I
■20 hrs/wk ■10 cr. ■V lec/lab ■F/W/S

A study of the complete power train system. Emphasis is placed upon the theory, application, and servicing of clutch systems, manual transmissions, transfer cases, drive lines, universal joints, and differential assemblies.

3.296 Mechanics II
■20 hrs/wk ■10 cr. ■V lec/lab ■F/W/S

This course deals with the fundamental principles of automotive suspension systems, with emphasis toward frames, steering systems, alignment and wheel balancing. In addition, a complete and comprehensive study of disc and drum braking systems and their components is included.

3.297 Mechanics III
■20 hrs/wk ■10 cr. ■V lec/lab ■F/W/S

This course introduces principles and terminology of fuel and carburetion systems. Students will be involved with techniques and overhaul procedures as they apply to carburetors, fuel pumps, fuel tanks, fuel gages, and fuel lines and fittings. In conjunction, this course includes basic instruction and practices in the theory and servicing of electrical equipment and systems as they pertain to automotive and related equipment. Testing as well as servicing and repair of electrical systems are an integral part of this course.

3.298 Auto Mechanics IV
■20 hrs/wk ■10 cr. ■V lec/lab ■F

This is a problem solving course designed to develop the student's knowledge and skills in the area of tune-up. Emphasis will be placed on the selection and use of equipment to include electrical test equipment, (oscilloscope, emission test equipment, and the dynomometer) to find various malfunctions and to make necessary repairs for optimum engine performance in operating automobiles.

3.299 Auto Mechanics V
■20 hrs/wk ■10 cr. ■V lec/lab ■W

Operating principles, maintenance, repair and overhaul of the internal combustion engine. The various engine types, their component parts, and related acessories are studied, and in conjunction with the correct engine machining skills, a specific engine is rebuilt and returned to manufacturer's specifications that operate correctly on a test stand.

3.300 Auto Mechanics VI
■20 hrs/wk ■10 cr. ■V lec/lab ■Sp

Operating principles, testing and repair procedures of the automatic transmission, air conditioning, and cooling systems. Direction towards developing ability to accurately analyze the performance factors or diagnose the malfunctions of these systems through the use of live units.

3.301 Auto Mechanics VII
■2-20 hrs/wk ■1-10 cr. ■V lec/lab ■F/W/Sp

Advanced instruction and practice in the diagnosis and servicing of automotive problems. This course is designed to summarize all the learning units in the Auto Technology two-year Program. Students will be responsible for the subject content of all of these units or the completion of a specialist curriculum. Greater emphasis will be placed on the attitudes and philosophy of automotive employees who must frequently meet and deal with supervisory personnel and with the public. Experiences will be provided through the use of live autos, to simulate the work of an auto technician in a shop of an independent or a dealership, to prepare the student for job entry.

3.306 Vehicle Maintenance & Selling Techniques
■4 hrs/wk ■2 cr. ■lab ■F/W/Sp

Instruction and training in creating and implementing preventive maintenance programs for mobile equipment, automobiles, vans, etc. Emphasis will be placed upon shop safety, safety inspection of vehicles, customer satisfaction. The student will study proper procedures for servicing vehicles, procuring parts and proper methods of servicing vehicles of vary-

ing kinds.

3.310 Know your Auto
■3 hrs/wk ■2 cr. ■lec/lab ■On Demand

This class is designed especially for women or inexperienced people to give them an understanding of their automobile in such areas as the cooling system, fuel system, air cleaner, basic ignition, storage, battery, hydraulic brakes & tires, including jacking the auto and changing tires.

3.311 Automobile Mechanical Restoration
■3 hrs/wk ■2 cr. ■lec/lab ■On Demand

This course is designed to assist and advise the restoration buff in rebuilding carry-in units such as differentials, transmissions, electrical and carburetor units and engine components, using professional equipment.

3.312 Basic Tune-Up
■3 hrs/wk ■2 cr. ■lec/lab ■On Demand

A course designed for the automobile owner. To provide this person with knowledge and skills necessary to service and maintain their autos to optimum running condition.

Faculty:
Harry Armstrong, Chairperson
Bill Harris
Randy Hughey

Construction Technology

The Construction Technology program is designed to develop the skills, knowledge and attitudes necessary for entry into a broad range of jobs in the construction industry. Students may specialize in carpentry, cabinetmaking or masonry, and may choose either a two-year program leading to the Associate of Science degree or courses that provide basic skills certification.

Construction work entails the cutting, shaping and fastening of wood, brick, stone, or other building materials, and assembling elements into a completed structure.

Students in the program learn the use of tools, machines, equipment and materials associated with the trade. Well-equipped laboratories and classrooms are available both for class participation and individual student use.

The program combines variable credit block classes with individualized "hands on" tasks that relate to various job skills. Each student is assigned specific course materials to complete within a scheduled time period. Block classes are scheduled mornings and afternoons Monday through Thursday, with shorter class periods on Friday and Saturday. Students are encouraged to enroll in the Friday open laboratory sessions for make-up work, individual projects and specialized learning activities.

Work experience is gained through actual construction of projects, including a private residence. A maximum of 15 second-year students are chosen to participate in the college-sponsored house construction project. Both the school and the community serve as laboratories for other work experience projects. College credit may be awarded through Cooperative Work Experience while the student is gaining skills on the job. The Cooperative Work Experience coordinator helps students secure an appropriate training site.

Success in the construction field requires the ability to work with people, as well as stamina for a variety of physical activities. Strong math and communications skills are needed. Construction workers must read blueprints, estimate materials and costs, do sketches and fundamental layouts, and make sure work meets building code requirements.

Students are required to purchase a set of carpentry tools for their own use. Tools may cost from $150 to $300, depending upon quality and source.

There is good opportunity for employment in the construction field for those who have acquired appropriate skills. Those who gain sufficient experience and competence after employment can progress to supervisory jobs as foremen and superintendents. A wide knowledge of construction coupled with good mathematical ability can lead to a job as an estimator. Construction workers may be self-employed as finish carpenters, cabinetmakers, masons, framers, contractors or subcontractors.

Entry level wages for carpenters and masons generally range from $5.50 to $8.50 per hour.

Associates Degree

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	3

Winter Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	1
4.202	Math II	4

Spring Term

1.102	Occupational Writing	3

SOPHOMORE YEAR

Fall Term

	General Education Electives	3

Winter Term

	General Education Electives	3

Spring Term

1.103	Occupational Writing	3

Program Requirements

FRESHMAN YEAR

Fall Term

3.233	Basic Plumbing	2
3.205	Carpentry I	4
3.238	Shop and Home Tool Maintenance	1
3.229	Shop Safety	1
3.208	Carpentry Practices and Procedures	2
3.230	Construction Terminology	1
4.151	Welding I	2
4.109	Technical Sketching	1
3.429	Blueprint Reading	2

Winter Term

3.206	Carpentry II	4
3.231	Automated Production Methods	2
3.232	Residential Codes	2

Spring Term

3.207	Carpentry III	4
6.330	Vocational Electricity	2
3.209	Construction Site Layout	1
3.237	Basic Masonry	2
3.236	Construction Careers	1
3.235	Estimating and Detailing	1
1.134	Vocational Study Skills	2
3.584	Basic Sheet Metal Practices	3

SOPHOMORE YEAR

Fall Term

3.211	Construction Technology IV	10
	Construction Electives	3

Winter Term

3.212	Construction Technology V	10
	Construction Electives	4

Spring Term

3.213	Construction Technology VI	10
	Construction Electives	2
1.134	Vocational Study Skills and/or	
1.200	Cooperative Work Experience	2

Cabinetmaking Option

The Cabinetmaking curriculum listed is a one-year certificate program that has been proposed to the Oregon Department of Education. If interested in Cabinetmaking, please see Department faculty for current information.

Fall Term

	Cabinetmaking I (lecture)	2
	(lab)	5
3.230	Construction Terminology	1
3.229	Shop Safety	2
3.238	Tool Maint.	2
4.109	Technical Sketching	1
9.317	First Aid Multi-Media	1
1.134	Vocational Study Skills	2

Winter Term

	Cabinet Production Methods	2
	Cabinetmaking II (lab)	5
	Cabinetfinishing (lecture)	2
	Cabinetfinishing (lab)	1
4.100	Blueprint Reading	3
4.202	Math II	4
1.134	Vocational Study Skills	1

Spring Term

	Cabinetmaking III (lab)	5
	Laminates	1
3.236	Construction Careers	1
3.224	Cabinet/Furniture Design	1
	Cabinet Layout and Estimation	2
WR121/	English Comp	
1.102	Occupational Writing	3
1.134	Vocational Study Skills	2

3.205 Carpentry I
■8 class hrs ■4 cr. ■F

A laboratory for beginning construction students to learn practical methods and procedures and sequence in building construction. The proper use of tools of the trade will be emphasized. Students will be involved in hands-on projects such as framing a garden storage shed or other project on campus as need arises. A minimun list of hand tools is the basic requirement.

3.206 Carpentry II
■8 class hrs ■4 cr. ■W

A continuation of Carpentry I.

3.208 Carpentry Practices & Procedures
■2 class hrs/wk ■2 cr. ■F

This lecture parallels the carpentry lab and will cover techniques and practices of construction including layout, framing, roofing methods, and interior/exterior finishing, using construction terminology.

3.209 Construction Site Layout
■2 class hrs ■1 cr. ■Sp

This lab class will give the student experience in site preparation, site layout, use of builders level, use of batter boards, staking out for excavation and finding bench marks. It purposes to prepare the student to layout a building site & locate a structure on the site with respect to set back requirements in preparation for excavation.

3.220 Cabinet Making I
■8 class hrs ■4 cr. ■F

A lab emphasizing materials and methods of commercial and custom cabinet making. This is student project time.

3.221 Cabinet Making II
■8 class hrs ■4 cr. ■W

A continuation of Cabinet Making I

3.223 Cabinet Making Practices & Procedures
■2 class hrs ■2 cr. ■F

This lecture class parallels the cabinet making laboratory and will cover wood structure, identification and joinery emphasizing cabinet making techniques and layout methods.

3.224 Cabinet and Furniture Design
■1 class hrs ■1 cr. ■Sp

Design theory will be developed into criteria for valid design and then applied to specific conditions. Innovative and traditional styles will be studied.

3.225 Masonry I
■8 class hrs ■4 cr. ■F

Basic masonry construction for beginning students to learn methods of procedures.

3.226 Masonry II
■8 class hrs ■4 cr. ■W

Basic masonry construction for students who have completed Masonry I.

3.227 Masonry III
■8 class hrs ■4 cr. ■Sp

A continuation of Masonry II, for students who are majors. Fireplace construction types, methods and materials selection will be instructed.

3.229 Shop Safety
■2 class hrs ■1 cr. ■F

A demonstration and participation oriented laboratory class that will teach safe use of all cabinet making and carpentry tools. An individual competency exam will be given.

3.230 Construction Terminology
■1 class hrs ■1 cr. ■F

This course is designed to present to the student the terminology used in the construction trades of cabinet making, carpentry, and masonry.

3.231 Automated Production Methods
■2 class hrs ■2 cr. ■W

This course exposes students to the nature and extent of automation within the construction industry. Lectures on the theory of automation will be combined with numerous field trips.

3.232 Residential Codes
■2 class hrs ■2 cr. ■W

This course emphasizes appropriate building methods for code compliance, procedures for plan approval, permit acquisition, and ordinance compliance as covered in the Uniform Building Code.

3.233 Basic Plumbing
■3 class hrs ■2 cr. ■W

This course covers the basic plumbing terminology, tools, materials and procedures covered first in lecture, then in lab.

3.234 Laminates and Finishes
■3 class hrs ■2 cr. ■Sp

Introduces selection and application of appropriate laminates and finishes. Pre-finish, fillers, stains, sealers, and finish coats will be covered.

3.235 Estimating and Detailing
■2 class hrs ■2 cr. ■Sp

Interpretation of plans and estimations of labor and materials from site layout to interior finishes will be introduced. Various types of details will be veiwed to assess their effect on labor and material costs.

3.236 Construction Careers
This course serves as a springtime catalyst for employment. Job market conditions, career goal setting, resume writing and interviewing will be investigated.

3.237 Basic Masonry
■2 class hrs ■2 cr. ■F/W

An introductory class for nonmajors covering basic brick and block laying, wood stove installation and fireplace construction theory.

3.238 Tool Maintenance
■2 class hrs ■1 cr. ■F

This lab will cover care and preventative maintenance of all common hand and power woodworking tools as well as general shop and home tool maintenance.

3.239 Beginning Cabinet Making
■3 class hrs ■2 cr. ■W

An introductory class for students wishing to enter the program out of sequence or for students seeking only a basic knowledge of Cabinet Making. Hand and power tool usage, wood selection and identification, cabinet and furniture construction methods, and layout techniques will be introduced.

3.241 Masonry Lab
■4 class hrs ■2 cr. ■Sp

A laboratory class required for carpentry majors. Basic masonry such as brick and block laying, mortar selection, and appropriate applications will be practiced.

Faculty:
J. Michael Butler, Chairperson
Michael Henich
Lee Hansen

Heavy Equipment Mechanics/ Diesel

The work of a diesel mechanic will vary, depending upon whether he services automotive engines, industrial power engines, marine engines, stationary, agricultural, or railway engines. Even though each type of diesel engine is based upon the same theoretical principle, the equipment they power may vary in terms of transmission, gear systems and accessory items. The work of the diesel mechanic can be divided into diagnosis, service, repair and rebuilding.

Diesel mechanics repair and maintain diesel engines which power railroad trains, ships, generators, and construction, highway and farm equipment. To become a diesel mechanic, one should have a mechanical aptitude and knack for shop work, mathematics and science. It is essential to be able to read with understanding, as a considerable amount of time is spent in reading service manuals. The training consists of both theory and practice of maintenance and repair of specialized equipment. The trainee ususally gets initial mechanics experience on gasoline or other small engines.

The curriculum of the Heavy Equipment Mechanics/Diesel program is so organized as to impart to the student a balance of theory and practical in each of six areas of study. Practical experience will be gained by diagnosing servicing, repairing, and rebuilding of components and live equipment. Students may be admitted to advanced standing upon confirmation of appropriate education/experience. This confirmation may be accomplished by a combination of transcripts, evaluation of experience and competence examination. Permission of the Division Director is required to gain advanced standing.

To function as mechanics, the students must purchase their own hand tools. The necessary tools of the trade cost approximately $500.00.

The starting pay range for diesel mechanics is usually between $1000 and $1,500 monthly, depending upon the type of equipment and the employing industry.

Upon completion of the program, the student may gain additional experience and skill in possible job positions in service departments of distributors and dealers that sell diesel powered autos, trucks, farm and construction equipment. Bus lines, railways, truck and marine industries employ diesel mechanics. Electric power plants, local industries and both state and federal government have a great need for trained mechanics. A qualified mechanic is hard to find. Diesel power will be a predominant source of power in spite of increased use of atomic reactors and gas turbines.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term

HE250	Health or	
HE252	First Aid	3

Winter Term

4.202	Math II	4

Spring Term

1.102	Occupational Writing	3

SOPHOMORE YEAR

Winter Term

	PE Activity Courses	1
	General Electives	3

Spring Term

1.103	Occupational Speech	3
	General Electives	3

Program Requirements

FRESHMAN YEAR

Fall Term

3.294	Industrial Concepts and Safety and/or	
3.295	Mechanics I	10
4.108	Industrial Safety	2
1.134	Vocational Study Skills	1

Winter Term

3.296	Mechanics II	10
3.446	Metallurgy for Mechanics	

Spring Term

3.297	Mechanics III	10
4.151	Welding I	2

SOPHOMORE YEAR

Fall Term

3.128	Heavy Equipment Mechanics IV	10
4.152	Welding II	2
2.405	Human Relations in Business	3
	Technical Electives or Cooperative Work Experience	2

Winter Term

3.129	Heavy Equipment Mechanics V	10
3.528	Automotive Refrigeration	2

Spring Term

3.130	Heavy Equipment Mechanics VI	10
4.130	Machine Processes	2

3.294 Industrial Concepts & Safety
■20 class hrs ■10 credits ■V ■F/W/Sp

This is the introductory course required for those students entering the mechanics programs in the industrial area. It consists of competencies required for entrance into the various mechanical areas and students must demonstrate their abilities and mastery of basic concepts related to industrial operations. Students will be assigned to a given subject contingent upon demonstrated ability and proven competency. Those who wish may pre-test for the content of this course, but will be required to demonstrate their abilities and competencies prior to the issuing of credit.

3.295 Mechanics I
■20 hrs wk ■10 credits ■V lec/la ■F/W/Sp

A study of the complete power train system. Emphasis is placed upon the theory, application, and servicing of clutch systems, manual transmissions, transfer cases, drive lines, universal joints, and differential assemblies.

3.296 Mechanics II
■20 hrs wk ■10 credits ■V lec/lab ■F/W/Sp

This course deals with the fundamental principles of automotive suspension systems, with emphasis toward frames, steering systems, alignment and wheel balancing. In addition, a complete and comprehensive study of disc and drum braking systems and their components is included.

3.297 Mechanics III
■20 hrs wk ■10 credits ■V lec/lab ■F/W/Sp

This course introduces principles and terminology of fuel and carburetion systems. Students will be involved with the techniques and overhaul procedures as they apply to carburetors, fuel pumps, fuel tanks, fuel gages, and fuel lines and fittings. In conjunction, this course includes basic instruction and practices in the theory and servicing of electrical equipment and systems as they pertain to automotive and related equipment.

Testing as well as servicing and repair of electrical systems are an integral part of this course.

3.128 Heavy Equipment Mechanics IV
■20 hrs wk ■10 credits ■V lec/lab ■F

This course is to familiarize the student of mechanical subjects with fundamental principles of hydraulic and pneumatic systems. A study is made of

the component parts of specific systems commonly used in industrial and transportation equipment. Air brake systems are specifically a part of this course.

3.129 Heavy Equipment Mechanic V
■20 hrs wk ■10 credits ■V lec/lab ■W

Operating principles, maintenance, repair, and overhaul of various types and sizes of diesel engines comprise this section of mechanics. Both two- and four-stroke diesel engines, their component parts, and related accessories are studied. In conjunction with this is the study of standardized manufacturer's specifications as they pertain to correct engine operation and performance.

3.130 Heavy Equipment Mechanics VI
■20 hrs wk ■10 credits ■V lec/lab ■Sp

Emphasis in this course is toward the study of fuel injection systems as they pertain to diesel and gasoline internal combustion engines. Trouble shooting and diagnosis through the use of correct testing and servicing equipment is studied. Operating principles and servicing of automotive fuel and electrical systems, and their accessories, including the use of test equipment used to service and maintain gasoline engines is covered.

3.131 Heavy Equipment Mechanics VII
■20 hrs wk ■10 credits ■V lab ■F/W/S

This open lab consists of advanced instruction with emphasis on practice and laboratory exercises. Students enrolling in this course are responsible for the practical project and course subject content contingent upon instructor approval. Specialist curriculums are integral to this course of instruction. Live projects are advocated wherein students may prepare for job entry in the areas of heavy equipment mechanics.

Industrial Technical Representative

Students who enroll in the Industrial Technical Representative Program will be expected to complete 60 credits in four areas of concentration. The student must select 12 credits from the Business Core, 15 from the Common Core, 18 credits from the Technical Core and 15 credits of Cooperative Work Experience.

BUSINESS CORE

2.131	Elements of Marketing	3
2.110	Principles of Salesmanship	3
2.119	Intro to Management	3
2.121	Applied Economics	3
2.134	Retail Merchandising	3
2.415	Human Relations in Business	3

COMMON CORE

4.202	Math II	4
1.102	Occupational Writing	3
1.103	Occupational Speech	3
4.109	Technical Sketching	1
4.120	Fundamentals of Specification	3
9.317	First Aid	1
4.108	Industrial Safety	3

COOPERATIVE WORK EXPERIENCE

1.200	Cooperative Work Experience	14
1.201	CWE Seminar	1

Industrial Chemical Representative Option

TECHNICAL CORE

5.260	Hazardous Materials I	3
5.261	Hazardous Materials II	3
3.588	Hydraulics-Pneumatics	3
9.813	Agriculture Chemicals	3
CH104-CH106	General Chemicals	15
	Technical Electives	6

(Technical Electives: Technical Electricity I, II, Construction Methods, Materials.)

Industrial Equipment Representative Option

TECHNICAL CORE

4.130	Machine Processes	2
6.239	Metallurgy (Intro to)	2
3.588	Hydraulics-Pneumatics	3
9.072	Hand and Power Tools	2
	Technical Electives	9

(Technical Electives: Welding, Layout Procedures (Sheet Metal), Plumbing, Electricity, Tool Maintenance, Industrial Concepts, Basic Small Engine Repair, Introduction to Refrigeration, Heating and Air Conditioning.)

Automotive Products Representative Option

TECHNICAL CORE

3.238	Home Shop/Tool Maintenance	1
3.301	Auto Mechanics VII	1--10
3.310	Know Your Auto	2
3.312	Basic Tune-up	2
3.294	Industrial Concepts	1
	Technical Electives	12

(Technical Electives: Welding, Machine Processes, Hydraulics-Pneumatics, Small Hand and Power Tools, Vocational Study Skills.)

Metal Products Representative Option

TECHNICAL CORE

6.239	Metallurgy (Intro to)	4
4.130	Machine Processes	2
4.122	Strength of Materials	3
4.161	Materials Testing I	3
	Technical Electives	6

(Technical Electives: Welding, Layout Procedures (Sheet Metal), Sheet Metal Applications, Plumbing, Electricity, Methods and Materials of Manufacturing, Vocational Study Skills, Hydraulics-Pneumatics, Physical Metallurgy, Process Metallurgy, Tool Maintenance, Blueprint Reading, Small Hand and Power Tools.)

Wood Products Representative Option

TECHNICAL CORE

3.244	Wood Products Orientation	1
4.100	Blueprint Reading	2
3.230	Construction Terminology	1
3.232	Residential Codes	2
3.245	Wood Production Processes	2
	Technical Electives	10

(Technical Electives: Plumbing, Electricity, Layout Procedures, Sheet Metal Applications, Tool Maintenance, Carpentry Practices and Procedures, Carpentry I, Small Hand and Power Tools, Automated Production Methods, Carpentry II, Construction Handling Applications, Vocational Study Skills.)

Faculty:
Mike Burke
John Griffiths, Chairperson

Machine Tool Technology

Machine Tool curriculum is designed to develop skills in a wide variety of machining processes including the operation of engine lathe, milling machines, drill press, surface grinder, tracer lathe, radial drill press and tool and cutter grinders.

Students work through a sequence of assignments ranging from simple exercises to complex assemblies. Hands-on experiences, lecture-discussion periods, textbooks, manuals, audio visual aids and field trips are employed throughout the six terms. "People skills" of finding and keeping a job, and relations are continually emphasized.

Students finishing the first year of the curriculum should be able to enter the job market as trainees with basic skill in machining processes at their disposal.

Students completing the full two year curriculum are granted an Associate of Science degree and are in a strong position to enter a rapidly growing job market.

**Associate Degree Students must complete Tech Math II.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	1

Winter Term

4.202	Math II	4

Spring Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	3

SOPHOMORE YEAR

Winter Term

1.102	Occupational Writing	3
1.103	Occupational Speech	3

Spring Term

	General Education Electives	6

Program Requirements

FRESHMAN YEAR

Fall Term

3.403	Machine Tool I	10
4.100	Blueprint Reading and Sketching	2
4.151	Welding I	2
1.134	Vocational Study Skills	1

Winter Term

3.404	Machine Tool II	10
4.108	Industrial Safety	3

Spring Term

3.405	Machine Tool III	10
4.204	Math III	4
1.134	Vocational Study Skills	1

SOPHOMORE YEAR

Fall Term

3.406	Machine Tool IV	10
3.446	Intro to Machine Metallurgy	2
4.152	Welding II	2
1.134	Vocational Study Skills and/or	
1.200	Cooperative Work Experience	2

Winter Term

3.407	Machine Tool V	10

Spring Term

3.408	Machine Tool VI	10

3.403 Machine Tool I

■20 class hrs ■10 cr. ■F/W/Sp

Introductory information for the student seeking a career as a machinist. Emphasis on safe operation of engine lathes, drill press and band saw; fundamental precision measurement, and blueprint reading. Students will sharpen lathe tool bits & twist drills.

3.404 Machine Tool II

■20 class hrs/wk ■10 cr. ■F/W/Sp

Involves more advanced engine lathe work, including internal and external tapers and single point threads of various forms. Vertical milling machine operations and surface plate inspection procedures are introduced. Tool selection, cutting speeds and feed rates are emphasized. Tool selection, cutting speeds and feed rates are emphasized. Prerequisite: Machine Tool I or instructor approval.

3.405 Machine Tool III

■20 class hrs/wk ■10 cr. ■F/W/Sp

Previously acquired skills are expanded and updated. Right angle trigonometry is employed in set ups. Projects typically require the use of two or more machine tools. Various horizontal milling operations are frequently involved. Prerequisite: Machine Tool II.

3.406 Machine Tool IV

■20 class hrs/wk ■10 cr. ■F/W/Sp

Advanced lathe and milling machine training including dividing heads and rotary tables and simple tracer lathe work with emphasis on industry accepted metal removal rates. Assigned projects require use of the surface grinder and other abrasivemental removal techniques. Production of iron, steel, ferrous and non-ferrous alloys is studied. Prerequisite: Machine Tool III.

3.407 Machine Tool V

■20 class hrs/wk ■10 cr. ■F/W/Sp

Projects will be assemblies requiring the use of a combination of machine tools on each part to produce items such as spur gears and racks. Tolerances will be much closer than in previous terms. Emphasis is on precision. Metal processing including heat treating, hardening, tempering, and annealing are covered. Prerequisite: Mach Tool IV.

3.408 Machine Tool VI

■20 class hrs/wk ■10 cr. ■F/W/Sp

Engine lathes and milling machine skills will be further expanded with emphasis on quality and speed. Introduction to cylindrical grinding, tool and cutter grinding, and jig boxing. Prerequisite: Machine Tool V.

4.130 Machine Processes

■3 class hrs/wk ■2 cr. ■F/W/Sp

A lecture-discussion, demonstration course for non-machine tool majors. Intent of the course is to show students the relationship between their fields and the machine tool trade. No text is required; handouts and audio-visual aids are used.

Faculty:
L. Carl Love, Chairperson

Metallurgical Technology

The Metallurgical program is intended to present information regarding the extraction and purification of metals; the subsequent alloying or combining treatment, and fabrication of metals; and the examination, analysis, and testing related to quality control and product development.

Metallurgical theory as presented deals with the processing of raw products to metals, internal structure of metals, the influence of microstructure on properties, and the influence of alloying elements as they are conditioned by mechanical working and heat treatment.

Satisfactory completion of the following program will lead to the Associate of Science degree. Certificates will be offered to students who satisfactorily complete specific courses in metals testing.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term

1.110	Elements of Algebra	4

Spring Term

1.102	Occupational Writing	3

SOPHOMORE YEAR

Winter Term

1.103	Occupational Speech	3
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	4
	General Education Electives	3

Spring Term

	General Education Electives	3

Program Requirements

FRESHMAN YEAR

Fall Term

6.239	Intro to Metallurgy	4
6.281	Nondestructive Testing I	3
4.108	Industrial Safety	3
4.100	Blueprint Reading and Sketching	2

Winter Term

6.282	Nondestructive Testing II	3
6.298	Metallagraphy I	3
6.276	Physical Metallurgy	4
4.200	Practical Physics	4

Spring Term

6.283	Nondestructive Testing III	3
6.299	Metallography II	3
4.161	Materials Testing I	3
4.205	Basic Chemistry I	4

SOPHMORE YEAR

Fall Term

4.206	Basic Chemistry II	4
4.162	Materials Testing II	3
4.130	Machine Processes	2
6.294	Process Metallurgy	4
4.122	Strength of Materials	3

Winter Term

4.163	Materials Testing III	3
6.285	Ultrasonics	3

Spring Term

4.120	Fund of Specifications	3
6.284	Radiography	3
4.161	Welding I	2
3.445	Welding Metallurgy II	4

3.444 Welding Metallurgy I
■3 class/2 hrs/wk ■3 cr. ■Sp

An introduction to the physical and mechanical properties of weld metal and how the application of soldering, brazing, and fusion processes affect the structural and service requirements of metal joints. Investigations will be made to determine operator responsibility in regard to completing joints in welded metals that are capable of matching or exceeding the strength and reliability of the base metals.

3.445 Welding Metallurgy II
■3 class/2 lab hrs/wk ■4 cr. ■W

An introduction to the basic processes of welding fabrications as they affect metallic products. Structural characteristics of metals are investigated as this information relates to quality low-cost welded assemblies.

4.161 Materials Testing I,II
■4 class hrs/wk ■3 cr. ■F/W

Study of the properties of engineering materials. Fundamental aspects of the behavior of engineering materials. Elastic and plastic deformation, fracture, creep, fatigue, impact, temperature effects, and corrosion. Destructive and non-destructive evaluation. Elementary principles of measurements, methodology test equipment, instrumentation, and analysis of data.

6,270 Metallurgy Readings and Conferences
■1-20 hrs wk ■1-10 credits ■On Demand

Topics covered are at the discretion of the instructor and the student. Subject areas of particular interest to the student or areas where the student needs additional work can be covered within this course. Number of credits can vary from 1 to 10. Prerequisite: Consent of instructor.

6.276 Physical Metallurgy
■6 class hrs/wk ■4 cr. ■W

Study of the concepts, structures, properties, heat treatment, methods of forming, and evaluation of metals and alloys. Prerequisite: Introduction to Metallurgy or consent of instructor.

6.281 Non-destructive Testing I
■5 class hrs/wk ■3 cr. ■F

Introduction to theory and applied techniques of liquid penetrant, eddy current, and magnetic particle inspection dealing with industrial applications as an integral part of metals fabrication and development along with testing and inspection process in quality control.

6.282 Non-Destructive Testing II
■5 class hrs/wk ■3 cr. ■W

A continuation of Non-Destructive Testing with a major emphasis being placed upon Ultrasonic and Radiographic methods of testing and inspection.

6.283 Non-destructive Testing III
■5 class hrs/wk ■3 cr. ■Sp

A continuation of non-destructive Testing with a major emphasis upon X-ray and Gamma ray testing and inspection.

6.288 Vacuum Technology
■3 class hrs/wk ■3 cr. ■On Demand

Several phases of vacuum technology starting with basic terminology and progressing through industrial applications and equipment selection. Includes specifics, such as what happens in a vacuum, need for a vacuum, and vacuum chambers requirements. Maintenance of equipment stressed.

6.293 Introduction to Metallurgy
■6 class hrs/wk ■4 cr. ■F

Metallargical principles including raw materials requirements for metals processing furnaces and refractories, furnace fuels and combustion, heat flow energy balances and alloy systems. Prerequisite: Basic Chemistry or consent of instructor.

6.298/9 Metallography I,II
■4 class hrs/wk ■3 cr. ■F/W

Understanding and use of metallurgical equipment including technical concepts of specimen procurement, mounting, polishing, etching, visual examination, sketching of structural characteristics, photomacrography and photomicrography of ferrous and non-ferrous materials.

4.120 Fundamentals of Specifications
■3 class hrs/wk ■3 cr. ■Sp

This course is designed to acquaint students with usage and practice in preparation and interpretation of manufacturing and fabrication specifications. Practical problems will be assigned to relate classwork to industry.

4.122 Strength of Materials
■3 class hrs/wk ■3 cr. ■On Demand

An introduction to the mechanics dealing with forces as they relate to tension, compression, torsion, and shear. Three major factors will be involved including metals, time and force. Mechanical properties of metal will be examined as these properties relate to service performance. Prerequisite: Elements of Algebra.

6.284 Radiography
■2 class hrs/wk ■3 cr. ■On Demand
Non-destructive testing principles using the short wave length energy from X-Rays or radioactive isotopes to penetrate metal to reveal the presence of discontinuities.

6.285 Ultrasonics
■2 class hrs/wk ■3 cr. ■On Demand
Non-destructive testing principles employing high frequency sound wave to determine metallic qualities.

6.295 Quality Control
■2 class hrs/wk ■2 cr. ■On Demand
This course is concerned with the why and how of cost reduction through quality control. The documentation and accounting for savings with a quality control programs.

Faculty:
Carl Reeder, Chairperson

Recreational Vehicle and Small Engine Repair

The Recreational Vehicle and Small Engine Repair program includes a number of options ranging from one term to two years. To learn mechanical skills to repair recreational vehicles, lawn & garden equipment and industrial portable tools, each of the three areas within the program is two terms in length so the student can choose basic or comprehensive training in any or all of the three areas.

The recreational vehicles course of study includes work on snowmobiles, motorcycle and all-terrain vehicles. The small engine curriculum covers such equipment as garden tractors, rototiller, edgers and motorized lawn sweepers. In the area of industrial portable tools the students study the repair of outboard marine engines, chain saws, drills and generators.

During their instruction students work on actual equipment in need of repair and are trained as complete mechanics.

The employment outlook is good as the sale of recreational vehicles is increasing. Beginning or entry-level salaries range from $4.50 to $5.50 per hour. Advancement is dependent upon the ability of the mechanic and the size and location of the employer. Self-employment in some areas is good.

An Associate of Science degree is awarded to those who complete 60 credits along with the required related courses. A Certificate of Completion is awarded to those who complete 20 credits (2 consecutive courses) or more in this program.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term		
1.110	Elements of Algebra or	
4.202	Math II	4
Winter Term		
1.102	Occupational Writing or	
WR121	English Comp	3
Spring Term		
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or PE Activity Courses	4

SOPHOMORE YEAR

Winter Term		
	General Education Electives	3
Spring Term		
1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3
	General Education Electives	3

Program Requirements

FRESHMAN YEAR

Fall Term		
3.560	Small Engine Repair I	10
1.134	Vocational Study Skills	1
Winter Term		
3.561	Small Engine Repair II	10
1.134	Vocational Study Skills	3
Spring Term		
3.562	Small Engine Repair III	10
1.200	Supervised Field Experience	3

SOPHOMORE YEAR

Fall Term		
3.563	Small Engine IV or	10
3.570-1	Rec Vehicle Repair I-II	10
4.151	Welding I	2
1.134	Vocational Study Skills	1
4.108	Industrial Safety	3
Winter Term		
3.563	Small Engine Repair IV or	10
3.570-1	Rec Vehicle Repair I-II	10
1.200	Supervised Field Experience	3
1.134	Vocational Study Skills	1
Spring Term		
3.563	Small Engine Repair IV or	10
3.570-1	Rec Vehicle Repair I-II	10

3.556 Basic Small Engine Repair
■4-6 hrs wk ■1-3 cr. ■F/W/Sp
The operating theory of 2 stroke cycle and 4 stroke cycle engines and performance of specific electrical, carburetion and service maintenance on small engines. Designed for students who wish only a basic understanding of small engine service and tune-up. Credit will be variable depending on student progress, understanding and time spent in shop activities.

3.560 Small Engine Repair I
■20 class hrs/wk ■1-10 cr. ■F/W/Sp
Operating theory of 2 stroke and 4 stroke cycle engines and performance of specific electrical, carburetion, service, maintenance and overhaul techniques on lawn and garden equipment.

3.561 Small Engine Repair II
■20 class hrs/wk ■1-10 cr. ■F/W/Sp
Improve the skills and proficiency learned is Small Engine I. Service and repair of related lawn and garden equipment. Prerequisite: Small Engine Repair I.

3.562 Small Engine Repair III
■20 class hrs/wk ■1-10 cr. ■F/W/Sp
Operation principles of engines used for chain saws, outboard marine and industrial tools. Proficiency in performing specific electrical, carburetion, service, maintenance and overhaul technique. Prerequisite: Small Engine Repair II.

3.563 Small Engine Repair IV
■20 class hrs/wk ■1-10 cr. ■F/W/Sp
Improves skills and proficiency in service and repair related to chain saw, outboard marine components and industrial equipment. Prerequisite: Small Engine Repair III.

3.570 Recreational Vehicle Repair I
■20 class hrs/wk ■1-10 cr. ■F/W/Sp
Operating principles of engines used for motorcycles and /or snowmobiles and A.T.V.'s. Proficiency in performing specific electrical, carburetion, service, maintenance and overhaul techniques.

3.571 Recreational Vehicle Repair II
■20 class hrs/wk ■1-10 cr. ■F/W/Sp
Improves skills and proficiency in service and repair of the complete motorcycle, snowmobile and A.T.V.'s. Prerequisite: Recreational Vehicle Repair I.

Faculty:
Howard Magers, Chairperson

Refrigeration, Heating and Air Conditioning

The Refrigeration, Heating and Air Conditioning program is designed to help students acquire the mechanical skills necessary to install, maintain and repair refrigeration, heating and air conditioning equipment and accessory units. Courses include both theory and practical experience in diagnosis, service and repair of units commonly installed in residences and businesses.

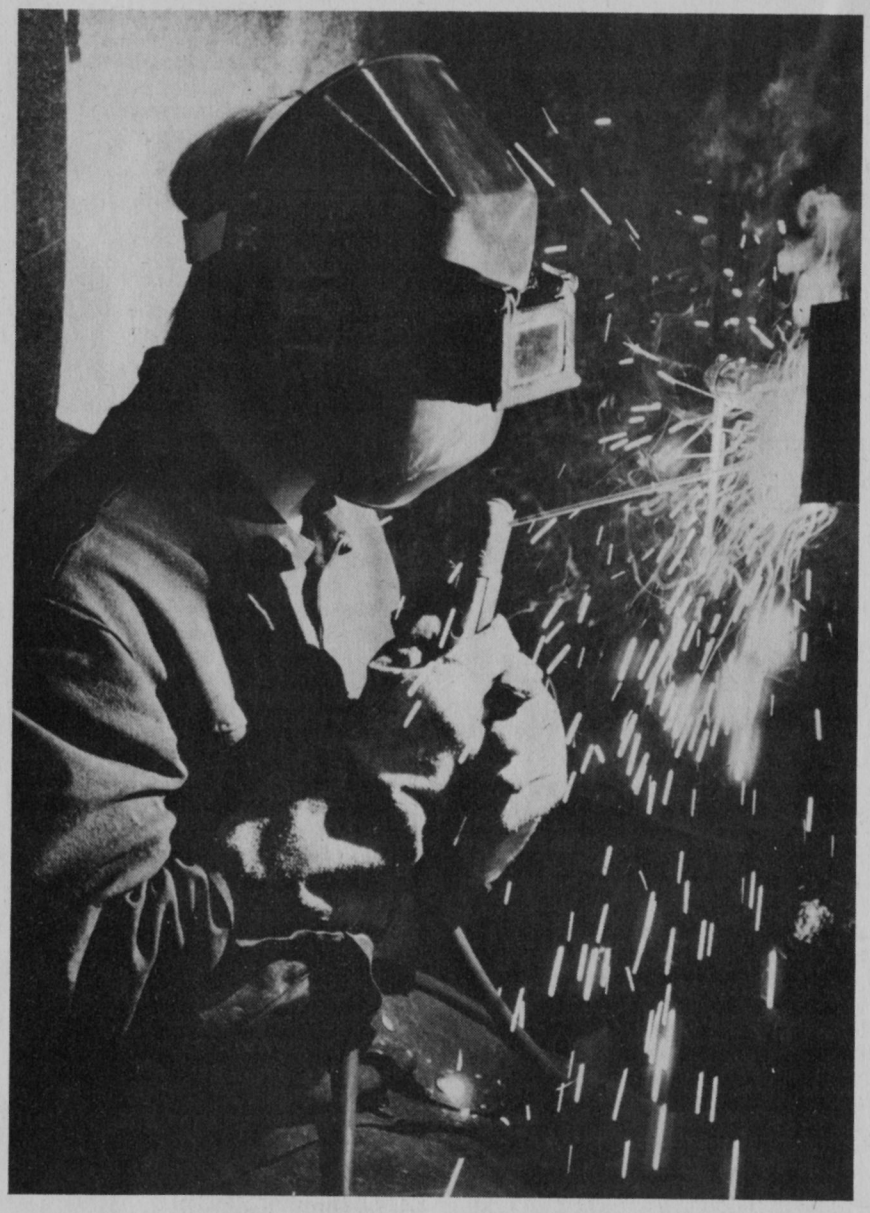
Refrigeration mechanics install, maintain and repair cooling devices of all kinds; service room-size air conditioners, central cooling systems, refrigerators and freezers in private homes, offices, hotels, stores and commercial plants; and are responsible for cooling equipment in the frozen food industry and locker plants. Mechanics may also specialize in automobile, bus, train or airplane air conditioning units.

Working on refrigeration, heating and air conditioning systems requires a high degree of skill and precision. Success requires good work and safety habits, sound judgement, and the ability to plan ahead and work cooperatively with other skilled craftsmen.

Students entering the program should have good math and reading skills or be prepared to improve them while enrolled in the program. Courses relate to the program include math, physics, electricity, welding, plumbing and sheetmetal. Students learn to read, interpret and work from sketches, layouts and blueprints; develop knowledge of standard practices, methods, tools and materials of the trade; learn to analyze machine operation and diagnose faulty performance; and develop skills in making replacements or repairs.

A variety of tools and specialized instruments are required for the courses. In addition to the usual books and supplies, students should expect to spend about $400 for a personal set of tools over the two-year period.

Job prospects in this field are good. Beginning pay ranges from $5.50 to $12.50 per hour, depending on location and the type of equipment to be serviced or repaired. Qualified workers may advance to positions as supervisors, estimators, city or county inspectors, or manufacturers' representatives.



General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR
Winter Term
4.202 Math II 4
Spring Term
1.102 Occupational Writing 3

SOPHOMORE YEAR
Fall Term
1.103 Occupational Speech 3
HE250 Health or
HE252 First Aid or
9.317 Multi-Media First Aid or
0.571 CPR
PE Activity Courses 3
Winter Term
General Education Electives 3
Spring Term
HE250 Health or
HE252 First Aid or
9.317 Multi-Media First Aid or
0.571 CPR or
PE Activity Courses 1
General Education Electives 3

Program Requirements

FRESHMAN YEAR
Fall Term

3.580	Intro to Ref/Heat/AC	6
3.581	Layout Procedures	3
6.333	Technical Electricity I	3
4.151	Welding I	2
3.429	Blueprint Reading and Sketching	2

Winter Term

6.334	Technical Electricity II	3
3.582	Pipefitting/Plumbing	2
3.583	Principles of Refrigeration	6
3.584	Basic Sheet Metal Proc	2

Spring Term

3.586	Mechanical Installation Proc	4
3.585	Principles of Heating	6
4.203	Math III	4

SOPHOMORE YEAR

Fall Term

3.587	Operational Prin of Air-Conditioning and Air Movements	6
3.588	Hydraulics and Pneumatics	3
	Technical Electives or Cooperative Work Experience	3

Winter Term

3.589	Diagnosis, Service and Repair	6
3.590	Control Applications	4
4.108	Industrial Safety	3

Spring Term

3.591	Commercial and Industrial Refrig	4
3.592	Systems Design	6

3.358 Introduction to Ref/Heat/AC
■8 class hrs/wk ■6 credits ■F

This course is designed to convey to the student theories and principles that are necessary for building a solid operating foundation for future job entry. The technology of heating and cooling will be examined through lecture and practical lab activities. Essential knowledge related to basic skills development will be utilized to produce a transfer of learning to the world of refrigeration, heating, and air conditioning. Lecture/lab

3.581 Layout Procedures(Sheet Metal)
■4 class hrs ■3 credits ■F

Instruction and practical application in the techniques and procedures of designing, graphically illustrating and laying out materials relative to sheet metal processes. Lecture/lab

3.582 Pipefitting/Plumbing
■4 class hrs ■2 credits ■W

Basic course in safe use of tools and materials necessary as a foundational experience for entry into multiple trade areas. Lab

3.583 Principles of Refrigeration
■8 class hrs ■6 credits ■W

A general lecture/laboratory course dealing with domestic refrigeration systems operations, components, tubing soldering, tube types, fittings and handling.

3.584 Basic Sheet Metal Practics
■3 class hrs/wk ■2 credits

A basic introductory course designed to acquaint students with hand tools, layout procedures, machine forming and fastening procedures.

3.585 Principles of Heating
■8 class hrs/wk ■6 credits

A lecture/laboratory course in the usage, repair and maintenance of residential heating systems. Instruction in types of fuels, controls, burners and coils used in commercial heating and advanced troubleshooting and repair.

3.586 Mechanical Installations Procedures
■5 class hrs/wk ■4 credits

A basic course on equipment installation covering domestic refrigeration, freezers, air conditioners, commercial split systems, tubing sizing & installations, traps, water and electrical.

3.587 Operational Principles of Air Conditioning and Air Movements
■9 class hrs/wk ■6 credits

The introduction of psychrometrics to the student will increase abilities necessary to analyze and understand air conditioning technology. Practical aspects of designing, sizing, maintaining and trouble shooting will be emphasized.

3.588 Hydraulics & Pneumatics
■6 class hrs ■4 credits ■F

A basic concepts of hydraulics and pneumatics to acquaint the student with pressure operated devices. Lec/lab

3.589 Diagnosis Service and Repair
■9 class hrs ■6 credits ■F

To help students develop practical experience in trouble shooting and decision making for repairs. Actual repair and rebuilding experiences in simulted live situations will be experienced. Lec/Lab

3.590 Control Applications
■6 class hrs ■4 credits ■W

A course designed to utilize and examine the functions and operations of electro-mechanical and pneumatic control systems. Lec/Lab

3.591 Commercial and Industrial Refrigeration
■6 class hrs ■4 credits ■Sp

Introduction to commercial and industrial refrigeration systems and control circuits. Instruction in methods of trouble shotting and specific repairs and in the use of charts and graphs. Lec/Lab

3.592 Systems Design
■9 class hrs ■6 credits ■Sp

A course to promote problem solving and ingenuity to the application of new products and development or use. Lec/Lab

3.593 Basic Refrigeration (Domestic & Light Commercial)
■6 class hrs ■4 credits ■On Demand

A course to introduce students to basic principles and operation of small refrigeration systems. It is designed for appliance repair persons, sales persons, and vending machine owner/operators.

Faculty:
John Alvin, Chairperson
Ed Stewart
Dennis Wood

Welding

The one-year Certificate Welding program, with qualification, can be entered at any time during the academic year and be completed in three quarters.

Classes and laboratory periods are provided so that the student can develop the skills, habits, attitudes and knowledge to prepare for a wide range of job opportunities. Time is provided to prepare for and undergo certain welder certification tests. These tests are administered by independent agencies. A one-year Certificate of Completion will be issued upon fulfillment of the program requirement.

The student can exercise the option of completing a second year and obtain either an Associate of Science Degree or a Certificiate of Completion. The second year is designed to provide valuable experience in specific areas such as layout, fabrication, repair, and other related subjects.

The Welding program requires a general interest in mechanical concepts and good motor coordination (hand-eye). Welders work outdoors, indoors, in confined areas, and in high places, depending upon the industry. For these reasons, a student should be in good physical condition and be able to maneuver well.

Employment opportunities are always good and a student can expect from $4.50 per hour to $9.00 per hour to start, depending upon the industry and the student's ability.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term

	PE Activity Courses or
HE252	First Aid or

HE250	Health or	
9.317	Multi-Media First Aid or	
0.571	CPR	3
Winter Term		
4.202	Math II	4

SOPHOMORE YEAR

Fall Term		
	PE Activity Courses	
Winter Term		
1.103	Occupational Speech	3
1.102	Occupational Writing	3
Spring Term		
	General Electives	6

Program Requirements

FRESHMAN YEAR

Fall Term		
4.240	Basic Arc Welding	6
4.242	Basic Oxyacetylene Welding	4
4.100	Blueprint Reading and Sketching	2
Winter Term		
4.241	Inter Arc Welding	6
4.243	Welding Projects I	4
4.245	Layout Proc for Welding	3
Spring Term		
4.246	Adv. Arc Welding	6
3.444	Welding Metallurgy	4
4.250	Welding Projects II	4
4.108	Industrial Safety	3

SOPHOMORE YEAR

Fall Term		
4.255	Fabrication Repair Prac I	6
4.130	Machine Processes	2
3.588	Pneumatics/Hydraulics	4
	Vocational Electricity	3
Winter Term		
4.256	Fabrication Repair Prac II	6
3.445	Welding Metallurgy II	4
Spring Term		
4.257	Fabrication Repair Prac III	6
	Technical Electives or Cooperative Work Experience	6

4.151/2 Welding I,II
■4 class hrs ■2 credtits ■F/W/Sp

Set-up and operation of oxyacetylene welding, metal arc welding, and cutting equipment. Demonstrations and practice in welding, brazing and soldering ferrous and non-ferrous metals and their alloys. Technical information on use of electrodes and composition of metal and application are included. (For non-majors.)

4.153 Welding III
■4 class hrs/wk ■2 cr. ■Sp

A continuation of Welding II with more indepth study of specific areas such as all position manual stick electrode welding, all position TIG & MIG welding and braze welding, brazing and oxyacetylene welding. Demonstrations and supervised practice will be provided on these operations. Technical information will be introduced as required by the various processes and procedures studied.

4.154 Welding Seminar
■2-8 class hrs/wk ■1-4 cr. ■F/W/Sp

Open entry, open exit, variable credit course to provide upgrading skills leading to various certifications or specific job related needs.

4.240 Basic Arc Welding
■14 class hrs/wk ■6 cr. ■F

Introduction to arc welding practices on mild steel of various thickness and joint configurations in all positions.

4.241 Intermediate Arc Welding
■14 class hrs/wk ■6 cr. ■W

Continuation of Basic Arc Welding 4.240. Areas of consideration will be arc welding, mild steel, and special ferrous and non-ferrous alloys employing the manual arc, TIG and MIG processes.

4.242 Basic Oxyacetylene Welding
■8 class hrs/wk ■4 cr. ■F

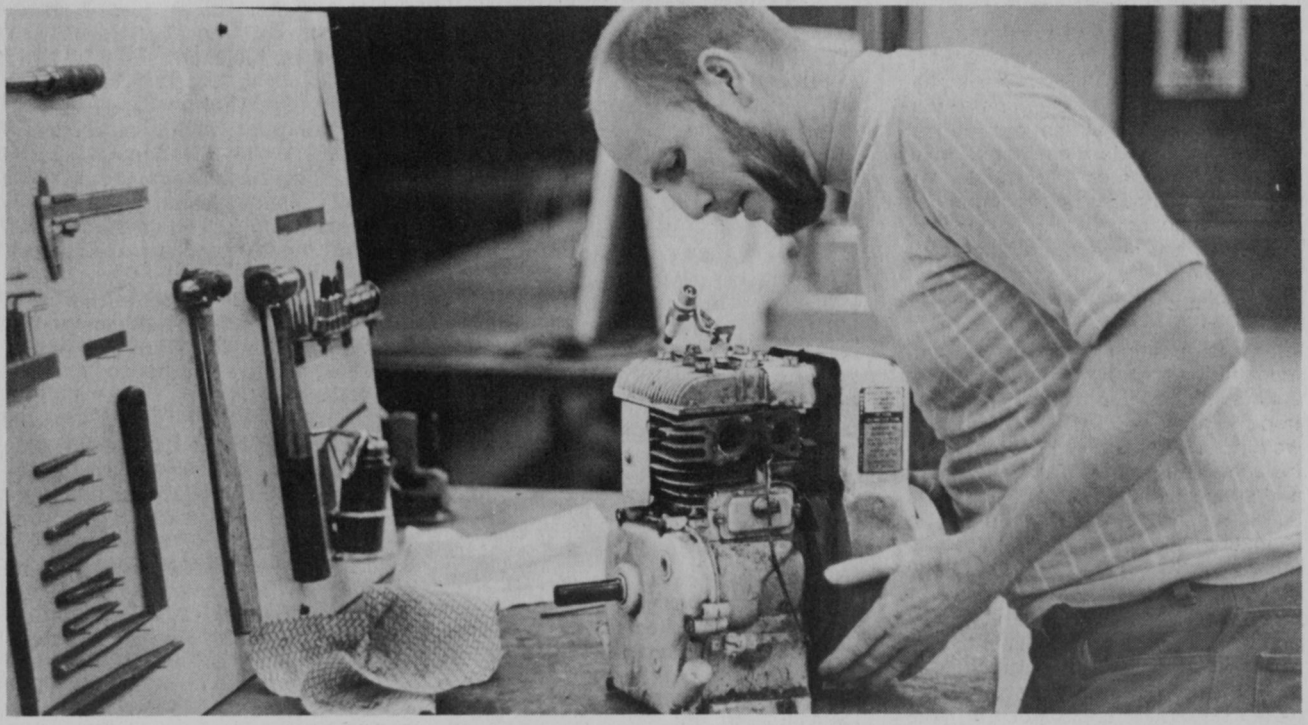
Introduction to oxyacetylene welding practices on mild steel of various thicknesses and joint configurations in all positions.

4.243 Welding Projects I
■8 class hrs/wk ■4 cr. ■W

A lecture laboratory course dealing with the fundamentals of welding fabrication and repair. Basic procedures of planning, sketching, cost evaluation, ordering, layout, metal preparation, tack-up, and final welding will be introduced and applied. Prerequisite: Basic Arc and Basic Oxyacetylene Welding 4.240 and 4.242.

4.245 Layout Procedures for Welding
■5 class hrs/wk ■3 cr. ■Sp

Introduces layout principles and applications. Tools and equipment for layout are studied in respect to their operating performance with stress on



maintenance. Planning and construction of templates, layout, actual fabrication in specific areas to examine the quality of the layout process.

4.246 Advanced Arc Welding
■14 class hrs/wk ■6 cr. ■Sp
Continuation of Intermediate Arc Welding. Preparation for weld certification in all positions with the manual arc process.

4.250 Welding Projects II
■8 class hrs/wk ■4 cr. ■Sp
A continuation of Welding Projects I providing a more in-depth approach to welding design, fabrication and repair. Prerequisite: Welding Projects I-4.243.

4.255/256/257 Fabrication & Repair Practices I, II, III
■14 class hrs/wk ■6 cr. ■F/W/Sp
Advanced information and skills related to welding repair and fabrication. Instructor evaluated group or individual projects. Projects require knowledge gained from related classes as outlined in the curriculum. Blueprint reading, cost estimation, ordering and inventory or materials, layout skills, fabrication and final assembly.

9.148 Preparation for Welder Certification
■8 class hrs/wk ■4 cr. ■F/W/Sp
Necessary information and skill development to undergo a welder certification test administered by State or Oregon, Dept. of Commerce, Boiler Division. The test is provided upon completion of the course, Prerequisite: Approval of instructor.

9.151/2 Welding I & II
■4 class hrs/wk ■2 cr. ■F/W/Sp
Set-up and operation of oxyacetylene welding, metal arc welding (including TIG and MIG equipment) and cutting equipment. Demonstrations and supervised practice provided on ferrous and non-ferrous metals in all positions. Technical information on choice of electrodes and their application, welding power sources and accessories, and metal identification are included.

9.153 Welding III
■4 class hrs/wk ■2 cr. ■Sp
A continuation of Welding II with more indepth study of specific areas such as all position manual stick electrode welding, all position TIG & MIG welding and braze welding, brazing and oxyacetylene welding. Demonstrations and supervised practice will be provided on these operations. Technical information will be introduced as required by the various processes and procedures studied.

Science and Technology Division

Director:
Peter C. Scott

The Science and Technology Division provides students with science-related curricula enhancing their career development. The Division meets the need of both the vocational student and the student who is pursuing a professional career in science and science-related fields. Programs are offered in the engineering technologies such as drafting, electronics, and civil-mechanical engineering.

Science-related programs are offered in agriculture, laboratory technology, water/wastewater technology and fire science. The programs in mathematics, physical science, and biological science serve the general education needs of the college as a whole.

The Division provides the technical background for students majoring in forestry, engineering, medicine and similar transfer programs. The entire Division is involved in community development by providing the community with educational opportunities outside the traditional educational setting. Continuous upgrading for personnel presently employed within the district is provided through inservice training, workshops, and evening classes to meet these special needs.

Two Year Associate of Science Degree Program

Crop Mangement
Turf Management
Animal Technology
Civil-Mechanical Engineering Technology
Drafting Technology
Energy Technology
Electricity and Electronics Technology
Science Laboratory Technology
Wastewater Technology
Water/Wastewater Technology

One Year Programs

Crop Mangement Certificate
Turf Management Certificate
Water/Wastewater Treatment Plant Operation

Cooperative Work Experience

Students may, upon the recommendation of the program coordinator, receive transfer or non-transfer college credit by participating in Cooperative Work (CWE). Further information may be found in the Cooperative Work Experience section of this catalog.

1.200/WE201 Cooperative Work Experience (CWE)
■3-48 class hrs/wk ■1-16 cr.
■F/W/Sp/Sm

Cooperative Work Experience is designed to give the student actual work experience which closely parallels his field of study. Further information is available in the Cooperative Work Experience section of this catalog.

1.201/WE202 Cooperative Work Experience Seminar
■1 class hrs/wk ■1 cr. ■F/W/Sp/Sm

Refer to the Cooperative Work Experience section of this catalog.

Faculty:
David Miller, Chairperson
James Reynolds
Lann Richardson
Orville Rasmussen

Engineering Technology

Associate Science degree programs are offered in areas of Civil-Mechanical, Energy and General Drafting. For those interested in obtaining a Bachelor of Science Degree in Engineering, Linn-Benton Community College offers a freshman-level orientation sequence. Students completing the freshman Architectural Engineering and general studies classes at Linn-Benton may then transfer to a four year school. Specialty courses in Energy, Electronics, Mechanics and Illustration, etc., are provided for those desiring additional technical knowledge and skills.

Drafting Technology

The two-year Drafting Technology Program is a technical curriculum designed to assist students in learning basic attitudes, skills and knowledge necessary to successfully enter drafting occupations.

The first year of study provides a sound general background with the second year providing broader coverage of subject selections, while permitting the student to work toward such specialties as civil, mechanical, electronics, architectural, product design, technical illustration and computer drafting.

All entering drafting technology students planning to complete the program within a two-year period are advised, as a minimal requirement, to have a ninth grade reading level and be prepared to register for Pre-Tech Math and Basic English as indicated by the comparative guidance and placement test scores.

Students new to the subject area should be prepared to purchase the basic tools of the profession at an approximate cost range of from $50 to $120.

Students interested in Cooperative Work Experience should refer to the appropriate section of the catalog and consult with the Cooperative Work Experience or Drafting Department.

Candidates for the Associate Science Degree in Drafting Technology must complete the following courses.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term		
1.102	Occupational Writing or	
WR121	English Comp	3
Winter Term		
1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3

SOPHOMORE YEAR

Fall Term		
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or	
	PE Activity Courses	4
	General Education Electives	2
Winter Term		
	General Education Electives	2
Spring Term		
	General Education Electives	2

Program Requirements

FRESHMAN YEAR

Fall Term		
4.109	Technical Sketching	1
4.110	Drafting Lab	3
6.196	Drafting Engineering Practices	2
6.550	Pre-Tech Math	4
Winter Term		
4.111	Drafting Lab	3
4.121	Electronics Drafting	2

6.551	Tech Math I	4
3.494	Construction Methods & Materials	2
Spring Term		
4.112	Drafting Lab	3
4.148	Practical Descriptive Geometry	2
6.552	Tech Math II	4
4.119	Methods & Materials of Manufacturing	2
1.112	Tech Report Writing	3

SOPHOMORE YEAR

Fall Term		
4.116	Architectural Planning	3
6.200	Surveying I	2
6.208	Machine Drafting	4
6.340	Technical Calculations I	2
Winter Term		
4.114	Architectural Drafting	4
4.115	Presentation Drawing	2
4.300	Practical Physics	4
6.205	Civil Drafting I	3
Spring Term		
3.498	Product Design	2
4.123	Technical Illustration	3
4.125	Project Drafting or Cooperative Work Experience	2
4.302	Practical Physics	4
6.206	Civil Drafting II	3

3.494 Construction Methods & Materials
■2 class hrs/wk ■2 cr. ■W
Fundamental aspects of materials used in modern construction. Designed to familiarize the student with terminology, construction details, tools, equipment, and processes as related to the manufacturing and construction industries. A wide scope of methods and procedures will be studied utilizing a variety of resource materials.

3.498 Product Design
■2 class hrs/wk ■2 cr. ■Sp
Relates the humanistic elements of design to a product or a concept, designing for human use and for aesthetic human appreciation.

4.100 Blueprint Reading/Vocational Area
■3 class hrs/wk ■2 cr. ■On Demand
Individualized course for students in related occupational programs to provide job-related skills in interpreting industrial drawings, symbols, and in the preparation of idea-explanation sketches. Print reading areas can include: architectural, machine, welding, electrical, metallurgy, air conditioning and refrigeration, etc. As specified within the vocational program curricula.

4.109 Technical Sketching
■2 class hrs/wk ■1 cr. ■F
Freehand sketching designed to develop skills related to technical and industrial applications. Includes spatial visualization, multivew theory, pictorial views, graphic enlargement, shade and shadow techniques, and "on-the-spot" sketches.

4.110 Drafting Lab
■6 class hrs/wk ■1-3 cr.
■F/W/Sp/Sm
Individualized drafting course designed to develop basic skills and knowledge of drafting techniques. Students can earn from 0-3 credits and are placed at a performance level that compensates for previous drafting experiences. The 9 hour sequence course includes the application of drafting instruments, dimensioning techniques, sketching lettering, pictorial drawings, auxiliary views, sectioning, tolerances, fasteners, detail drawing, assembly drawings, inking, technical illustration, architectural and design drafting. Beginning students should sign up for 4.110.

4.111 Drafting Lab
■6 class hrs/wk ■1-3 cr.
■F/W/Sp/Sm
Prerequisite: 3 cr. 4.110 Drafting Lab or consent of instructor.

4.112 Drafting Lab
■6 class hrs/wk ■1-3 cr.
■F/W/Sp/Sm
Prerequisite 3 cr. 4.111 Drafting Lab or consent of instructor.

4.114 Architectural Drafting
■7 class hrs/wk ■4 cr. ■W
Individualized course in architectural drawings related to light commercial and residential structures. Requires completion of a full set of working drawings for a structure, using a wide variety of architectural reference media. An analysis of the planning and drawing requirements of the selected structure. Prerequisite: 6 hrs. of Drafting Lab and Architectural Planning or the consent of the instructor.

4.115 Presentation Drawing
■4 class hrs/wk ■2 cr. ■W
Involves drawing of interior and exterior views of architectural subjects for display purposes. One and two-point perspective, inking, basic rendering and presentation techniques. Various media employed. Prerequisites 3 hrs. Drafting Lab and Technical Sketching or consent of instructor.

4.116 Architectural Planning
■6 class hrs/wk ■3 cr. ■F
Introduction to residential and light commercial planning. Architectural styles orientation, site planning, kitchen planning, elevations, symbols and specifications. Prerequisite: 3 hrs Drafting Lab or consent of instructor.

4.119 Methods and Materials of Manufacturing
■2 class hrs/wk ■2 cr. ■Sp
Surveys the modern methods and materials of manufacturing. An emphasis on the manufacture and use of metals, finishes and abrasives as used in modern manufacturing.

4.121 Electronics Drafting
■4 class hrs/wk ■2 cr. ■W
Introduction to drafting techniques and methods used in the electronics industry. Emphasis on drawing and interpretation of electronics symbols, connection diagrams and schematics. Prerequisite: 3 hrs Drafting Lab or consent of instructor.

4.123 Technical Illustration
■5 class hrs/wk ■3 cr. ■Sp
Introduction to techniques and skills involved in graphic production of illustrations for brochures, catalogs, service and training manuals. Production of detailed isometric drawings, exploded assembly drawings, pencil and ink shading, and color rendering. Prerequisites: 3 hrs Drafting Lab and Technical Sketching.

4.124 Technical Drawing I
■3 class hrs/wk ■2 cr. ■On Demand
Introductory general instruction and drafting practices as related to the basic graphic communication and interpretive needs of industrial, occupational and technical students.

4.125 Project Drafting
■6 class hrs/wk ■2 cr. ■Sp
Advanced study, in depth, of an area of interest. The student selects, or is assigned, problems requiring analysis, mathematical calculations, and use of reference materials. Concurrent related Cooperative Work Experience employment may be substituted. Prerequisites: Sophomore standing; Drafting or Engineering Tech student.

4.134 Prototype & Model Construction
■4 class hrs/wk ■2 cr. ■On Demand
Introduction to materials, techniques, tools, and skills involved in production of models and three dimensional prototypes used in industry.

4.135 Airbrush Techniques
■3 class hrs/wk ■2 cr. ■On Demand
A beginning course in airbrush painting techniques for illustrators, draftspersons, commercial artists, that deals with basic layout, operation, media and skill building for airbrush renderings.

4.148 Practical Descriptive Geometry
■4 class hrs/wk ■2 cr. ■Sp
Individualized course in spatial graphics required by the drafting and engineering technician. Includes design problems incorporating auxiliary views, true lengths, true size and shape of angles, planes and points of intersection. Development from point-line-plane through the use of revolution and auxiliary projection. Prerequisite 6 hrs. of Drafting Lab or consent of instructor.

9.643 Technical Drawing I
■3 class hrs/wk ■2 cr. ■On Demand
Introductory instruction and drafting practice related to basic graphical communication and interpretive needs

of industrial, occupational and technical students. Designed for those who have either occupational entry level skills, or are currently employed and require mechanical drawing competencies for their work.

Civil-Mechanical Engineering Technology

The Engineering Technology program offers technician level training for civil and mechanical engineering fields with an option for energy specialization and a freshman level engineering orientation sequence for transfer students.

Students enrolling for the two-year vocational program learn drafting, surveying and problem solving skills essential for technicians who work with civil and mechanical engineers in the planning, designing, and construction of machinery, highways, bridges, dams and other industrial facilities.

Tasks performed by the engineering technician include layout and detail drafting, preparation of specifications, surveying, inspection, cost and material estimating, and supervising draftsmen. They may also be involved in design, development and analysis of projects.

Engineering Technology is a highly technical field. A strong interest in the field is required as well as a good background in mathematics and physical science. The student who expects to graduate in two years must enter with sufficient mathematics and English to enroll in Tech Math I and Communication Skills II.

Students completing the two-year vocational program receive an Associate of Science Degree in Engineering and have an opportunity to be qualified as a Certified Engineering Technician.

Students entering the Engineering Tech program should be prepared to purchase the basic drafting tools at an approximate cost of from $50 to $120. A scientific type electronic calculator and a technical pen set are also recommended.

Students interested in Cooperative Work Experience should refer to the appropriate section of the catalog and consult with the Engineering-Drafting Department.

Candidates for the Associate of Science Degree in Engineering Technology must complete the following courses:

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Winter Term

1.102	Occupational Writing or	
WR121	English Comp	3

SOPHOMORE YEAR

Fall Term

1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	4

Winter Term

	General Education Electives	3

Spring Term

	General Education Electives	

Program Requirements

FRESHMAN YEAR

Fall Term

4.109	Technical Sketching	1
4.110	Drafting Lab	3
6.196	Drafting-Engineering Practices	2
6.214	Technical Physics	4
6.551	Technical Math I	4

Winter Term

4.111	Drafting Lab	3
6.215	Technical Physics	4
6.552	Technical Math II	4

Spring Term

4.112	Drafting Lab	3
4.148	Practical Descriptive Geometry	2
6.202	Statics	3
6.216	Technical Physics	4
6.553	Technical Math III	4

SOPHOMORE YEAR

Fall Term

6.200	Surveying I	2
6.203	Strength of Materials	3
6.208	Machine Drafting	4
6.340	Technical Calculations I	2

Winter Term

4.126	Mechanical Design Principles	3
6.205	Civil Drafting I	3
6.235	Applied Hydraulics	4
6.341	Technical Calculations II	2

Spring Term

6.201	Surveying II	2
6.204	Computer Applications	3
6.206	Civil Drafting II	3
6.210	Engineering Design Project	3
1.112	Technical Report Writing	3

4.126 Mechanical Design Principles
■3 class hrs/wk ■3 cr. ■W

Mechanical design as it relates to the engineering technician or draftsman. Emphasis on creativity, design considerations, analysis, procedures, calculations, processes, problem solving and evaluation. Prerequisite: Tech Math II, Strength of Materials or Applied Mechanics, Machine Drafting.

6.196 Drafting-Engineering Practices
■2 class hrs/wk ■2 cr. ■F

Introductory study of industry practices for students planning a drafting or engineering tech career. Orientation to the technical program and occupational information presented through lectures, films, discussions and field trips.

6.200 Surveying I
■4 class hrs/wk ■2 cr. ■F

Basic study of surveying techniques. Fundamentals of chaining and leveling, care and use of surveying instruments, and office procedures will be major topics of discussion. Practical application is provided through appropriate field work. Prerequisite: Tech Math II or equivalent.

6.201 Surveying II
■4 class hrs/wk ■2 cr. ■Sp

Advanced study of surveying techniques stressing practical problems of surveying land, roads, water and sewer lines and gathering data for mapping and other surveying problems. Prerequisite: Surveying I.

6.202 Statics
■3 class hrs/wk ■3 cr. ■Sp

Basic course analysis of forces and the effects of forces on rigid bodies such as machine parts, structures, or trusses. Emphasis on problem solving and problem solving techniques. Prerequisite: Tech Math II, Technical Physics, or equivalent.

6.203 Strength of Materials
■3 class hrs/wk ■3 cr. ■F

Analysis of stresses and strains produced in machine parts on structures under typical loading conditions. Design of beams, columns and shafts. Prerequisite: Statics.

6.204 Computer Applications
■6 class hrs/wk ■3 cr. ■Sp

Provides opportunity to solve engineering and drafting type problems both analytically and graphically by using the computer. Students develop programs or use existing programs to solve problems. Prerequisite: Math 213-Intro. to Symbolic Language-Fortran.

6.205 Civil Drafting I
■6 class hrs/wk ■3 cr. ■W

Introduction to drafting room problems related to civil engineering. Class discussion and drawings related to structures, sewer and water lines, earth works, highways and mapping. Prerequisite: Surveying I or equivalent.

6.206 Civil Drafting II
■6 class hrs/wk ■3 cr. ■Sp

Advanced course in preparation of construction drawings and detail sheets for pumping stations, sewer and storm drains, street construction, topography plotting including field work and cost estimating. Prerequisite: Civil Drafting I.

6.208 Machine Drafting
■8 class hrs/wk ■4 cr. ■F

Advanced course in preparation of working drawings as used in the manufacture of machinery. Emphasis on speed and accuracy in preparation of layouts, arrangements, and detail drawings incorporating drafting standards, dimensioning, tolerances and symbolic notations as required by industry.

6.210 Engineering Design Project
■6 class hrs/wk ■3 cr. ■Sp

Advanced design and development of a machine, plant, or structure from the conception stage through the design stage to the finished working drawings. Prerequisite: Mechanical Design Principles, Machine Drafting, and Civil Drafting I.

6.340 Tech Calculation I
■2 class hrs/wk ■2 cr. ■On Demand

This course is designed to meet the calculating needs of the technician in electronics, civil and structural engineering and technical drafting. Engineering methods and related problem solving will be considered. Prime emphasis will be placed on using electronic computing devices. Electronic calculator required. Prerequisite: Math 1.110 or equivalent.

6.341 Tech Calculations II
■2 class hrs/wk ■2 cr. ■On Demand

This course will continue with an emphasis on electronic computing devices and related problem solution. Other means of calculation will be related to problem solution in the technician's various fields. Problem solution will be structured in terms of analysis, formulation, calculation, and clear presentation. Electronic calculator required. Prerequisite: 6.340.

Energy Engineering Option

The optional program in Energy Conservation and Solar Energy is a new addition to the Engineering Technology program. This program will augment the strong science and engineering base of the existing Engineering Technology program with additional courses in energy systems management, solar energy and energy conservation systems, energy economics, computer science and practical work experience in energy systems planning. Graduates will be prepared tp enter the expanding energy conservation and solar energy fields as skilled engineering technicians.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term

HE252	First Aid	3

Spring Term

1.101	Occupational Writing	3

SOPHOMORE YEAR

Fall Term

	General Electives	3

Winter Term

1.103	Occupational Speech	3
	PE Activity Courses	1
	General Electives	3

Program Requirements

FRESHMAN YEAR

Fall Term

4.110	Drafting Lab I	3
6.214	Tech Physics I	4
6.551	Tech Math I	4
6.196	Drafting Engineering Practice	2
4.109	Tech Sketching	1

Winter Term

4.111	Drafting Lab II	3
6.215	Tech Physics II	4
6.552	Tech Math II	4
GS199	Energy Problem Solving	3
3.494	Construction Methods and Materials	2

Spring Term

6.216	Tech Physics III	4
6.553	Tech Math III	4
6.202	Statics	3
4.148	Descriptive Geometry	2

SOPHOMORE YEAR

MT132	Prob Eng Calc	2
6.203	Strength of Materials	3
6.220	Energy Systems Management	3
	Technical Electives	3

Winter Term

6.221	Solar Energy	3
MT133	Computer Programming—Basic	3
4.114	Arch Drafting	4

Spring Term

6.210	Engineer Design Projects	3
1.112	Tech Report Writing	3
1.200	Cooperative Work Experience	3
6.338	Tech Electricity III	3
6.204	Computer Applications	3

6.220 Energy Systems Management
■3 class hrs/wk ■3 cr. ■On Demand

Analysis of energy processing systems including conversion systems. Computation of heat loss and heat gain and energy efficiencies.

6.221 or GS199 Solar Energy
■3 class hrs/wk ■3 cr. ■Winter

The design of solar systems for space and water heating. Estimating heat requirements, available solar heat and system efficiency. Sizing solar collectors and heat storage systems. Judging cost effectiveness. Design techniques for active, passive, integrated and modular solar heated buildings, solar homes and greenhouses.

3.527 Alternative Energy Sources
■6 class hrs/wk ■4 cr. ■On Demand

An independent technical project course for students in refrigeration/heating/air conditioning and related fields. Studies will involve use of solar, wind, methane and geothermal energy sources. Prerequisite: Second year standing in Refrigeration/Heating/Air Conditioning Department.

9.643 Technical Drawing I
■3 class hrs/wk ■3 cr. ■On Demand

Introductory instruction and drafting practice related to basic gaphical communication and interpretive needs of industrial, occupational and technical students. Designed for those who have either occupational entry level skills, or are currently employed and require mechanical drawing competencies for their work.

GE101,102,103 Engineering Orientation
■2 class hrs/wk ■2 cr. ■F/W/Sp

Department engineering orientation. Prerequisite: Concurrent enrollment in Math 101. To be taken in sequence.

GE221 Electric Circuit Fundamentals
■5 hrs/wk ■4 cr. ■W

Teaches the fundamental operation of electrical circuits, including the Resistive Inductive and capacitive elements driven by sinusordal, espontial, and transient signals. Teaches the solution to problems involving voltages and currents in complex RLC networks.

Faculty:
Fred Badal
Kent Hansen, Chairperson
Dale Trautman

Electricity and Electronics Technology

The Electricity and Electronics program is divided into three subprograms.

Career Electricity and Electronics—Prepares students for occupation as electrical or electronics technicians. This is primarily an Associate Degree program. Typical job opportunities open to qualified personnel include installation, maintenance, research and development, engineering technician positioning the computer field, communications, biomedical electronics, electromechanical, and instrumentation fields.

General Electricity—Designed to support other curricula at the community college. Students that need a basic knowledge and practical skills in electricity and its measurements will benefit from this program. Some of the curricula this course supports are Heating and Air Conditioning, Automotive Technology, Welding, and Drafting Technology.

Electricity and Electronics (Evening)—This program is to serve the various needs of persons working in business and industry who want to begin or continue an educational program in Electricity and Electronics.

All of the Electricity and Electronics programs at Linn-Benton Community College are provided with a variety of learning resources.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Winter Term

1.102	Occupational Writing or	
WR121	English Comp	3

SOPHOMORE YEAR

Fall Term

HE250	Health and/or	
HE252	First Aid and/or	
0.571	CPR and/or	
	PE Activity Courses	3
	General Education Electives	3

Winter Term

	General Education Electives	3

Spring Term

1.103	Occupational Speech	3
HE250	Health and/or	
HE252	First Aid and/or	
	PE Activity Courses	1

Program Requirements

FRESHMAN YEAR

Fall Term

6.316	Intro to Electricity/Electronics	1
6.320	Direct Current Theory & Application	6
6.551	Tech Math I or	
MT101	College Alg., Trig. and	
MT110	Analytical Geometry	4
6.214	Technical Physics I	4
6.343	Electronic Lab Skills I	1

Winter Term

6.321	Alternating Current Theory & Applications	6
6.552	Tech Math II or	
MT102	College Alg., Trig. and	
MT110	Analytical Geometry	4
6.215	Technical Physics II	4
6.344	Electronic Lab Skills II	1

Spring Term

6.322	Basic Semiconductors	8
6.553	Tech Math III or	
MT102	College Alg., Trig. and	
MT110	Analytical Geometry	4
4.100	Blueprint Reading and Sketching	2
6.216	Technical Physics	4

SOPHOMORE YEAR

Fall Term

6.323	Basic Linear Circuits	5
6.346	Digital Circuits	5
6.340	Technical Calculations I	2

Winter Term

6.324	Non-Linear Circuits	5
6.347	Digital Circuits II	5
6.341	Technical Calculations II	2

Spring Term

6.325	Instrumentation Techniques	5
6.349	Basic Microprocessors	5
6.338	Technical Electricity III	3

6.320 Direct Current Theory and Application

■9 hrs/wks ■6 cr.■F

Introduction to electricity and electronics; basic theories and laws and relation to DC electricity.

6.321 Alternating Current Theory and Application

■10 hrs/wks ■6 cr.■W

A continuation of Electricity/Electronics I giving the student knowledge and use of basic theories and laws relating to AC electricity. Basic skills in oscilloscope function, generator and power supply use are also acquired.

6.322 Basic Semiconductors

■13 hrs/wks ■8 cr.■Sp

Theory and application of electronic devices such as semiconductor diodes and transistors. Recorder use, component testing, troubleshooting.

6.323 Basic Linear Circuits

■9 hrs/wks ■5 cr. ■F

Circuit theory and practical applications of linear circuits, some composed of discrete components and some integrated circuits (ICs).

6.324 Non-Linear Circuits

■9 class hrs/wk ■5 cr. ■W

General survey of basic non-linear circuits communications. Covers non-linear circuits associated with wave shaping, multi-vibrators and communication receivers.

6.325 Instrumentation Techniques

■9 hrs/wks ■5 cr. ■Sp

Instrumentation techniques covering transducers, signal conditioning, data recording, and control loops are studied.

6.330 Vocational Electricity

■1 lec-2 lab ■2 cr. ■F/W

Basic electrical safety, meter use and D.C. theory designed to help the student understand the electrical world so that he/she may avoid hazardous situations and do some basic power tool repair correctly.

6.334 Electronic Fabrication

■4 hrs/wks ■2-6 cr.■On Demand

Occupational skills in the following six areas: 1. Safety and hand tools. 2. Soldering techniques. 3. Basic electricity. 4. Meter usage. 5. Printed circuit board manufacture. 6. Integrated circuit manufacture processes.
Prerequisite: None; recommend Math II and occupational writing skills courses taken concurrently.

6.336 Tech Electricity I

■4 class hrs/wk ■3 cr.■F

Introduction to basic electrical theory, safety, and D.C. meter use. Designed to prepare the student for basic electrical troubleshooting required in other industrial trades.

6.337 Tech Electricity II

■4 class hrs/wk ■3 cr.■W

Introduction to basic A.C. measurements, and A.C. calculations. Also basic theory and practical application of A.C. motors, alternators, and motor controls. Prerequisite: I 6.336.

6.338 Tech Electricity III

■4 class hrs/wk ■3 cr.■Sp

An in depth study of the theory of operation of motors, generations, and batteries. This course will give the student entry level skills and technical information required for the electrical trades. Prerequisite: 6.336, 6.337.

6.344 Elec Lab Skills II

■2 class hrs/wk ■1 cr. ■W

Second of a 2 part course in electronic lab skills. Concepts covered are: oscilloscope, function generator and XY plotter usage; printed circuit board layout, fabrication, loading and soldering.Prerequisite: Electronic Lab Skills I

6.346 Digital Circuits I

■9 class hrs/wk ■5 cr. ■F

Analysis and applications of basic digital circuits—gates through counters. Prerequisite: 6.322 or consent of instructor.

6.347 Digital Circuits II

■9 class hrs/wk ■5 cr. ■W

Theory and application of digital concepts and circuits based primarily

around integrated circuits, counters through basic digital computing systems.
Prerequisite: 6.346.

6.349 Basic Microprocessors
■9 class hrs/wk ■5 cr. ■Sp
Medium and large scale integrated digital circuit concepts aimed primarily at micro-processors and support hardware are covered. Prerequisite: 6.347.

6.554 Technical Project
■3-9 class hrs/wk ■1-3 cr. ■W/Sp
Course related field problems with student undertaking special study in a field of interest. Develops skill in gathering, sorting, finding solutions to field problems. This is an elective course for various technical curricula. Prerequisite: 6.552, Technical Math II.

Faculty:
Stewart Floyd
Richard Liebaert
James Lucas
Bruce Moos
Carolyn Mullikin
Greg Paulson
Robert Ross

Life Sciences

The Life Science Department offers one and two year programs in the agricultural sciences as well as providing biological science instruction for occupational and lower division transfer students. The department has excellant instructional facilities including three laboratories, a greenhouse, an animal technology facility, plus land areas for the practical application of classroom instruction.

Animal Technology

The Animal Technology program offers students a course of study in preparation for a wide variety of career options.

Graduates of this program are prepared for positions relating to on-farm livestock production, for jobs in the feed industry or for employment as technical assistants in an off-farm occupation such as artificial breeding.

Typical jobs open to students completing the animal technology program include livestock supplies fieldman, artificial breeding technician, herdsman, farm manager or feed technician.

LBCC is the only community college in the Willamette Valley with an animal technology program.

Persons in this program also have the opportunity to participate in related activities such as the agriculture club and livestock judging teams.

An Associate of Science degree is awarded students upon completion of the two-year curriculum, which includes general studies classes in addition to the animal technology course work.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term		
4.202	Math II	4
Winter Term		
1.102	Occupational Writing or	
WR121	English Comp	3
Spring Term		
	General Education Electives	6

SOPHOMORE YEAR

Fall Term		
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	3
Winter Term		
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	1
Spring Term		
1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3

Program Requirements

FRESHMAN YEAR

Fall Term		
8.100	Survey of Agric	1
8.125	Soils I	3
8.152	Beef Production	4
Winter Term		
8.126	Soils II	3
8.143	Anat & Physio of Farm Animals	3
8.153	Sheep Production	4
Spring Term		
8.150	Animal Genetics	4
8.146	Intro to Livestock Selection	4
8.154	Swine Production	4

SOPHOMORE YEAR

Fall Term		
	Biology or Chemistry	4
8.144	Animal Nutrition	4
	Coop Work Experience and/or Electives	6
Winter Term		
	Biology or Chemistry	4
8.130	Ag Chemicals	4
8.145	Feeds & Feeding	3
	Coop Work Experience and/or Electives	4
Spring Term		
8.167	Forage Crops	3
	Accounting Course	3
	Coop Work Experience and/or Electives	9

8.143 Anatomy and Physiology of Farm Animals
■4 class hrs/wk ■3 cr. ■W
Basic background in the physiology of farm animals. Emphasis on practical information and application valuable to the student interested in animal agriculture. Male and female anatomy, basic reproductive physiology, milk production, digestion and digestive systems, embryonic development, parasitology, immunlogy, endocrine, nervous, circulatory and respiratory systems.

8.144 Animal Nutrition
■5 class hrs/wk ■4 cr. ■W
Applied animal nutrition, covering proteins, carbohydrates, vitamins, minerals, seed additives and the utilization of these nutrients by livestock. Methods of determining feed value, basic digestion and nutrient requirements of livestock and their practical application to various livestock enterprises.

8.145 Feeds and Feeding
■4 class hrs/wk ■3 cr. ■Sp
Formulating rations for livestock. Choice of ration ingredients in relation to cost and suitability. Identification of ingredients used in livestock feeds and analysis of a prepared ration. Economics of livestock feeding and performance indicators necessary. Feed preparation, mixing and headling.

8.146 Introduction to Livestock Selection
■5 class hrs/wk ■4 cr. ■Sp
Method of criteria used to select the proper types of beef, sheep and swine. Structural soundness, correctness of body type, acceptable market standards and common deformities will be emphasized. Instruction includes applying techniques learned on live animals and oral justification.

8.147 Livestock Selection Techniques
■6 class hrs/wk ■4 cr. ■F
Techniques of judging beef, sheep, swine and horses. In-depth selection and comparative judging; concentrated work on oral reasons. Members of this class are selected for the first step in competitive inter-collegiate judging.

8.148 Advanced Livestock Selection
■6 class hrs/wk ■4 cr. ■F
For those previously enrolled in Livestock Selection Techniques and Introduction to Livestock Selection. Further development of judging skills and

techniques. Oral reasons, determining market grades and classifications, defects, soundness and the breed characteristics. Course participants selected to compete at the top level of inter--collegiate judging.

8.149 Livestock Diseases and Parasites
■4 class hrs/wk ■3 cr. ■Sp
Course covers how sickness is caused and transmitted in livestock. Common diseases and parasites of livestock, and their prevention is studied. The practical application of class material is stressed with emphasis on diagnosis and treatment.

8.150 Animal Genetics
■5 class hrs/wk ■4 cr. ■Sp
Basic concepts fundamental to animal genetics. Includes genetic possibilities, utilizing heritability for production gains, in breeding coefficient computation and practical systems of breeding for the modern livestock breeder.

8.152 Beef Production
■5 class hrs/wk ■4 cr. ■F
Basics of modern beef production and management. Breeds of cattle, mating systems, nutrition, reproduction, marketing, production testing, diseases and parasites and other management practices. Particular emphasis is on the development of beef husbandry skills.

8.153 Sheep Production
■5 class hrs/wk ■4 cr. ■W
Fundamentals of modern sheep production. Breeds of sheep, nutrition, reproduction, diseases and parasites, wool evaluation, marketing and modern management practices. The opportunity to develop practical skill is afforded each student.

8.154 Swine Production
■5 class hrs/wk ■4 cr. ■Sp
All aspects of modern swine production. Opportunity to develop skills associated with swine production. Includes breeds of swine, marketing, breeding, feeding, production testing, diseases and parasites and modern swine production problems.

8.158 Artificial Insemination
■5 class hrs/wk ■4 cr. ■F/Sp
Inseminator training program with emphasis on cattle. Knowledge of the female reproductive organs and reproductive hormones. Diagnosis of heat semen, along with insemination techniques on other species. Persons concurrently employed should enroll for 9.822 Artificial Insemination.

8.160 Intro to Animal Science
■5 class hrs/wk ■4 cr.■F
A course to introduce and familiarize the student with the various phases of the livestock industry. Instruction will include importance of the various types of livestock enterprises, terminology, marketing, basic production practices and selection techniques. Lab sessions will be spent gaining first hand experience with people in the production aspect of the livestock industry.

9.818 Horsemanship and Horse Husbandry
■4 class hrs/wk ■3 cr. ■W
Fundamentals of horse husbandry in horse behavior, reproduction and nutrition. Laboratories demonstrating basic horsemanship techniques in breaking, training, judging, foot trimming and shoeing.

9.819 Livestock Breeding and Reproduction
■3 class hrs/wk ■3 cr. ■On Demand
Reproduction function and its importance in the livestock industry. Male and female reproductive tract, reproductive hormones, artificial insemination, animal breeding, genetics, heritability, inbreeding coefficient and systems of breeding.

9.821 Livestock Nutrition
■3 class hrs/wk ■3 cr. ■On Demand
Familiarization with various aspects of livestock nutrition. Essential vitamins and minerals - their importance, role, function, deficiency symptoms and sources, protein, feed additives, ration formulation and balancing, digestion and digestive systems.

9.822 Artificial Insemination
■5 class hrs/wk ■4 cr. ■On Demand
Inseminator training program with emphasis on dairy and beef cattle. Female reproductive organs and their general function; essentials of animal hygiene and observance of sanitation practices; proper care, handling and storage of seman. Necessary breeding and calving records. Proper insemination techniques, using live animals. Those currently employed should enroll in this class.

Biological Sciences

4.220/1 Integrated Basic Science I,II (Dental)
■4-6 class hrs/wk ■3-4 cr.
■Sm/F/W/Sp
An integrated science course offered to Dental Assistant students. 4.220 Includes principles of general anatomy and physiology of the head and teeth. 4.221 Includes microbiology, pharmacology and nutrition.

BI95 Basic Biology
■3 class hrs/wk ■3 cr.■On Demand
A preparative course that stresses the instruction of basic knowledge that will aid the student in any future biological course work. This course is especially designed for those students with a non-science background, and others who would benefit from a transitional type course.

BI101/102/103 General Biology
■5 class hrs/wk ■4 cr. ■Sm/F/W/Sp
For those needing a lab science—But Not For Biology Majors. Alternative couses are occasionally offered. Alternatives are as valid as General Biology since each alternative contains many of the same principles as are taught in the General Biology course listed under the same course number; alternatives differ in point of view. General Biology may not be used to complete a previously begun sequence in Botany or Zoology. BI101: The cellular level of life. It includes units on methods and history of science, basic chemistry of life, structures and functions of the cell, energy manipulation, cell reproduction, basic inheritance, patterns and gene function. Alternative: Diseases and Drugs. BI102: This course deals with the structures and functions of plants and animals, as well as their behavior. Alternative: Human Body. BI103: This course deals with the diversity, evolution and ecology of living things. Alternative: Marine Biology.

BI111 Diseases and Drugs
■6 class hrs/wk ■4 cr.■On Demand
Introduction to basic cell biology will set the stage for studying at the cellular level whenever possible. Both genetic and microorganism caused diseases will be studied. Also included will be common drugs and their modes of action. Nutritional and psychological states will be considered along with disease states. The body's methods for fighting disease will be covered.

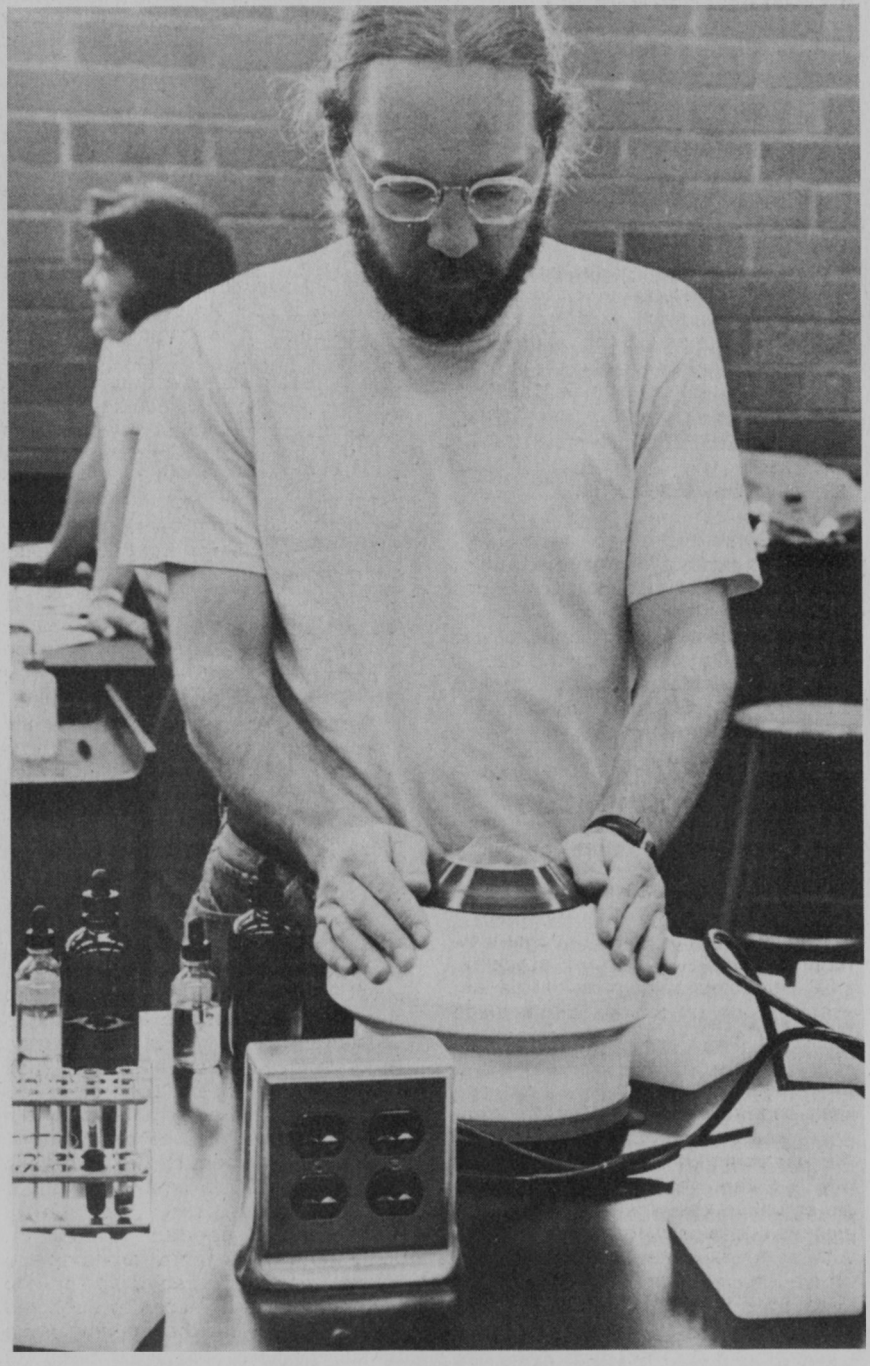
BI123 Microbiology
■5 class hrs/wk ■4 cr.■On Demand
An introductory course in the field of microbiology. All forms of microbial life will be considered with emphasis on bacterial forms. This course will emphasize application of microbiology to everyday living, medical, industrial, food, water and sanitation will be reviewed.

BI221/222/223 Human Biology
■4-6 class hrs/wk ■3-4 cr. ■F/W/Sp
This course is of particular benefit to those students in the health profession, biology majors, and others who are interested in the anatomical and physiological basis of health and disease. It emphasizes that concepts and information critical to a basic understanding and working knowledge of the human body. Laboratory experiences are directly related to lectures. College level Prerequisities: Elements of Algebra (1.110) and Basic Chemistry (4.205) or equivalent. BI221: Gives the student the basic biochemistry needed for a full understanding of human anatomy and physiology, then, beginning at the cellular level, progresses through the skeletal system and the anatomy of the

muscular system. BI222: Begins with physiology of muscular system and covers the anatomy and physiology of the nervous system, senses, endocrine and finally anatomy of the circulatory system. Prerequisite: BI221. BI223: Physiology of circulatory system, anatomy and physiology of respiratory,digestive, urinary and reproductive systems plus fluid and electrolyte balance. Prerequisite: BI222.

BO201/202/203 General Botany
■6 class hrs/wk ■4 cr. ■F/W/Sp

Primarily for science majors. Other interested students are not excluded. No college level prerequisites, but it is expected that students have a recent background in high school science and mathematics or equivalent. Science majors encouraged to enroll in chemistry and mathematics concurrently.
BO201: Survey of plant kingdom, including bacteria, algae, fungi, mosses, and vascular plants (ferns and allies gymnosperms and angiosperms). Some fossil plants included. BO202: Morphology (structure), physiology (function), and genetics of seed plants (mostly angiosperms, although gymnosperms discussed when obviously different). Prerequisite: BO201 or instructor approval. BO203: Indentification of flowering plants, both native and introduced weeds. Study of important families, their floral morphology and if distinctive their vegetative characteristics. Brief introduction to ecology.



ZO201/202/203 General Zoology
■5 class hrs/wk ■3 cr. ■F/W/Sp

This is primarily for science majors. Other interested students are not excluded. No college level prerequisites, but it is expected that students have recent background in high school science and mathematics or equivalent. Science majors encouraged to enroll in chemistry and mathematics concurrently. ZO201: introduction to animal physiology: the study of cell physiology and animal systems with emphasis on vertebrates. ZO202: introduction to genetics, evolution and ecology and embryology. ZO203: survey of the animal kingdom, with emphasis on environmental relationships.

4.215 Microbiology for Nurses
■3 class hrs/wk ■2 cr. ■F

A basic course in general microbiology with emphasis on microorganisms associated with disease; cause and effects of various diseases, transmissions of pathogens; control of microbial infections and disease.

FN225 Nutrition
■4 class hrs/wk ■4 cr. ■F/W/Sp

Individual nutrients, there functions, sources, effects of deficiency, and recommended daily allowances are covered. Digestion and metabolism are discussed. Socio-economic influences as well as an expanded discussion of infant nutrition and obesity are included. Current areas of interest in nutrition and food fads are discussed. A background in chemistry is helpful.

GS199 General Science/Special Studies
■1-12 class hrs/wk ■1-4 cr.
■F/W/Sp/Sm

Students desiring to take another General Biology alternative under the same course number may do so under this number and receive transferable credits. Students desiring to carry independent studies in the life sciences may do so under this number. Students will be screened for transferable credit. The number of credits given depends upon the nature of the study and the amount of effort needed to accomplish the task.

Crop Management

Agriculture is an industry offering a wide variety of employment including providing supplies and services to farmers, products.

The Crop Management curriculum is designed to qualify students for a variety of occupations in crop agriculture. The student has the opportunity to choose from specific agriculture courses and related business courses that will enable him or her to work towards one of the following areas of employment:

Agriculture chemical fieldman, food processor fieldman, seed fieldman, retail sales, farm supply sales representative, seed salesman, farmer, farm foreman, custom applicator, warehouse manager.

Individuals interested in the program should enjoy working outdoors and with living things. The combination of manual and mental work make for satisfying careers.

Students enrolling in the program may choose a one-year certificate program or the two-year curriculum leading to an Associate of Science Degree.

Students are encouraged to participate in an on-the-job experience during spring and/or summer quarter between the first and second year of the Associate Degree program. Those interested should refer to the appropriate section of the catalog under Cooperative Work Experience and consult the Department Chairperson.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term

4.202	Math II	4

Winter Term

1.102	Occupational Writing or	
WR121	English Comp	3

Spring Term

	General Education Electives	3

SOPHOMORE YEAR

Fall Term

1.103	Occupational Speech or	
SP111	Interpersonal Speech	
	Comm or	
SP112	Fundamentals of Speech	3
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or	
	PE Activity Courses	2

Winter Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or	
	PE Activity Courses	1
	General Education Electives	3

Spring Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or	
	PE Activity Courses	1

Program Requirements

FRESHMAN YEAR

Fall Term

8.100	Survey of Agriculture	1
8.125	Soils I	3
8.131	Pest Management	3
8.165	Plant Science	4

Winter Term

8.126	Soils II	3
8.130	Agricultural Chemicals	4
8.188	Ag Equipment Maintenance	3

Spring Term

1.606	Intro to Psychology	3
8.127	Soils III	3
8.167	Forage Crops	3
	Electives	2

SOPHOMORE YEAR

Fall Term

CH101	General Chemistry I	4
8.138	Irrigation & Drainage	3
	Business Electives	6

Winter Term

4.151	Welding	3
CH102	General Chemistry II	4
8.166	Vegetable Technology	3
8.170	Farm Management or	
AE111	Agricultural Economics	3

Spring Term

1.200-1	Work Experience & Seminar	12

8.100 Survey of Agriculture
■1 class hrs/wk ■1 cr. ■F

Information on employment opportunities in marketing, sales, service, processing, management, and distribution functions that are related to agriculture off-farm occupations.

8.120 Seed Technology
■4 class hrs/wk ■3 cr. ■On Demand

Reproductive processes, environmental response and the harvesting and processing of seed crops. Laws and regulations governing the seed industry and seed certification programs. Laboratory work emphasizes weed and crop identification, seed processing and seed testing.

8.125 Soils I
■4 class hrs/wk ■3 cr. ■F

Necessary soil science background for work with fertilizer, irrigation, drainage, and other managements practices. Physical, chemical and biological properties of the soil discussed in relation to plant growth.

8.126 Soils II
■4 class hrs/wk ■3 cr. ■W

Second phase of soils instruction dealing with plant nutrition, and the proper use of fertilizer and other soil amendments. Diagnosing plant problems, soil testing, fertilizer recommendation, methods of application and storage and handling emphasized.

8.127 Soils III
■3 class hrs/wk ■3 cr. ■Sp

Third sequence to deal with practical application of knowledge of fertilizers. Special emphasis given to field projects to promote understanding and skill competencies.

8.130 Agriculture Chemicals
■5 class hrs/wk ■4 cr. ■W

Use and chemistry of herbicides, insecticides, fungicides and nematodides. Types of material, safety in handling and storage and method of application emphasized. Students develop ability to interpret and explain to customers the directions and precautions to be observed with various agriculture chemicals. Attention also given to procedures used in keeping current with new product development.

8.131 Pest Management
■4 class hrs/wk ■3 cr. ■F

Includes the classification, anatomy, growth, life history, recognition and control principles of selected weeds, diseases, and insect pests.

Turf Management

Turf Management offers a combination of manual and mental work, much of it out of doors, involving all manner of planning, installing and maintaining turf facilities such as parks, lawns, playing fields and golf courses. It also encompasses allied work in seed and sod production, irrigation, sales of equipment, fertilizers and pesticides as well as other sales and service functions related to the turf industry such as landscaping.

The Turf Management curriculum is designed to qualify students for entry level employment in the following fields:

Golf course maintenance, grounds maintenance, landscape construction and maintenance and equipment and supply sales.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or

physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR
Fall Term

1.102	Occupational Writing	
WR121	English Comp	3
Winter Term		
4.202	Math II	4

SOPHOMORE YEAR
Fall Term

1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3
Winter Term		
	General Education Electives	3
Spring Term		
HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or	
	PE Activity Courses	4
	General Education Electives	3

Program Requirements

FRESHMAN YEAR
Fall Term

8.100	Survey of Agriculture	1
8.125	Soils I	3
8.131	Pest Management	3
8.165	Plant Science	4
Winter Term		
8.126	Soils II	3
8.130	Agricultural Chemicals	4
8.135	Turf Management I	3
8.188	Ag Equipment Maintenance	3
Spring Term		
1.606	Intro to Psychology	3
8.127	Soils III	3
8.136	Turf Management II	3
8.168	Plant Identification	3

SOPHOMORE YEAR
Fall Term

CH101	General Chemistry I	4
8.138	Irrigation and Drainage	3
8.140	Landscape Maintenance	3
Winter Term		
4.151	Welding	3
CH102	General Chemistry II	4
8.137	Plant Propagation	3
8.141	Landscape Planning	3
Spring Term		
1.200-1	Coop Work Experience & Seminar	12

8.135 Turf Management I
■4 class hrs/wk ■3 cr. ■W
Introduces and develops the art and science of turf-grass culture. Grass identification and maintenance, fertilizer and water requirements, weed, insect and disease identification and control and other turf problems are emphasized.

8.136 Turf Management II
■4 class hrs/wk ■3 cr. ■Sp
Provides students with opportunity to adapt and apply principles and theories taught in Turf Management I. Field trips to observe common practices, and actual maintenance and management of turf areas by students. Business practices and procedures also emphasized.

8.137 Plant Propagation
■4 class hrs/wk ■3 cr. ■F
Principles, methods, techniques and facilities used to propagate turf grasses and other ornamentals.

8.138 Irrigation and Drainage
■4 class hrs/wk ■3 cr. ■F
Principles and practices of irrigation, including soil, water, and plant relations; and water sources, quality, methods of distribution and measurement. System design and selection also emphasized. Surface and subsurface drainage systems.

8.140 Landscape Maintenance
■5 class hrs/wk ■3 cr. ■F
Principles, methods, techniques, and use of equipment for maintenance of turf areas.

8.141 Landscape Planning
■5 class hrs/wk ■3 cr. ■W
Basic layout and design, site utilization and orientation of turf facilities. Landscape contours, grading, trees, shrubs, floral selection, utilization and fertilization.

8.165 Plant Science
■5 class hrs/wk ■4 cr. ■F
Basic structure of plant life with emphasis on crop and ornamental plants. Environmental forces discussed in relation to plant development and selection. Identification of common plants.

8.166 Vegetable Technology
■4 class hrs/wk ■3 cr. ■W
Applied course of study of the major vegetable crops. Cultural practices such as fertilization, irrigation, cultivation, pest control, harvesting, marketing and cost analysis emphasized.

8.167 Forage Crops
■4 class hrs/wk ■3 cr. ■Sp
Emphasizes practices that produce maximum economic returns for land devoted to hay, pasture or range land. Establishment, management, fertilization, pest control, rotations, irrigation and renovation.

8.168 Plant Identification
■4 class hrs/wk ■3 cr. ■Sp
An introductory course to woody plants used for landscape purposes. Students learn to identify each plant by its seasonal characteristics. The form, habit, height, spread, soil requirements, root system, flower, fruit and horticultural usefulness are studied. Plant taxonomy is considered and botanical names are stressed.

8.170 Farm Management
■3 class hrs/wk ■3 cr. ■On Demand
Selection, organization, and operation of the modern farm. Emphasis on the basic economic and agricultural principles upon which the farm business is organized and operated. Laboratory periods provide time for observing and practicing farm operations and management.

8.188 Agricultural Equipment Maintenance
■4 class hrs/wk ■3 cr. ■W
Principles, maintenance and repair of small engines used on power equipment.

AE111 Agricultural Economics
■3 class hrs/wk ■3 cr. ■On Demand
Introduction to the application of economics to agriculture. Includes production economics, marketing, agriculture policy and a discussion of agri-business.

9.812 Seed Cleaning
■3 class hrs/wk ■3 cr. ■On Demand
Entry and updating skills for seed cleanermen. Includes equipment operation, safety, maintenance, and repair. Seed laws and regulations, seed and weed identification, and warehouse practices.

9.813 Agriculture Chemicals
■3 class hrs/wk ■3 cr. ■On Demand
Use and chemistry of herbicides, insecticides, fungicides and nematocides. Types of materials, safety in handling and storage, and methods of application emphasized. Students develop the ability to interpret and to explain to customers the directions and precautions to be observed with various agriculture chemicals. Attention to procedures used in keeping current with new product development.

9.814 Soils and Fertilizers
■3 class hrs/wk ■3 cr. ■On Demand
Presentation and discussion of basic facts of science as they relate to crop production.

Farm Management/Records Analysis

Farm Management-Records Analysis is a specialized adult program designed for a minimum of three years for local farm families—including all members of the farm unit—who are now actively farming or ranching on a full-time basis. The program is a service as well as an educational program. Enrollment will be for a period of one year.

The three-year program consists of scheduled class meetings, scheduled farm visits by the instructor, keeping basic farm records for each farm business, annual computer analysis for each completed record, including group averages.

Application of analysis information

to improving the management and organization of each business. (Individual records are confidential.)

Individual enrollment may extend beyond three years on a seminar basis if desired, providing continued analysis of farm records and assistance with management decisions. The frequency of class sessions and instructor visits would be reduced for an advanced group.

Program Prerequisites.

(1) The family unit is engaged in full-time farm operation and is making the family living from the operation. (2) The farm operation is financially stable for continued operation. (3) The family unit has the ability to maintain basic farm records.

9.835 Farm Management/Records Analysis I
■10 lec 20 lab/mo ■8 cr./yr.
■F/W/Sp/Sm

The participating farm or ranch family--including both husband and wife--attends a series of scheduled class sessions. Class sessions are supplemented by scheduled farm visits by the instructor. Subject matter for this first year will be keeping basic farm records.

9.836 Farm Management/Records Analysis II
■10 lec 20 lab/mo ■8 cr./yr.
■F/W/Sp/Sm

Same as 9.835 - Subject matter for this second year will be farm business analysis.

9.837 Farm Management/Records Analysis III
■10 lec/20 lab hrs/mo. ■8 cr./yr
■F/W/Sp/Sm

Class meeting and instructor visits continue as for the preceding two-years 9.835 and 9.836.

9.838Farm Management/Records Analysis Seminar IV
■5 lec 0 lab/mo ■4 cr./yr.
■F/W/Sp/Sm

Class meeting and instructor visits as needed to keep and analyze records.

Faculty:
Lynn Exton
Ron Mason
Micheal Morgan: Chairperson
Wally Reed
Robert Ulrich
Joan Miller

Mathematics

1.109 Pre-Business Mathematics
■4 class hrs/wk ■1-3 cr. ■F/W/Sp

Preparation for 2.515, Business Mathematics. Includes a review of fundamental operations with whole numbers, fractions, decimals and percentages.

1.110 Elements of Algebra
■4 class hrs/wk ■1-4 cr. ■F/W/Sp

Introduction to field properties for real numbers. Development of the basic operations with algebraic expressions and methods for solving linear equations..Introduces rational expressions, factoring, and graphing and develops the solution of quadratic equations by factoring. Designed for the student who has no previous instruction in algebra, needs a review of elementary algebra, or has had previous algebra, but has not been exposed to the "modern" concepts.

1.127 Study Skills Seminar-Mathematics
■3 class hrs/wk ■0-3 cr. ■F/W/Sp

Fulfills student objectives which are developed in conjunction with the instructor. After the objectives and level of instruction are determined, a schedule is developed to provide optimum instruction and opportunity to practice and improve in the specific math area. Since the objectives vary greatly, number of credits are determined in conference with the instructor.

4.200 Math I
■4 class hrs/wk ■1-4 cr. ■F/W/Sp

Thorough review of arithmetical processes. Provides a basis for the study of algebra or Math II. Includes fundamental operations with whole numbers, fractions, decimals, percentages, and measurement.

4.202/204 Math II,III
■4 class hrs/wk ■1-4 cr. ■F/W/Sp

Develops mathematical skills necessary for problem solving associated with occupational programs. 4.202: Emphasis on measurement and conversion, integers, introduction to algebra, solving simple equations, ratio and/or geometry. Algebra and geometry are applied to the solution of typical occupational formulas and related problems. Prerequisite: Math I (4.200) or satisfactory arithmetic score or consent of instructor. 4.204: Emphasis on ratio and proportion and/or geometry, graphing and right triangle trigonometry. Geometry and trigonometry are used to solve typical occupational formulas and related applied problems. Prerequisite: MT II (4.202) or consent of instructor.

6.550 Pre-tech Mathematics
■4 class hrs/wk ■4 cr. ■F

Algebra used to solve basic problems in geometry, emphasizing both the metric and the coordinate approach. Prerequisite: At least a "B" in high school Algebra I, Elements of Algebra (1.110) and/or consent of the instructor.

6.551/552/553 Technical Math I,II,III
■4 class hrs/wk ■4 cr. ■F/W/Sp

Develops general mathematical and computational skills that assist technicians in their training and on their jobs. Emphasis on problem solving. It is necessary for an entering student to have had two years of algebra and a year of geometry in high school. An entering student not meeting these criteria should complete Elements of Algebra (1.110) and Pre-Tech Mathematics (6.550) before beginning the Tech Math I,II,III sequence. 6.551: A study of algebraic functions, systems of linear equations, quadratic equations, exponents and radicals, logarithms, and exponential function. Emphasis on technical applications and problem solving. Prerequisite: Algebra I and Geometry, Pre-Tech Math (6.550) or consent of instructor. 6.552: Trigonometric functions and identities with applications, vectors, conditional equations, and complex numbers with applications. Prerequisite: 6.551. 6.553: Analytic Geometry, intutitive introduction to differential and integral calculus. Emphasis placed on functions and applications to technical areas. Prerequisite: 6.552.

MT95 Intermediate Algebra
■4 class hrs/wk ■1-4 cr. ■F/W/Sp

Basic operations on algebraic, rational, and radical expression. Solution of first and second degree equations and equations involving radicals, algebraic and graphical solutions for inequalities and absolute values, linear and quadratic functions. Stated problems and applications. Recommended for students having high school algebra and geometry with above average grades or those with lower grades and more math in high school. Prerequisite: Must demonstrate the knowledge of the stated objectives for Elements of Algebra course.

MT101 College Algebra
■4 class hrs/wk ■4 cr. ■F/W/Sp

Review of algebraic operations; introduction to functions; graphs of relations and functions; emphasizing linear, quadratic, exponential and logarithmic functions; polynomials; theory of equations. Linear inequalities and systems of equations with introduction to matrices. Prerequisite: MT95 and/or consent of instructor.

MT102 Trigonometry
■4 class hrs/wk ■4 cr. ■F/W/Sp

Introduction to circular functions, trigonometric functions, curve sketching, complex numbers, polar coordinates, right triangle trigonometry, identities, trigonometric equations. Prerequisite MT101.

MT103 Probability & Statistics
■4 class hrs/wk ■4 cr. ■W/Sp

Probability; binomial, normal, student-T, chi-square, and F-distributions; tables, analysis of variance. Prerequisite: MT95.

MT104 Statistics
■4 class hrs/wk ■4 cr.■On Demand

Probability, the binomial, normal, student-T, chi-square, and F hypothesis testing, linear regression, contingency tables, analysis of variance. Prerequisite: Math 95.

MT106 Elementary Calculus
■4 class hrs/wk ■4 cr. ■Sp
The differential and integral calculus of algebraic functions. Prerequisite: MT95.

MT110 Analytic Geometry
■4 class hrs/wk ■4 cr. ■F/Sp
Conic sections, polar coordinates, polar graphing, vectors and solid analytical geometry. Prerequisite: MT101, 102.

MT132 Programming Calculators Engineering
■2 class hrs/wk ■2 cr. ■On Demand
This course is designed to meet the calculating needs of the technician in electronics, civil and structural engineering and technical drafting. Engineering methods and related problem solving will be considered. Prime emphasis will be placed on using electronic computing devices. Electronic calculator required. Prerequisite: Math 101, 105 or Tech Math II.

MT133 Computer Programming Engineering
■4 class hrs/wk ■3 cr. ■On Demand
This course is designed to introduce Engineering Technicians and Math Science students to how micro computers are used to solve problems in science and engineering. Prerequisite: Computer illiteracy and MT 101, or 105 or 132.

MT137 Introduction to Micro Basics
■2 class hrs/wk ■3 cr. ■On Demand
This course is designed to give participants the opportunity to experience running and programming the type of computer that a person may buy for their own business, management, farm, etc. use.

MT161/162/163 Mathematics for Non-Science Majors
■4 class hrs/wk ■4 cr. ■F/W/Sp
Mathematical foundation and computation skills for the non-science major. Selected topics from the broad field of mathematics relevant to business and social science courses with the usefulness of mathematical concepts stressed. MT161,162,263 need not be taken in sequence. Prerequisite: MT95 and/or consent of instructor.

MT171 Math with Pocket Calculators
■1-4 class hrs/wk ■1-4 cr. ■On Demand
This is a variable credit course designed to teach the student how to use his/her calculator. It begins with basic arithmetic skills and progresses through Algebra and Trigonometry.
The first unit covers basic arithmetic skills; the second unit covers applications of the basic arithmetic skills; the third unit covers algebraic operations; the fourth unit covers operations related to trigonometric and logarithmic functions. Prerequisite: Elements of Algebra or consent of Instructor.

MT173 Basic on Microcomputers
■3-4 class hrs/wk ■2-3 cr. ■On Demand
Course for students interested in microcomputers as applied to technical and scientific problem solving.

MT200/201/202/203 Calculus
■4 class hrs/wk ■4 cr. ■F/W/Sp
Standard sequence for students in mathematics, science, and engineering. MT200: Functions and graphs, limits, continuity differentiation, application of differentiation, related rates and extrema, anti-differentiation. Prerequisite: MT110 and/or consent of instructor. MT201: The definite integral, fundamental theorem of calculus applications of integration, differentiation and integration of transcendental and trigonometric functions. Prerequisite: MT200. MT202: Techniques of integrations, approximate integration, vectors in the plane, hyperbolic functions, improper integrals, vectors and analytic geometry in three dimensional space. Prerequisite: MT201. MT203: The calculus of functions of several variables, infinite series, Taylor's theorem, differentiation and integration of power series, partial differentiation, the gradient, and integration of power series, directional derivative, and multiple integrals. Prerequisite: MT202.

MT221/222 Applied Differential Equations
■4 class hrs/wk ■4 cr. ■F/W
Ordinary differential equations, systems of differential equations. Laplace transforms, series solutions, boundary-value problems. Must be taken in sequence. Prerequisite for MT221 is MT203. Offered every other year.

MT233 Introduction to Numerical Computation
■5 class hrs/wk ■4 cr. ■On Demand
Emphasis on using the computer as a problem solving tool. Programming techniques will be introduced to facilitate problem solving. The student will solve a wide variety of problems from the fields of Business, Mathematics, Physics, Biology and other sciences. The computer language used will be BASIC. Prerequisite: MT101.

MT241 Elementary Linear Algebra
■4 class hrs/wk ■4 cr. ■W/Sp
Vector spaces, linear transformation, matrices and determinants, characteristic roots. Prerequisite: MT200.

GS199 Small Calculators
■1 class hr/wk ■1 cr. ■F/W/Sp
Individualized instruction and practice in the use of small calculators—information on prices, availability, and features of small calculators. Topics covered may include reverse polish notation, algebraic notation, the uses of memory register, chain arithmetic, scientific notation, root approximation, numerical integration and programming.

Faculty:
John Kraft, Chairperson
Dave Benson
Raymond David Perkins
Steve Rasmussen

Physical Sciences

The Physical Science Department offers a two-year program in Science Laboratory Technology as well as providing physical science instruction for other occupational programs and lower division transfer students. The department has excellent teaching laboratories and lecture rooms plus an analytical instrumentation laboratory. Courses are offered in physics, chemistry, astronomy, geology, meteorology, scientific glass blowing.

CH101/102 Basic Chemistry
■6 class hrs/wk ■4 cr. ■F/W
Introductory two-quarter sequence for vocational students or students needing preparation prior to entering CH201. Includes inorganic and organic chemistry with practical laboratory experiments integrated with discussion material. No previous chemistry course work required. Three lectures, a two-hour lab, and a one-hour study-help session per week.

CH103 General Chemistry
■5 class hrs/wk ■3 cr. ■On Demand
Survey course of inorganic and organic chemistry. Designed as a service course for students not intending to major in science or engineering. This course will not transfer as a prerequisite for advance chemistry courses and cannot be used as a sequence for science majors. High school chemistry is not required.

CH104/105/106 General Chemistry
■7 class hrs/wk ■5 cr. ■F/W/Sp
Introduction to atoms, ions, molecules, their chemical and physical interactions, and how that affects the nature of matter. Includes inorganic, organic, and biochemistry. Corequisite: MT95. Prerequisite: High school physical science (high school chemistry is desirable). An inexpensive calculator performing scientific notation is recommended.

CH201/202/203 General Chemistry
■6 class hrs/wk ■4 cr. ■F/W/Sp

A year sequence for chemistry, science and engineering students. Introduces the physical and chemical aspects of inorganic and organic. Corequisite: MT101. Prerequisite: High school chemistry or Basic Chemistry I and II. An inexpensive calculator performing scientific notation is strongly recommended.

CH230/231 Organic Chemistry
■7 class hrs/wk ■5 cr. ■F/W

The chemistry of the carbon compounds: aliphatic, aromatic, heterocyclic and compounds of biochemical importance. Prerequisite: Ch 201, 202, 203.

CH234 Quantitative Analysis
■8 class hrs/wk ■4 cr. ■W

Service course on gravimetric, volumetric and instrumental analytical techniques for students in biological and physical sciences. Prerequisite: CH106 or CH203.

GS104/105/106 Physical Science
■5 class hrs/wk ■4 cr. ■F/W/Sp

Survey course in physical science intended to provide a broad background in physical science for the liberal arts student and the non-science major. No previous science background is required. May not be taken for credit if the student has completed six or more hours in a college-level course in chemistry or physics. Students may enter any term. GS104: Fundamental principles of physics. GS105: Principles of chemistry. GS106: Nuclear energy, astronomy, meteorology and earth science. Prerequisite: 1.110 Elements of Algebra completed.

GS199 General Science Special Topics
■1-4 class hrs/wk ■1-4 cr. ■On Demand

General introductory one-term course in the physical sciences. Topics may include chemistry, physics, astronomy, geology and alternate energy resources.

P201/202/203 General Physics
■6 class hrs/wk ■4 cr. ■F/W/Sp

College physics for science majors and others planning to transfer credit to a four year college or university. Includes the study of motion, forces, momentum and energy, vibration, wave motion, sound and light, optics, heat, electricity and magnetism, elementary atomic and nuclear physics, and special relativity. Prerequisite: Tech Math I or MT95, and be taking Tech Math II or MT101 concurrently. Inexpensive calculator with trig functions and scientific notation is strongly recommended.

P211/212/213 General Physics
■4 class hrs/wk ■4 cr. ■On Demand

A treatment of the basic prinicples of physics, intended primarily for students in science and engineering. Mathematical techniques in physics are emphasized; elementary vector analysis and the physical interpretation of calculus are developed concurrently. Three lectures and one recitation.

4.300/4.302 Practical Physics
■6 class hrs/wk ■4 cr. ■W/Sp

A two-term introductory course in principles of physics for vocational students in refrigeration-air conditioning, carpentry, auto mechanics, lab technician programs, etc., who need to learn the basic principles of physics with a minimum of mathematics background. Winter: Mechanics. Spring: Optics, Heat, Electricity and Energy. Prerequisite: Math III or Elements of Algebra completed.

6.214/215/216 Technical Physics
■6 class hrs/wk ■4 cr. ■F/W/Sp

An introductory physics course which may be taken for two terms or three terms. For students in technical fields such as drafting, electronics-electricity, metallurgy, etc., who need a background in physical principles. Fall: Mechanics. Winter: Electricity-Magnetism. Spring: Optics, Heat, Energy. Prerequisite: Pre-Tech Math completed; Tech Math I concurrently. Inexpensive calculator with trig functions and scientific notation is strongly recommended.

6.244 Scientific Aspect of Printing
■3 class hrs/wk ■3 cr. ■On Demand

An introduction to the chemical and physical processes involved in the printing process and industry. Topics include basic chemistry and physics of paper, ink, photograph, simple machines, gases, liquids, light and color with examples drawn from printing equipment and materials.

AS101 Rudiments of Meteorology
■1-3 class hrs/wk ■1-3 cr. ■On Demand

A descriptive treatment of weather phenomena, including winds, air masses fronts, clouds and precipitation. No prerequisite.

9.645 Scientific Glass Blowing
■3 class hrs/wk ■3 cr. ■On Demand

Introduction to scientific glass blowing. Properties of glasses, construction, repair and modification of glass laboratory equipment.

GS199 Astronomy
■3 class hrs/wk ■3 cr. ■On Demand

An introductory one-term course covering rudiments of astronomy. Topics include studies of the solar system, our galaxy, and the universe. Students will have opportunities during the laboratory sessions to view the moon, planets, and stars through LBCC's 6-inch and 8-inch reflector telescopes.

Science Lab Technology

The Science Lab Technology program at Linn-Benton expands career options for students interested in environmental and science-related work.

Course work for students in the two-year vocational program covers biological and physical science laboratory operation. Additionally, lower division transfer courses can be taken at LBCC and transferred later to an Oregon four-year college or university.

The vocational science lab curriculum prepares students for positions as laboratory technicians in chemical and biological labs and water treatment plants.

Specific job openings are available in treatment plants, rare metals laboratories, pulp and paper companies, governmental laboratories associated with environmental concerns, and university research laboratories.

Technicians are needed to work with scientists and engineers on numerous current areas of research including energy sources, pollution control, environmental monitoring, and food production.

Graduates of the two-year program receive an Associate of Science degree upon completion of course work.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term		
1.102	Occupational Writing or	
WR121	English Comp	3
1.110	Elements of Algebra	4
Winter Term		
1.103	Occupational Speech or	
WR121	English Comp	3

SOPHOMORE YEAR

Fall Term		
HE252	First Aid	3
	PE Activity Courses	1
	General Electives	3
Winter Term		
	General Electives	3

Program Requirements

FRESHMAN YEAR

Fall Term		
CH101	General Chemistry	4
6.130	Laboratory Procedures	2
6.336	Technical Electricity I	3

Winter Term

CH102	General Chemistry	4
6.131	Laboratory Procedures	2
MT95	Intermediate Algebra	4

Spring Term

CH106/ CH103	General Chemistry	4
6.132	Laboratory Procedures	2
BI123	Microbiology	4
6.114	Aquatic Microbiology	4

SOPHOMORE YEAR

Fall Term

9.645	Scientific Glassblowing	3
	Electives	8

Winter Term

4.300	Practical Physics	4
6.135	Instrumental Analysis	4
	Electives	8

Spring Term

4.302	Practical Physics	4
1.200	Cooperative Work Experience	12

Faculty:
Everet Arasmith
John Carnegie
Leroy Heaton
Paul Klopping
John Wooley

Water and Wastewater Technology

The Water/Wastewater Technology program is divided into three programs.

Wastewater Technology—Develops graduates qualified for employment as wastewater plant operators, engineering technicians, technical representatives for various manufacturing concerns. A firm foundation in the sciences of chemistry, microbiology, and fluid hydraulics is offered, followed by specialized courses in which the student performs the actual test used in treatment plant control.

This curriculum leads to a two-year Associate of Science Degree. Curriculum requires enrollment for seven consecutive quarters. Due to the technical nature of the field, students must enter the curriculum with a mathemetics background allowing enrollment in Tech Mathematics I.

Water/Wastewater Technology—Graduates can work in either the water treatment field or the wastewater treatment field at the technician level. The course work is similar to that described for the Wastewater Technology program but it includes additional courses in water treatment processes. Students who complete the two year program are awarded an Associate of Science degree.

Water/Wastewater Plant Operator—Prepares students in a four quarter certificate program to find employment as treatment plant operators. Further courses cover all phases of treatment plant operation including maintenance, administration, budget preparation, public relations, purchasing, and report writing. Hands-on-training is provided when the student works full-time in a wastewater treatment plant.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term

1.102	Occupational Writing or	
WR121	English Comp	3

SOPHOMORE YEAR

Fall Term

	General Education Electives	6

Winter Term

1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3

Spring Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
0.571	CPR and/or PE Activity Courses	4

Program Requirements

FRESHMAN YEAR

Fall Term

6.190	Intro to W/WW Operations	6
6.193	Intro to Aquatic Chem and Micro	4
	**Appropriate Math	4

Winter Term

6.191	Water Systems Operations	6
6.194	Basic Aquatic Chem and Micro	4
6.180	Wastewater Mechanics I	2
4.100	Blueprint Reading	2
	**Appropriate Math	4

Spring Term

6.192	Pri. and Sec. Treatment	6
6.195	Inter. Aquatic Chem and Micro	4
6.181	Wastewater Mechanics II	3
	**Appropriate Math	4

Summer Term

6.168	In-plant Practicum	16

SOPHOMORE YEAR

Fall Term

	**Associate Degree students must complete Tec II	
6.154	Process Interaction	4
6.174	Inter. Aquatic Chem	4
9.500	Elements of Supervision	3

Winter Term

6.155	Adv. Waste Treatment	4
6.235	Applied Hydraulics	4
	Technical Electives	6

Spring Term

6.554	Technical Project	3
6.161	Water/Wastewater Management	3
	Technical Electives	6

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

FRESHMAN YEAR

Fall Term

1.102	Occupational Writing or	
WR121	English Comp	3

SOPHOMORE YEAR

Fall Term

	General Education Electives	3

Winter Term

1.103	Occupational Speech or	
SP111	Interpersonal Speech Comm or	
SP112	Fundamentals of Speech	3
	General Education Electives	3

Spring Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid and/or	
	PE Activity Courses	4

Program Requirements

FRESHMAN YEAR

Fall Term

6.190	Intro to W/WW Operations	6
	**Appropriate Math	4

Winter Term

6.191	Water Systems Operations	6
6.193	Intro to Aquatic Chem and Micro	4
6.194	Basic Aquatic Chem and Micro	4
6.180	Wastewater Mechanics I	2
4.100	Blueprint Reading	2
	**Appropriate Math	4

Spring Term

6.192	Pri and Sec Treatment	6
6.195	Inter Aquatic Chem and	

	Micro	4
6.181	Wastewater Mechanics II	3
	**Appropriate Math	4
Summer Term		
6.168	In-plant Practicum	16
SOPHOMORE YEAR		
Fall Term		
6.154	Process Interaction	4
6.164	Water Sources	4
6.174	Inter Aquatic Chemistry	4
9.500	Elements of Supervision	3
Winter Term		
6.166	Water Purification Systems	4
6.155	Adv Waste Treatment	4
6.235	Applied Hydraulics	4
Spring Term		
6.165	Water Distribution	4
6.554	Technical Projects	3
6.161	Water/Wastewater Management	4

Program Requirements

Fall Term		
6.190	Intro to W/WW Operations	6
6.193	Intro to Aquatic Chem and Micro	4
WR120	Basic Writing	3
	**Appropriate Math	4
Winter Term		
6.191	Water Systems Operations	6
6.194	Basic Aquatic Chem and Micro	4
6.180	Wastewater Mechanics I	2
4.100	Blueprint Reading	2
	**Appropriate Math	4
Spring Term		
6.192	Pri and Sec Treatment	6
6.195	Inter Aquatic Chem and Micro	4
6.181	Wastewater Mechanics II	3
9.317	Multi-Media First Aid	1
	**Appropriate Math	4
Summer Term		
6.168	In-plant Practicum	16

**Certificate Degree Students must complete Math III

6.130/132 Laboratory Procedures I, II, III

■4 class hrs/wk ■2 cr. ■F/W/Sp

Practical experience and orientation in the field of Laboratory Technology. On-site observation of the role of laboratory technicians in industrial, governmental and academic laboratories. Practical and theoretical training in techniques and procedures common to science laboratories safety, storage and housekeeping procedures; laboratory data handling and recordkeeping; sampling techniques; handling and prepartation of chemicals, including weighing, preparation of solutions, and standardizing reagents. Systematic theoretical and practical study of analytical techniques including both chemical methods and instrumental methods such as chromatograph and spectrophotometry. Prerequisite: Enrollment in Science Laboratory Technology Curriculum. Corequisite: CH101 General Chemistry I or equivalent and ecology of protozoa.

6.135 Instrumental Analysis

■6 class hrs/wk ■4 cr. ■W

Systematic study of instrumental laboratory procedures as applied to analytical chemistry. Designed to provide an understanding of both theory and techniques required to perform analysis associated with the techniques of chromatography and spectrophotometry. Prerequistie: Gerneral Chemistry CH102.

6.154 Process Interaction

■6 class hrs/wk ■4 cr. ■G

This course deals with wastewater treatment process interaction and total system design. The emphasis is on mathematical concepts relating to organic and hydraulic loading to design criteria and plant performance. Depending upon which area is most interesting to the student, he or she will present a technical paper and oral presentation on the aspect of water or wastewater treatment and how the selected topic relates to the treatment facility as a whole. Prerequisite: 6.552, 6.186, 6.153.

6.155 Advanced Waste Treatment

■6 class hrs/wk ■4 cr. ■W

Introduction to the methods of advanced waste treatment which includes physical-chemical treatment process, reverse osmosis and flash evaporation. Includes discussion of microscreening, filtration, phosphorous removal, nitrification and nitrogen removal, and activated carbons. Prerequisite: 6.154.

6.158 Sanitary Seminar I

■1-3 class hrs/wk ■1-3 cr. ■On Demand

This course involves water and/or wastewater concepts, including chemistry, microbiology, mathematics, hydraulics, and practical operational procedures.

6.161 Water/Wastewater Management

■4 class hrs/wk ■4 cr. ■Sp

This course will enable the student to prepare orders for supplies, service and parts, operational reports, annual budgets, as well as list manpower requirements and needed capital improvements in the operation of a water/wastewater facility.

6.164 Water Sources

■6 class hrs/wk ■4 cr. ■F

The study of surface water sources. Included for surface water—water rights; classification, selection and management of water sheds; measurement; collection; and storage. For ground water—search; measurement, and flow. Construction and maintenance of both systems. Prerequisite: 6.163.

6.165 Water Distribution

■6 class hrs/wk ■4 cr. ■Sp

A basic course of study in the techniques of installation, operation maintenance of water distribution systems.

6.166 Water Purification Systems

■6 class hrs/wk ■4 cr. ■W

The study of theory and operation of water purification will include mixing sedimentation; coagulation and flocculation; filtration (via single and mixed Media); water softening; removal of nuisance organisms and materials.

6.168 In Plant Practicum

■40 class hrs/wk ■16 cr. ■S

In Plant Practicum consists of full time work in a water or wastewater treatment facility. Skills and knowledge developed in prerequisite courses will be combined with on the job training by both plant supervisory personnel and LBCC visiting instructors. Prerequisite: 6.552 or 4.204, 6.153 or 6.186.

6.175 Advanced Aquatic Chemistry

■5 class hrs/wk ■4 cr. ■Spring

This course is an optional third term of a three term sequence in applied aquatic chemistry. Emphasis on instrumental analysis as it relates to water and wastewater treatment control tests. Tests include ammonia nitrogen, nitrite nitrogen, nitrate nitrogen, Kjeldahl nitrogen, phosphate determinaton, iron, manganese, aluminum, Warburg test. Prerequisite: 6.174.

6.180 Wastewater Mechanics I

■4 class hrs/wk ■2 cr. ■W

This course of study will include equipment used in a treatment plant including: identification of component parts of the equipment from drawings; disassembly and reassembly of pumps; flow level measuring devices; chlorinators; use of hand and power tools.

6.181 Wastewater Mechanics II

■6 class hrs/wk ■3 cr. ■Sp

This course will include setting up parts inventory and extensive preventive maintenance file systems; air compressors and their role in equipment operations; and mechanical projects simulating work performed in actual treatment plant. Prerequisite: 6.180.

6.190 Intro to Water & Wastewater

■12 class/wk ■6 cr. ■F

Introduction to water and wastewater treatment plant operations, including water sources, water treatment and distribution, wastewater collection, pre-treatment, primary, secondary, and solids handling. The course will cover all subjects on an introductory level. There will be detailed discussion following in subsequent courses.

6.191 Water Systems Operation
■12 class hrs/wk ■6 cr. ■W
This course develops an in depth understanding of water systems operations including surface water source and water shed management, ground water sources and development, raw water storage and intakes, coagulation, flocculation, sedimentation, filtration, disinfection, and finished water storage and distribution.

6.192 Primary & Secondary Treatment
■12 class hrs/wk ■6 cr. ■Sp
This course develops an in depth understanding of wastewater systems operations including primary sedimentation, activated sludge, trickling filters, secondary sedimentation, disinfection, aerobic and anaerobic sludge digestion, oxidation ponds, biofilters and bio-reactors, solids handling and disposal.

6.193 Intro to Aquatic Chem & Micro
■8 class hrs/wk ■4 cr. ■F
A basic chemistry and microbiology course for Water and Wastewater Technology students. The basic concepts of chem. and micro. will be supported by lab experiments relevant to the water/wastewater field.

6.194 Basic Aquatic Chem & Micro
■8 class hrs/wk ■4 cr. ■W
A continuation of Introduction to aquatic Chem. & Micro. Basic concepts will be applied to common water and wastewater analytical techniques to include pH, temperature, dissolved oxygen, alkalinity, hardness, solids, microscopic identification, total plate count, and total coliform. (Water tests are stressed.)Prerequisite: Intro. to Aquatic Chem, & Micro or instructor's approval

6.195 Intermed Aquatic Chem & Micro
■4 class hrs/wk ■4 cr. ■Sp
A continuation of Basic Aquatic Chem. & Micro. Basic concepts will be applied to common water and wastewater analytical techniques to include: (wastewater tests stressed) activated sludge, biochemical oxygen demand, volatile acids, chemical oxygen demand, chlorine residual, and fecal coloforms. Prerequisite: Intro to Aquatic Chem. & Micro. or instructor's approval.

6.235 Applied Hydraulics
■4 class hrs/wk ■4 cr. ■W
A practical course in Applied Hydraulics will enable the student to use and understand common flow charts for flow and head loss calculations in simple water distributions and sewage collection systems. Prerequisite: 6.552 or equivalent.

9.650 Water Treatment
■3 class hrs/wk ■3 cr. ■On Demand
A general discussion of the needs and uses of water, the effect of water quality standards, the laws affecting water use and quality, and the agencies invloved. Special attention is given to waterborne disease and the need for water treatment.

9.651 Water Sources
■3 class hrs/wk ■3 cr. ■On Demand
A study of the location, development and operation of both ground and surface water sources. Will include surface water storage and intake structures.

9.652 Water Treatment Facilities
■3 class hrs/wk ■3 cr. ■On Demand
A study of the theory, operation, and maintenance of water treatment facilities. Will include mixing and sedimentation, flocculation, coagulation, filtration, softening, removal of iron and manganese, control of odor and taste, chemical feed equipment, and diatomaseous earth filtration.

9.654 Disinfection and Fluoridation
■3 class hrs/wk ■3 cr. ■On Demand
A study of the theory of disinfection via chlorine, ozone, ultraviolets, etc.; safety in handling disinfecting chemicals; the operation and maintenance of disinfecting equipment; the operation and maintenance of fluoridation equipment.

9.655 Special Water Treatment
■3 class hrs/wk ■3 cr. ■On Demand
A study of the operational theory of special treatment techniques, such as desalting, reverse osmosis, control of corrosion and radioactivity, odor and taste problems.

9.656 Wastewater Treatment
■3 class hrs/wk ■3 cr. ■On Demand
This course deals with the history of treatment, the laws and agencies involved in wastewater treatment, the construction, operation, and maintenance of sanitary sewage collection systems.

9.657 Primary Treatment
■3 class hrs/wk ■3 cr. ■On Demand
A study of the theory, operation and maintenance of flow measurement devices, grit, grinding and removal, primary sedimentation, and anaerobic digesters.

9.658 Secondary Treatment I
■3 class hrs/wk ■3 cr. ■On Demand
A study of the theory, operation and maintenance of sewage lagoons and trickling filters.

9.659 Secondary Treatment II
■3 class hrs/wk ■3 cr. ■On Demand
A study of the theory, operation and maintenance of the activated sludge sewage treatment process.

9.660 Advanced Waste Treatment
■3 class hrs/wk ■3 cr. ■On Demand
A study of advanced waste treatment systems, to include phosphorus removal, ammonia removal, reverse osmosis, desalting, and physical chemical treatment.

9.661 Management of Water & Wastewater Systems
■3 class hrs/wk ■3 cr. ■On Demand
A general study of the types of governmental entities that operate water and wastewater systems. Special attention given to the items of records, budgets, supervisory training, safety programs, rates, emergency planning. Planning and public relations.

9.662 Practical Hydraulics
■3 class hrs/wk ■3 cr. ■On Demand
A study of the relationship of pressure, force, flow, and head loss in both closed and open conduits.

9.663 Sludge Handling
■3 class hrs/wk ■3 cr. ■On Demand
A study of various systems of concentrating, conditioning, and disposing of sewage, sludge and solids.

9.664 Sanitary Microbiology
■3 class hrs/wk ■3 cr. ■On Demand
A basic course in sanitary microbiology for water and wastewater personnel. Emphasis is on microorganisms and the laboratory procedures for identifying and differentiating organisms peculiar to water and wastewater treatment.

9.665 Sanitary Chemistry
■3 class hrs/wk ■3 cr. ■On Demand
A basic course in sanitary chemistry for water and wastewater personnel. Emphasis is on basic laboratory skills and familiarization with the methodology for the analysis of pH; alkalinity; BOD; chlorine residual; suspended solids and hardness.

9.666 Distribution System
■3 class hrs/wk ■3 cr. ■On Demand
A study of construction techniques and service installation procedures of water distribution systems.

9.667 Distribution Systems
■3 class hrs/wk ■3 cr. ■On Demand
The study of operation and maintenance procedures for distribution, storage, pump station, hydrants, valves and related record keeping and evaluation systems.

Community Education

Associate Dean:
Mike Patrick

The Community Education Division provides a broad range of adult course offerings at the Main Campus and in various locations throughout Linn and Benton Counties.

Courses are available for: lower division credit (at off-campus centers); job skill improvement; life enrichment off the job; improving health and physical condition; enhancing human and family relationships; adult high school equivalency; handicapped adults. Course offerings are designed to meet the educational needs of local population.

Staff:
Larry Arnold, Fire Science Program
Laurel Bible, Adult Basic Education
Peter Boyse, Director, Albany Center
Ann Crisp, Director, Benton Center
Dee Deems, Director, Lebanon Center
Gerald Denny, Electronics Program
Harry Earles, Coordinator, Lincoln County
Melvin Gilson, Coordinator, Special Education Programs
Paula Grigsby, Living Skills
Lee McDaniel, Farrier Program
Nancy Meyrick, Adult Basic Education
Carolyn Miller, Special Programs
Jean Schreiber, Human Services
Mona Weibel, Coordinator, Sweet Home Center
Robert Weber, Parent Education Coordinator

Class Offerings

The Community Education Division offers many college classes at various locations throughout the college district. These are generally "entry" college classes which may be used to satisfy some of the requirements of the college's various certificate and degree programs. Additionally, a wide variety of both credit and non-credit classes are made available to the community by the Community Education Division. These course offerings include vocational upgrading classes, human relations, conversational languages, physical education and health, art, and other general self-improvement classes. Those credit classes which do not meet specific requirements for a college degree or certificate program may be used to fulfill elective requirements of some certificate and degrees offered by LBCC, including an Associate in General Studies degree.

Community Education Centers

The staff and facilities of the Community Education Division are separated geographically into five centers in order to serve the community by providing instruction at times and places convenient to residents of the college district.

The Albany Center is located on the main LBCC campus in Takena Hall and serves the general populations of Albany, N. Albany, Tangent and Shedd. Peter Boyse, Director.

The Benton Center is located at 630 N.W. Seventh Street (formerly Washington School) in Corvallis, and serves the areas of Corvallis, Philomath, Monroe, Blodgett and Alsea. Ann Crisp, Director.

The Lebanon Center is located at 1715 Fifth St., Lebanon, across from Lebanon High School, and serves the communities of Lebanon, Scio, and rural East Linn County. Dee Deems, Director.

The Sweet Home Center is located at 1314 Long Street in Sweet Home directly behind "Mollies" Bakery. The Sweet Home Center serves the community of Sweet Home, Foster, Cascadia, Brownsville, and Halsey. Mona Weibel, Coordinator.

The Lincoln County Center is located at 169 S.W. Coast Highway in Newport in the former Central Elementary School. The Lincoln County Center serves the areas of Lincoln City, Newport, Siletz, Toledo, Eddyville, Waldport, Fisher, and Yachats. LBCC classes in Lincoln County are made possible by state funding and support of the Lincoln County School District. For more information contact the Lincoln County Center by phone 265-2283. Harry R. Earles, Coordinator.

An office is located in Lincoln City to serve residents of the north end of Lincoln County.

Self-Supporting Classes

Many of the non-credit Community Education classes, particularly those that are primarily hobby or recreation oriented are expected to be self-supporting through student tuitions. In order to meet the costs of holding a class, the college may require twelve (12) enrolled students. When a class is cancelled due to under-enrollment, a full refund will be issued to students who pre-registered.

Adult General Education

Linn-Benton Community College has several programs designed to meet the needs of persons over 16 years of age who have not finished high school. These programs are:

Adult Basic Education

To provide for students 16 years of age or older who have not had the opportunity to complete their education through the eighth grade, LBCC offers free classes in Adult Basic Education. These classes offer instruction in the basic skills of reading, writing, English, vocabulary, spelling and mathematics.

General Education Development (GED)

GED Tests Preparation classes are offered free to the student over the age of 16 who has not completed high school and who desires to prepare for the high school equivalency exams (English Expression, Mathematics, Reading and Comprehension of Literature, Social Studies, and Natural Sciences).

Instruction in adult basic education and GED classes includes such information as getting a job, consumer buying practices, health habits, relationships with other members of the family and community, homemaking and citizenship responsibilities. Free classes are held in many locations throughout the area and are offered both during the day and at night. A student may start at any time.

Adult High School Diploma

This is for the student over 18 who wishes to obtain his/her high school diploma. There are two options: (1) diploma granted by the high school or (2) diploma granted by the college. See the Director of Admissions and Registrar for admission requirements.

High School Continuation

This program is offered in cooperation with the high schools located in the LBCC district and is designed for presently enrolled high school students who need to make up deficiencies in high school credits. Instruction is offered at night and is based on individual requirements and on individual study. Only students officially referred by their high schools may participate in this program. There is a tuition charge for this program.

Fire Science

The Fire Science program is a part-time curriculum designed to meet the specific needs of students currently employed in fire science. Many of the courses in this curriculum are offered only in the evening and only on demand. However, courses in related areas such as communication skills, humanities and mathematics are offered during the day as well as in the evening.

Satisfactory completion of the requirements of the program lead to the Associate Degree in Fire Science.

It may be helpful for students interested in Fire Science to obtain interviews with prospective employers to help them plan their careers. Some municipal fire departments may have certain requirements that must be satisfied for employment.

General Education Requirements

Note: English and math have prerequisites which may be waived based on the Comparative Guidance and Placement Examination or transfer credit. Also, a combined total of four credits is required in health and/or first aid and/or multi-media first aid and/or physical education activity courses. *The following show only suggested courses and times.*

SOPHOMORE YEAR

Fall Term

1.102	Occupational Writing or	
WR121	English Comp or	
1.103	Occupational Speech or	
SP111	Interpersonal Speech	
	Comm or	
SP112	Fundamentals of Speech	3

Winter Term

4.202	Math II or	
2.515	Business Math	4

Spring Term

HE250	Health and/or	
HE252	First Aid and/or	
9.317	Multi-Media First Aid	
	and/or	
0.571	CPR and/or	
	PE Activity Courses	4

Program Requirements

FRESHMAN YEAR

Fall Term

1.200	Cooperative Work Experience	4
5.254	Intro Fire Prot	3
5.264	Build Const for Fire Prot	3

Winter Term

1.200	Cooperative Work Experience	4
5.256	Elem Science—FF	3
5.257	Fire Service Hydraulics	2

Spring Term

1.200	Cooperative Work Experience	3
1.606	Psychology or	
PH201	Psychology	3
5.275	Fire Science I	4
5.245	FS Rescue Practices	3
5.263	Fire Pump Construction and Operations	4

SOPHOMORE YEAR

Fall Term

9.313	EMT	6
5.277	Fire Science II	4
5.262	Fund Fire Prev	3
5.260	Hazardous Materials I	3
4.100	Blue Print Reading	2

Winter Term

5.261	Hazardous Materials II	3
5.273	Fire Investigation	3
5.258	Fire Company Organization and Station Management	3
	Technical Electives	

Spring Term

9.500	Elem of Supervision	3
1.124	American Institutions	3
	Technical Electives	9

5.254 Introduction to Fire Protection
■3 class hrs/wk ■3 cr. ■On Demand

Philosophy and history of fire protection, history of loss of life and property by fire; role and responsibility of the fire department in the community; organization and function of local, county, state, federal and private fire protection agencies and allied organizations; sources of professional literature; survey of professional career opportunities.

5.245 Fire Service Rescue Practice
■3 class hrs/wk ■3 cr. ■On Demand

The use of rescue tools and related equipment in carrying out practical methods and procedures of search and rescue of trapped victims in fires, building collapse, cave-ins, mechanical and auto entrapment, and the care and transportation of victims to safety. A review of standard first aid methods is also covered, but this course is not a substitute for a first aid course.

5.256 Elementary Science for Firefighting
■3 class hrs/wk ■3 cr. ■On Demand

Characteristics and behavior of fire; fundamentals of physics laws and chemical reactions occurring in fire and fire suppression; analysis of factors contributing to fire--its cause, rate of burning, heat generation and travel, by-products of combustion, and its confinement, control, and extinguishment.

5.257 Fire Science Hydraulics
■2 class hrs/wk ■2 cr. ■On Demand

The student will review basic mathematics and learn hydraulic laws and formulas as applied to the fire science, application of formulas and metal calculations to hydraulics and emphasis on complicated pumping operations and underwriter requirements for pumps and accessories, fire ground water supply and other fire scene operations problems.

5.258 Fire Company Organization & Station Management
■3 class hrs/wk ■3 cr. ■On Demand

The student will study fire company organization and operation, company responsibilities in station, response to alarms, public relations, fire prevention, records, reports, communications, and company morale. Basics of why and how various functions of administration are carried out; authority and responsibilities of command officers, chiefs, and elected officials. Prerequisite: 5.254, 5.262

5.260 Hazardous Materials I
■3 class hrs/wk ■3 cr. ■On Demand

Student will review basic chemistry and study the chemical characteristics and behavior of materials that burn or react violently, including flammable solids & liquids, pressurized gases, liquified gases, combustible metals, cryogenics, plastics, and oxidizing agents. Prerequisite: 5.256 or instructor approval.

5.261 Hazardous Materials II
■3 class hrs/wk ■3 cr. ■On Demand

A study of the composition, characteristics, and behavior of unstable materials, explosives, rocket propellents, water reactive materials, poisons, corrosives, combustion products, and radioactive materials. Prerequisite: 5.260

5.262 Fundamentals of Fire Prevention
■3 class hrs/wk ■3 cr. ■On Demand

The student will learn fundamentals of fire inspection, including standards, recognizing fire hazards, techniques of evaluation of hazards as to degree of hazard, home inspections, fire company surveys, fire fighter responsibilities and practical recommendations. The student will learn to write reports which include maps and sketches of each on-the-site building inspected and to recommend safe practices and improvements.

5.263 Fire Pump Construction and Operation
■5 class hrs/wk ■4 cr. ■On Demand

A basic course for pump operators presenting theory, construction and principle of operation of fire service pumps, and the principles of driving, drafting, and pumping from hydrant. Basic "rule of thumb" hydraulics, emergency operations and actual practice using local department's apparatus.

5.264 Building Construction for Fire Protection
■3 class hrs/wk ■3 cr. ■On Demand

The student will learn classification of buildings; structural features affecting fire spread; effects of fire on structural strength and construction materials; fire stops and ratings of materials, and fire retardants, fire spread and representative fire loads.

5.267 Fire Department Communications and Alerting Systems
■3 class hrs/wk ■3 cr. ■On Demand
The student will learn and demonstrate receiving, dispatching and radio communication procedures; FCC regulation, municipal alarm; telephone and tone-activated alarm; recording messages; tap-out procedures, running cards, etc. Prerequisite: 5.254, 5.258

5.269 Water Distribution Systems
■3 class hrs/wk ■3 cr. ■On Demand
A study of sources of water supply, fire flow requirements, pumping stations, storage tanks and cisterns; main systems and high pressure systems, mobile supplies. Also covered are hydrants, their sizes, types, distribution and service testing and the measuring of available water in mains. Prerequisite: 4.202, 5.263

5.272 Fixed Systems & Extinguishers
■3 class hrs/wk ■3 cr. ■On Demand
The study of portable extinguisher equipment; fire alarm and detection systems; sprinkler systems and standpipes, protection systems for special hazards; explosion release; ventilation systems; inert atmospheres and static bonding. Prerequisite: 5.254, 5.256

5.273 Fire Investigation
■3 class hrs/wk ■3 cr. ■On Demand
Teaches the effect on fire prevention by isolating the cause of fire; a study of the burning characteristics of combustibles and effects of fire on materials; interpreting clues and burn patterns leading to the point of origin; identifying incendiary indications, sources of ignition and materials ignited; preservation of the scene and evidence. Prerequisite: 5.264, 5.260

5.275 Fire Science I
■5 class hrs/wk ■4 cr. ■On Demand
A course in practical physics covering matter, measurement, machines and energy. Laboratory time provided for demonstrations and experiments to help clarify the principles and procedures covered in class.

5.277 Fire Section II
■5 class hrs/wk ■4 cr. ■On Demand
The student will learn physical and chemical properties of substances, chemical changes, bonds, reactions, chemical combinations, atomic structures, covalent substances, theory of metals, acids, bases, salts, solutions, and basic organic chemistry. Laboratory time is provided for clarifying demonstrations and experiments.

5.282 Fire Codes and Related Ordinances
■3 class hrs/wk ■3 cr. ■On Demand
The student will study fire codes, building, exits, flammable liquid, and other codes as related to fire prevention, followed by supervised building inspection field trips. Designed primarily for fire service inspectors.

5.286 Fire Insurance Principles and Grading Schedules
■3 class hrs/wk ■3 cr. ■On Demand
Insurance grading schedules and their application. Methods of analyzing fire hazards and the effects of fire hazards on fire insurance rates. A study of the National Board Grading Schedule is made in detail with other schedules covered briefly. The fundamentals of fire insurance rating methods, loss records, municipal gradings, etc.

5.287 Training Programs & Techniques
■3 class hrs/wk ■3 cr. ■On Demand
Teaches purposes of fire service drills and training programs. The development and operation of the departmental training program. Facilities and equipment necessary for modern training. Psychology of learning, four-step method, lesson planning, instruction techniques, training aids, tests, workbooks, training objectives and curriculum development, conducting conferences and meetings.

5.288 Fire Reports and Records
■3 class hrs/wk ■3 cr. ■On Demand
Analysis of fire department records and reports systems, their origins, types and functions. Application of these systems to the areas of pre-fire surveys, routine inspections, post-fire reporting, cost accounting, research and planning.

Vocational Training for the Handicapped

This is a special program containing two broad areas. One area is designed to offer vocational and related training to those disadvantaged and handicapped people who are being aided by public and private agencies such as Vocational Rehabilitation and the Associations for Retarded Citizens, and who, because of their disadvantagement or handicap, are unable to benefit from the regular college curriculum. The training programs are developed to help each individual reach his or her training potential with the eventual goal of self-support and employement. The second area is a training program for work supervisors of disadvantaged and handicapped persons.
Contact the coordinator of Special Programs for further information, 928-2361, Ext 107.

Retired Senior Volunteer Program (RSVP)

The Retired Senior Volunteer Program attempts to provide a meaningful role in retirement for those over sixty.
There are openings for tutors and teacher aides on all school levels; office workers; and instructors in crafts, knitting, crocheting and other skills. Vistors for the elderly in homes and nursing homes are needed. A wide variety of other community activities are also available. RSVP can provide transportation for volunteers and a meal if they work through the meal period. On the job insurance is also provided. Contact the Coordinator of RSVP, 928-4141.

Golden Age Policy

The Golden Age Policy as set by the LBCC Board of Education states that all residents of the college district who are 62 years of age or older are eligible for a Golden Age card. These cards are available at the Community Education Centers in Albany, Corvallis, Lebanon, Sweet Home, Newport, and Lincoln City. All persons holding a Golden Age card are eligible to enroll for LBCC classes at one-half the normal tuition rate and are guaranteed admission to these classes.

Benton Center Programs

Electronics Program

This is an open entry electronics lab where you can work at your own pace with individualized instruction. Classes offer a wide range of independent study courses, supplying instructor and equipment as needed, plus open use of the lab for knowledgeable do-it-yourselfers.
The following courses are available:
Electronic Fabrication Techniques
Electricity/Electronics IA though IIC
Technical Projects
Vocational Study Skills
For more information call: 757-8944

Farrier Program

The program provides training in all phases of horseshoeing and basic blacksmithing skills. Training may be sought by those engaged in farming or related occupations or by those who wish to operate a part-time or full-time horseshoeing business.
This is a 14-week course offered fall, winter and spring. Class sessions last from 8 a.m. to 4:40 p.m daily Monday through Friday. You will receive 23 credits and a certificate upon completion of this program. There is an additional cost of approximately $300.00 for tools. Admission is on a first-come, first-served basis and early application is advised. Contact the Benton Center at 757-8944 for more information and registration.

Math Lab

This is an open entry lab where you can work at your own pace with individualized instruction. Following are

the classes available in the lab:
Math I,II,III
Elements of Algebra
Intermediate Algebra
College Algebra
Trigonometry
For more information call: 757-8944.

Office Occupation Lab Benton Center

This lab is designed for people who wish to upgrade or improve their office skills or to learn new ones. This is an open lab in which you may begin work at anytime and work at your own pace. Following are the classes available in the lab:
Business Math with Calculators
Filing
Transcribing Machines
Typing I,II,III
Typing Skillbuilding
Steno Refresher
CPT
IBM Memory
For more information call 757-8944.

Parent Education

Parent Education classes are offered to those parents interested in learning more about child development, guidance techniques and how various learning activities enable their children to reach their maximum potential.

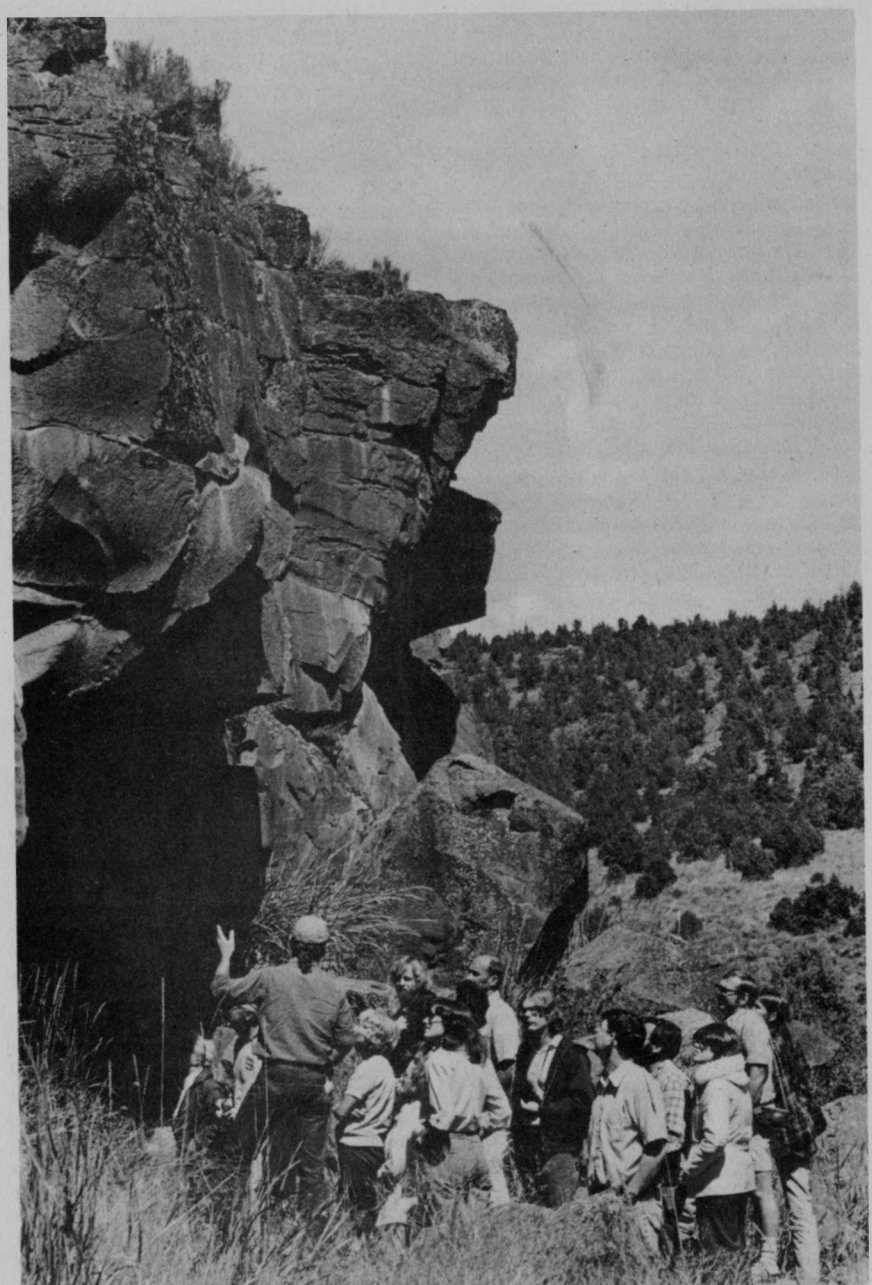
Classes are also offered to help individuals who work with children as foster parents, teacher aides or volunteers to improve their skill.

A Parent Education Community Education Certificate of Completion is available to individuals who complete the following 15 credit requirements: 6 credits of classes involving participation with children: Living & Learning with your Baby; Living & Learning with your Toddler; Living with your Preschooler, or Living with your Kindergartener.

6 credits from the following list of classes: Growing with your Preschooler; P.E.T.; Parenting & Family Communications; Single Again; I'm OK, You're OK; Applied Transactional Analysis; Foster Parent Training.

3 credits from the following list: Living & Learning with your Baby; Living & Learning with your Toddler; Living & Learning with your Preschooler, or Living & Learning with your Kindergartener; Children's Books & Materials; Arts and Crafts for Adults who work with Preschoolers; Creative Ways of Teaching Children Music; Making Education classes.

For further information about the Parent Education Program contact the Parent Education Coordinator at 928-2361. The following are a partial list of Parent Education classes.



0.884 P.E.T. Parent Effectiveness Training
■3 class hrs/wk ■3 cr. ■On Demand

A skill-training program particularly for parents, equipping them for staying in relationship with their children. Education for parenting which values the uniqueness of every child. Treats ways of responding to messages of others. A system of effective human relationships. The P.E.T. system applies also to other relationships: husband-wife, boss-subordinate, or friend to friend.

0.890 Understanding Children I
■2 class hrs/wk ■2 cr. ■On Demand

To help adults understand and alter children's behavior, utilize new ways of dealing with conflict, and gain ideas for nurturing responsible children.

0.890 Understanding Children II
■2 class hrs/wk ■2 cr. ■On Demand

Expands upon concepts taught in the first term; emphasis on the child's emotional growth, effective communication skills, approaches to problems at school, and the family meeting as aids to raising a responsible child.

0.891 Living with your Preschooler or Kindergartener I,II,III

■20-50 hrs/term ■1-3 cr. ■On Demand

Helps parents of pre-school children develop greater awareness of factors affecting the child's physical, emotional, and intellectual development; participation in cooperative preschool lab and seminars.

0.891 Living & Learning with your Toddler

■26 hrs/term ■2 cr. ■On Demand

A course designed for parents of children walking to 2 1/2 years. The parents observe and begin to participate with their children in various activities suited to the age group. Discussion of topics such as negative behavior, toilet training and guidance techniques are included.

0.892 Living & Learning with your Baby

■2 class hrs/wk ■1 cr. ■On Demand

A course for parents of infants from birth to beginning walkers. Parents bring their child to the class. Activities with the baby are included along with learning practical skills, meeting the needs of the total family, making toys and understanding the development of infants.

0.894 Home/School Cooperation—1st Grade I,II,III

■5 wks 3 class hrs/wk ■1 cr. ■On Demand

This class deals with parent-child interaction and how the parent may participate fully in his child's education. The class will focus on specific areas such as reading, language, behavior, etc. Current teaching techniques will be reviewed.

0.894 Making Educational Games and Materials

■5 wks 3 class hrs/wk ■1 cr. ■On Demand

A five week course to show parents, teachers, or aides how to make learning games for school age children. The course will teach methods of involving children in heightened learning situations as they play.

0.896 Arts and Crafts for Adults who work with Preschoolers.

■5 wks,3 class hrs/wk ■1 cr. ■On Demand

Processes used in this class will be appropriate for children from 2 to 5 years of age. Teaching adults to work with preschoolers and to develop processes which help children develop. The importance of understanding small children and their development will be stressed.

0.900 Parents & Family Communications

■6 wks, 2 class hrs/wk ■1 cr. ■On Demand

The course will deal with such areas as ego needs, communication principles and skills, family discipline, responsibility, handling conflict and other subjects that relate to personality and family development.

0.902 Foster Parent Seminar

■15 class hrs ■1 cr. ■On Demand

Discussions for existing foster parents on topics related to working with foster children, natural parents and CSD workers, legal rights and responsibilities of foster parents, and communication skills.

9.004 Teacher Effectiveness Training

■5 wks, 3 class hrs/wk ■1 cr. ■On Demand

Laboratory type course in which helping professionals and technicians learn specific skills by which they can enrich the teaching/learning situation. Emphasis is on skill training rather than a discussion of educational philosophies.

9.831 Children's Literature

■3 class hrs/wk ■2 cr. ■On Demand

A study of the history, styles, and many uses of children's books, poems, stories and their authors.

Human Services

The Human Services curriculum is being expanded and redesigned to emphasize supplementary education for agency personnel as well as pre-employment preparation. The college intends to meet the education needs of human service employees with existing college courses and the development of new courses, workshops, symposiums and contracted training.

Included within the scope of Human Services instruction will be the competency-based Child Development (CDA) program. CDA is a system of combining an individual's work and academic experiences and relating them to competencies needed by persons employed in child-caring occupations. Individual instructional plans are developed to enable persons to attain the competencies required for certification by the National Consortium.

Students may earn LBCC certificates of completion in the following areas:

Adult Services	15 credits
Family Day Care	15 credits
Instructional Assistant	15 credits

The Human Service major curriculum of 45 credit hours (one academic year) is currently being revised and will be printed within a brochure when formally approved. Each of the 15 credit certificates will constitute a study emphasis within the 45 credit hours upon approval by the Oregon Board of Education.

Cooperative Work Experience

Students may, upon the recommendation of the program coordinator, receive transfer or non-transfer college credit by participating in Cooperative Work Experience (CWE). Further information may be found in the Cooperative Work Experience section of this catalog.

1.200/WE201 Cooperative Work Experience

■3-48 class hrs/wk ■1-16 cr. ■F/W/Sp

Cooperative Work Experience is designed to give the student actual work experience which closely parallels his field of study. Further information is available in the Cooperative Work Experience section of this catalog.

1.201/WE202 Cooperative Work Experience Seminar

■1 class hrs/wk ■1 cr. ■Sp

Refer to the Cooperative Work Experience section of this catalog.

7.130 Human Service Systems and Personnel

■3 class hrs/wk ■3 cr. ■On Demand

Survey of current systems of service provision. Particular emphasis on trends applicable to Oregon. Review of historical perspective of social welfare organizations. Identification of manpower trends and task description analysis. Career opportunities.

7.135 Ages and Stages: Introduction

■2 class hrs/wk ■2 cr. ■On Demand

Multidisciplinary introduction to the study of human growth and development. Includes historical, philosophical, anthropological, sociological, psychological and biological perspectives.

7.137 Ages and Stages of Human Development: Adolescence

■3 class hrs/wk ■3 cr. ■On Demand

Continuation of Ages and Stages sequence. Focus attention on adolescent behaviors, life styles and self-determination factors.

7.140 Techniques of Observing Behavior

■1 class hrs/wk ■1 cr. ■On Demand

Introduction to behavioral observation techniques.

7.141 Techniques of Recording Behavior

■1 lec/1 lab hr/wk ■1 cr. ■On Demand

Factual recording, use of terminology, expressing quality of interrelatedness with people and materials.

7.142 Ages and Stages: Early Adult

■3 class hrs/wk ■3 cr. ■On Demand

Multidisciplinary approach to the early adult development phase. Includes contemporary problem review and life style impact. Continues Ages and Stages perspective study of human growth and development.

7.143 Ages and Stages: Middle Years

■3 class hrs/wk ■3 cr. ■On Demand

Continuation of Ages and Stages

adult sequence. Includes practical recognition of the conflicts between youthful expectations and maturity limitations. Emphasis focuses attention on satisfactions of accepting mature self-concepts and relationship.

7.144 Ages and Stages: Later Years
■3 class hrs/wk ■3 cr. ■On Demand
Continuation of Ages and Stages adult sequence. Includes practical considerations of the aging process from various perspectives. Pleasures and joys of the retirement years. Acceptance of closures.

7.145 Health of Young Children
■3 class hrs/wk ■3 cr. ■On Demand
Components of healthful environment. Child care agency personnel responsibility for developing procedures of screening, prevention, diagnosis and referrals. Teaching techniques of nutrition, self care and general health.

7.148 Interviewing Procedures
■2 lec/2 lab hrs/wk ■3 cr. ■On Demand
Introduction to the role of interviewer. Practical skill training and opportunities to develop professional attitudes toward interviewee-interviewer relationship.

7.150 Child Care Practice I
■2 lec/2 lab hrs/wk ■3 cr. ■On Demand
Analysis of alternatives to parental care. Examination of standards, methods and programs related to the formation and maintenance of child care, foster care and institutions. Emphasis on family need and feasibility of maintaining special programs.

7.151 Child Care Practice II
■2 lec 2 lab hrs/wk ■3 cr. ■On Demand
Methods of establishing environment for learning, physical development and emotional growth. Guidance techniques appropriate for teaching language, social and manipulative skills within group setting.

7.153 Behavioral Objectives
■2 class hrs/wk ■2 cr. ■On Demand
Indentification of behavioral goals and preparation of plan for behavioral change.

7.180 Supervised Placement
■2 lec/4 lab hrs/wk ■4 cr. ■On Demand
Work in child development laboratory setting under the direction of teacher. Assignment may include material preparation, skill training, and specific care tasks. Weekly class session will permit students from various placements to share learning experiences with peers and to tie placement activity to training objectives. Prerequisite: Instructor's consent.

0.896 Arts and Crafts for Adults who work with Preschoolers.
■5 wks, 3 class hrs/wk ■1 cr. ■On Demand
Processes used in this class will be appropriate for children from 2 to 5 years of age. Teaching adults to work with preschoolers and to develop processes which help children develop. The importance of understanding small children and their development will be stressed.

9.004 Teacher Effectiveness Training
■3 class hrs/wk ■3 cr. ■On Demand
Teacher Effectiveness Training is a laboratory type course in which helping professional and technicians (teachers, teacher aides, youth workers, day care workers, etc) learn specific skills by which they can enrich the teaching/learning situation.

9.008 Staff Development: Conflict Resolution.
■3 class hrs/wk ■3 cr. ■On Demand
The course attempts to synthesize "No-lose conflict resolution" into a coherent system of skill training in order to implement the theories in the actual work situation of the participants. Emphasis will be on developing the component skills of conflict resoltuion.

9.016 Handicapping Conditions
■4 class hrs/wk ■1-3 cr. ■On Demand
Opportunities for human service agency personnel and students preparing for human service employment to learn about the major handicapping conditions (mental retardation, physical incapacities, learning disorders and emotional instability), through lectures, simulation experiences and frank discussions of myths, facts and personal attitudes.

9.017 Child Care Worker Seminar
■5 class hrs/wk ■1-5 cr. ■On Demand
Child Care Worker Seminar Series to provide continued formal education and skill training for child caring employees.

9.030 Storytelling
■5 wks 3 class hrs/wk ■1 cr. ■On Demand
Modern and traditional methods of telling stories for parents and teachers of your children.

9.031 Applied Techniques of Music Therapy
■3 class hrs/wk ■3 cr. ■On Demand
This course will introduce fundamental techniques of music therapy. The class will be taught by lecture and by participation in music therapy activities by members of the class.

9.042 Classroom/Library Aides
■3 class hrs/wk ■2 cr. ■On Demand
A training course for persons who wish to be classroom aides or Library aides. Designed to explain position of aides in school and to train them in basic skills needed to increase their value and effectiveness in the position. If class leans toward library that will be the main emphasis; however, if it leans toward classrooms aides that will be the emphasis.

9.043 Education with Special Need Students
■10 hrs ■1 cr. ■On Demand
This course is designed to introduce and/or upgrade skills needed by teachers, tutors, aides, supervisors counselors, or others who find themselves in an instructional relationship with handicapped or disadvantaged individuals in avocational education course or on the job.

9.044 Classroom Aides
■3 class hrs/wk ■3 cr. ■On Demand
The class is designed to increase the effectiveness of the classroom instructional aide by providing new and diverse skills which enable the aide to function in a variety of classroom settings while working as a member of the teaching team.

9.447 Nursing Home Supplementary Staff Training
■32 class hrs ■1-2 cr. ■On Demand
A helping process for the skills needed for a volunteer to deal with the multitude of problems a resident in a nursing home faces. Volunteers will be working under supervision of instructors in receiving training, and placed in local nursing homes for practicum experience. The seminar experience will be coordinated with the practicum.

9.924 Intro to Family Day Care I
■3 class hrs/wk ■3 cr. ■On Demand
This course is designed for persons currently licensed or in the process of becoming certified to operate Family Day Care Homes. The course will include introduction to basic activities appropriate for Home Care Providers.

9.925 Human Service Agency Management
■88 class hrs ■1-8 cr. ■On Demand
The agency management role requires specialized skills unique to the not-for-profit human service organization. These include planning techniques budgeting methods, program accountability, and personnel utilization which often includes use of volunteers.

9.927 Human Services for the Elderly
■3 class hrs/wk ■3 cr. ■On Demand
Human Services for the Elderly Seminar Series to provide continued formal education and skill training for the employees and volunteers of the programs serving the elderly.

9.930 Making Educational Games
■3 class hrs/wk ■1 cr. ■On Demand
Students shall learn to recognize the educational value of different games. Students shall discuss and develop methods of involving children in game situations and techniques for maximizing the learning experience of play. Students shall make many different board games and manipulative

toys, which can be used for specific learning objectives.

Credit Classes and Occupational Supplementary Courses

9.006 Calligraphy, Intermediate
■3 class hrs/wk ■2 cr. ■On Demand
Experience in exploration, application and analysis of old and new calligraphic forms to suit commercial and individual needs including design for advertising, offset lithography, promotional and decorative uses. Prerequisite: employment in field.

9.007 Calligraphy III
■1 lec/2 lab hrs/wk ■2-3 cr. ■On Demand
A merger of calligraphy or design with an emphasis on the design elements in relation to calligraphic forms and their use. Work will be done with line, shape, texture, form, value, color and space with emphasis on the 2-dimensional surface.

9.010 Career Awareness
■3 class hrs/wk ■3 cr. ■On Demand
Theory and practice in human dynamics. Relating learning to interpersonal relations in family, with friends, and on the job.

9.022 FCC License Preparation
■3 class hrs/wk ■3 cr. ■On Demand
To prepare students to take the FCC exams for third class, second class, and first class commercial licenses through study of FCC regulations and typical exam questions.

9.045 Audio-Visual Aids
■3 class hrs/wk ■2 cr. ■On Demand
Planning and production of educational media materials: graphic arts, slides, super 8 and movies, video tape, transparencies, and operation of equipment.

9.050 Industrial Orientation
■3 class hrs/wk ■2 cr. ■On Demand
Materials and tools used in modern industry, terminology, math, construction details, tools, equipment, and processes as related to manufacturing industries.

9.058 Uniform Plumbing Code
■3 class hrs/wk ■3 cr. ■On Demand
A comprehensive study of the uniform plumbing code and related state amendments. Approved by state plumbing advisory board.

9.100 Land Surveyors' Review
■3 class hrs/wk ■3 cr. ■On Demand
Review of materials covered on the Oregon State Board of Engineering Examiners Professional Land Surveyors Exam. Topics include: Basic math, errors in surveying traverse and level computations, curve and earth work, topographic mapping and coordinate systems, Oregon land survey law, photogrammetry, field astronomy, US Public Land Survey, introduction to Geodesy, and principles of the profession.

9.105 Engineering Technician/Civil Drafting
■6 class hrs/wk ■3 cr. ■On Demand
Accepted drafting practices as applied in civil engineering. An upgrading course for draftsmen who wish to enhance civil engineering skills.

9.110 Industrial Estimating
■3 class hrs/wk ■3 cr. ■On Demand
To familiarize students with industrial drawings, estimating, bidding, and job management.

9.120 Automotive Parts Counterman
■3 class hrs/wk ■3 cr. ■On Demand
A comprehensive study of uniform building code emphasizing requirements of Oregon codes. Open to building inspectors and persons employed in construction or building trades.

9.130 Uniform Building Code
■3 class hrs/wk ■3 cr. ■On Demand
A comprehensive study of uniform building code emphasizing requirements of Oregon codes. Open to building inspectors and persons employed in construction or building trades.

9.142 Linear Integrated Circuits
■3 class hrs/wk ■2 cr. ■On Demand
The operation of integrated circuits, particularly operation amplifiers, and their use in upgrading and interconnecting electronic transducers and instruments.

9.143 Integrated Circuits for Scientists
■3 class hrs/wk ■3 cr. ■On Demand
A course in micro electronics and instrumentation for chemists, physicists and other scientists.

9.144 Industrial Electronic Instrumentation (Art of Physical Measure)
■3 class hrs/wk ■3 cr. ■On Demand
Broad course covering the various methods of sensing and transmitting pressure, temperature, flow and humidity.

9.145 Instrumentation for Industrial Measurement
■3 class hrs/wk ■3 cr. ■On Demand
The operation of industrial instruments, including indicators, recorders, transducers.

9.146 Sheetmetal Fabrication
■6 class hrs/wk ■4 cr. ■On Demand
Principles of sheet metal design, layout and fabrication. Intended as upgrading course for personnel employed in heating, refrigeration and air-conditioning fields.

9.155 Refrigeration and Air Conditioning
■3 class hrs/wk ■3 cr. ■On Demand
The theory, operation and repair of domestic refrigeration and air conditioning systems.

9.163 Small Engine Repair
■3 class hrs/wk ■2 cr. ■On Demand
An introductory course covering care and maintenance of 2 and 4 cycle engines and processes of carburetion, ignition, overhaul trouble shooting and estimation of cost of repairs and/or a new engine.

9.180 Stationary Engineers I (Correspondence Course)
■3 class hrs/month ■4 cr. ■On Demand
Correspondence course covering the basics of boiler operation and associated equipment, mathematics and applied science.

9.181 Stationary Engineers II (Correspondence Course)
■3 class hrs/month ■4 cr. ■On Demand
Continuation of Stationary Engineers I. Covers mathematics and applied science.

9.182 Stationary Engineers III (Correspondence Course)
■3 class hrs/month ■3 cr. ■On Demand
Expands the knowledge gained in Stationary Engineers I and II into more technical aspects of operating steam generating plants.

9.210 School Bus Driving
■9 class hrs/wk ■1 cr. ■On Demand
State approved course for school bus drivers, taught from the manual for training Oregon school bus drivers.

9.211 Defensive Driving
■9 class hrs/wk ■1 cr. ■On Demand
The practice of defensive driving to avoid all types of collisions with other vehicles.

9.212 First Aid for School Bus Drivers
■3 class hrs/wk ■3 cr. ■On Demand
Why and how of first aid, artificial respiration, effects of heat and cold, common emergencies (related to school problems).

9.252 Small Business Management
■3 class hrs/wk ■3 cr. ■On Demand
The fundamentals in selecting, starting and operating a small business, including governmental restrictions and requirements and the need for proper and careful planning and record-keeping.

9.256 Land Use Planning
■3 class hrs/wk ■1 cr. ■On Demand
Introduction to the principles and practice of land use and comprehen-

sive planning including Oregon planning requirements, planning process, plan elements, zoning and subdivision ordinances.

9.259 Introduction to the Economics of Labor
■3 class hrs/wk ■3 cr. ■On Demand
An introduction to the workings of the labor market including an overview of the labor movement, the status of the worker, deployment of the labor force, determination of the rate of pay and collective bargaining.

9.264 Interstate Commerce Law I
■3 class hrs/wk ■3 cr. ■On Demand
Study of transportation regulations covering the Interstate Commerce Act and related acts.

9.267 Calcuators in Real Estate Math
■2.5 class hrs/wk ■1 cr. ■On Demand
An introduction to the use of small, handheld calculators. Emphasis is on special purpose financial calculator suitable to the real estate field. (Calculator required)

9.277 Real Estate Appraisal
■3 class hrs/wk ■3 cr. ■On Demand
Theories, functions, and purpose of real estate appraisal. Principles of land evaluations covering cost, market, and income for determining insurance, purchase, and sales.

9.278 Modern Trends in Real Estate
■9 class hrs/wk ■1 cr. ■On Demand
Specialized knowledge of real estate industry. Emphasis on financing, zoning and ordinances and taxation of real property.

9.279 Real Estate Secretaries
■3 class hrs/wk ■3 cr. ■On Demand
To provide the secretary with skills and knowledge needed to meet and interact successfully with the public and others in the real estate field.

9.280 Real Estate Investments
■3 class hrs/wk ■3 cr. ■On Demand
Such topics as real estate investment concepts, capital gains and losses, depreciation and amortization and types of financing available.

9.283 Real Estate Finance
■3 class hrs/wk ■3 cr. ■On Demand
Policies, problems, and risks involved in financing and investing in various types of real property. Analysis of taxation, exchanges, sources of loan funds, institutional and governmental policies and instruments and methods of lien processing.

9.284 Real Estate Practices
■3 class hrs/wk ■3 cr. ■On Demand
A preparation of entry into real estate. A basic approach to brokerage and licensing as applied to the State of Oregon; operating an office, selling and advertising; accepted standards of ethical conduct, property management, title valuation, planning, zoning, urban renewal, public housing, and development.

9.285 Applied Mathematics in Real Estate
■3 class hrs/wk ■3 cr. ■On Demand
Preparation for entry into real estate. Fundamental mathematics necessary to compute taxation, real property assessments, percentage relationships and ratios of values, finance, coverage, and appreciation, depreciation, and equity ownership.

9.286 Real Estate Taxation
■3 class hrs/wk ■3 cr. ■On Demand
Comprehensive study of current federal legislation, ownership, operation and disposition of real property with emphasis on tax planning and integration of tax concepts with real estate decision making.

9.287 Real Estate Salesmanship
■3 class hrs/wk ■3 cr. ■On Demand
Characteristics and qualifications of successful real estate salesmen. Includes prospecting for sales and public relations for salesmen.

9.291 Real Estate Law
■3 class hrs/wk ■3 cr. ■On Demand
Study of Oregon Real Estate Law emphasizing more complex aspects of ownership, use and transferability of

real estate as encountered by brokers and others who deal with real property. Contracts, titles, deeds, leases, liens, covenants, conditions, restriction, easements, estates, probate and landlord-tenant relationships.

9.292 Escrow Procedures I
■3 class hrs/wk ■3 cr. ■On Demand
An introduction to the world of escrow prorations, computations of interest, various charges to parties to an escrow, study of title insurance, legal documents, estates in land, public relations.

9.293 Escrow Procedures II
■3 class hrs/wk ■3 cr. ■On Demand
A continuation of Escrow Procedures in, more depth, conventional, federal VA, state DVA, conventional loans.

9.295, 9.296 Transportation & Traffic Management IV, V
■3 class hrs/wk ■3 cr. ■On Demand
Advanced transportation and traffic management involving further study in water carrier freight rates, export and import rates and application of arbitrage, Interstate Commerce Act, long and short clause, transit privileges, warehousing, technical tariff interpretation, other topics dealing with traffic management competencies.

9.297 Transportation and Traffic Management VI
■3 class hrs/wk ■3 cr. ■On Demand
Advanced transportation and traffic management involving study of the history of transportation regulation, regulatory control, structure of Interstate Commerce Act in motor, water, and freight forwarders, statutory basis for ICC complaint and other topics.

9.298 Transportation and Traffic Management VII
■3 class hrs/wk ■3 cr. ■On Demand
Advanced transportation and traffic management involving further study in remedies before ICC, civil liability, operating authority, penalties, ICC rules of practice, and various other meaningful topics.

9.305 Supervisory Safety Management
■3 class hrs/wk ■3 cr. ■On Demand
Practical approach to safety codes, program development, committees, codes, communications and special problem areas: guarding hearing, eyes, shoes, hats, etc.

9.310 FireFighting Skills A
■3 class hrs/wk ■2 cr. ■On Demand
Emphasis on development of individual skills, using small tools, minor equipment, practice in forcible entry, use of masks, and breathing equipment. Team skills used in ground operations including hose and ladder evolutions, salvage, overhaul, rescue and fire attack.

9.311 FireFighting Skills B
■3 class hrs/wk ■2 cr. ■On Demand
Review of concepts, such as ventilation, breathing equipment, ropes and knots. Rescue problems and procedures encountered by the volunteer fire department.

9.546 Basic Sales Methodology
■6 class hrs/wk ■2 cr. ■On Demand
Introduction to sales techniques with emphasis on technique rather than motivation of sales force.

9.620 Fundamentals of Radio and Electronics I
■3 class hrs/wk ■2 cr. ■On Demand
Fundamentals of electricity and electronics applicable to beginning students with vocational or avocational interests.

9.621 Radio and Electronics II
■3 class hrs/wk ■2 cr. ■On Demand
Fundamentals of electricity and electronics of value to intermediate students with either vocational or avocational interest. Includes operation of tubes and transistors, circuitry, audio amplifiers and equipment, power supplies and related areas.

9.622 Radio and Electronics III
■3 class hrs/wk ■2 cr. ■On Demand
Advanced theory in electronics circuitry applicable to students with either vocational or avocational interests.

9.640 Principles of Road Design
■2 lec/4 lab hrs/wk ■4 cr. ■On Demand
A study of road design principles including project analysis, specifications, economics, plan-in-hand inspection and final drafting of design project.

9.645 Scientific Glass Blowing
■3 class hrs/wk ■3 cr. ■On Demand
Introduction to scientific glass blowing. Properties of glasses, working with glass tubing and making glass-metal seals.

9.664 Sanitary Microbiology
■3 class hrs/wk ■3 cr. ■On Demand
A basic course in sanitary microbiology for water and wastewater personnel. Emphasis is on microorganisms and the laboratory procedures for identifying and differentiating organisms peculiar to water and wastewater treatment.

9.670 Collection System I
■3 class hrs/wk ■3 cr. ■On Demand
Upgrading course for personnel in wastewater collection system work. Operation and maintenance of sewers and lift stations. Safety, cleaning, grouting. Administration and organization of systems.

9.671 Collection System II
■3 class hrs/wk ■3 cr. ■On Demand
Continuation of Collection Systems I.

9.739 Office Procedures
■3 class hrs/wk ■2 cr. ■On Demand
Fundamentals of office procedures, including mail processing, payroll, purchasing supplies, filing, shorthand review, boss/secretary relationship, office machines, and telephone techniques.

9.742 Switchboard—Reception Techniques
■3 class hrs/wk ■1 cr. ■On Demand
Operation and function of switchboards. (770 Electronic, Call Director, Multiple line hand sets) Techniques of answering telephones for offices with switchboards in a variety of employment situations. Fullest use of budgeted telephone dollars.

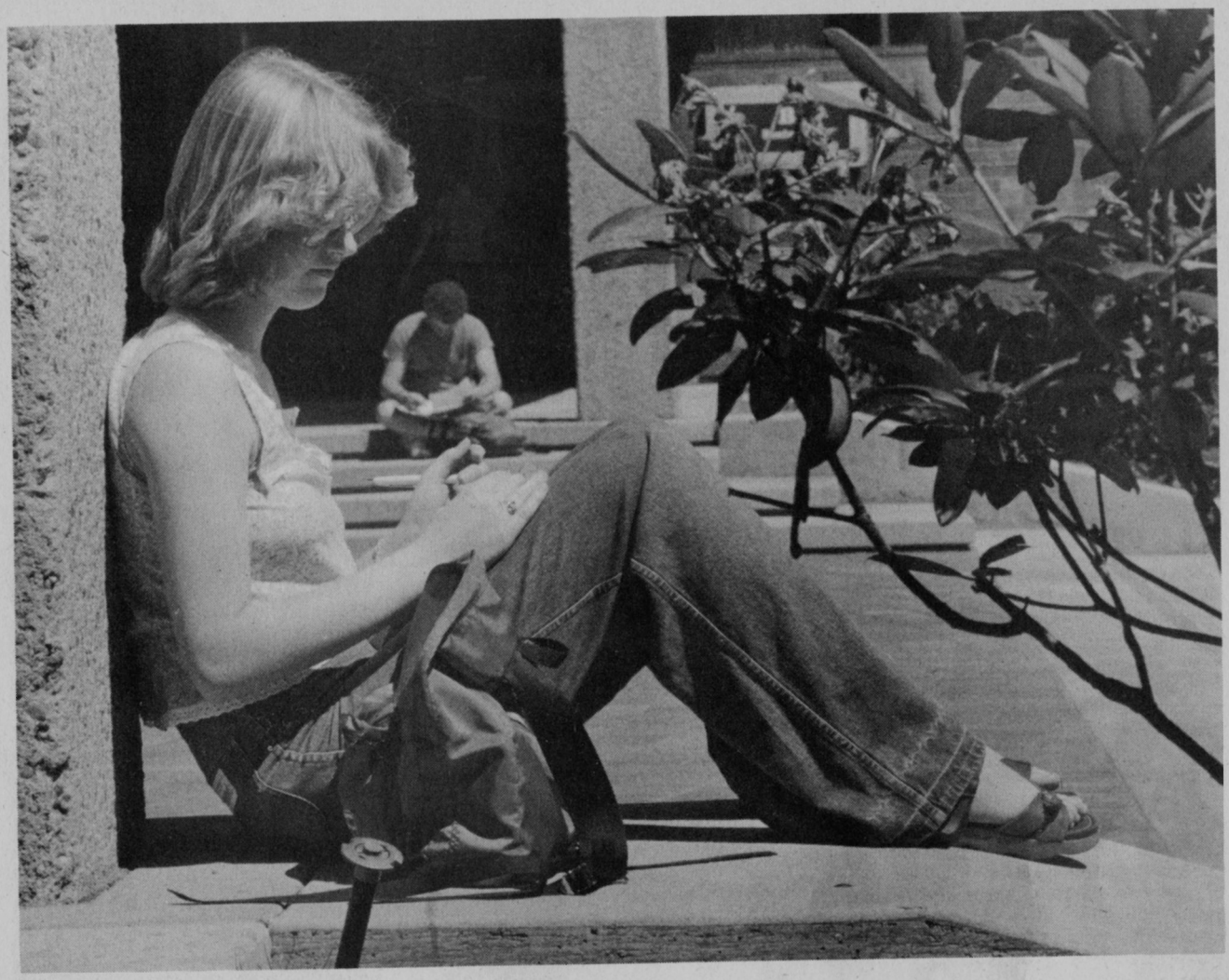
9.745 General Principles of Insurance I
■3 class hrs/wk ■3 cr. ■On Demand
General knowledge of the insurance field. Types of insurance contracts, risk and loss concepts, rating, marketing of insurance, organization of insurers, underwriting, re-insurance and reserves.

9.746 Property Insurance Principles
■3 class hrs/wk ■3 cr. ■On Demand
Continuation of Insurance Principles I. The course will cover fire insurance policies, forms, clauses and rate making; business insurance; F.C. and S; ocean and inland marine, cargo policy; bailees; personal floater; burglary, multiple line-mercantile and flood insurance.

9.748 Principles of Insurance III
■3 class hrs/wk ■3 cr. ■On Demand
Study in depth of various casualty coverages and forms, including general liability, automobile coverages, workers compensation, fidelity and surety bonding. The course is intended to prepare students to sit for the Insurance Institute of America Study Course (IIA) National Examination.

9.758 Introduction to Business Records Management
■2 class hrs/wk ■2 cr. ■On Demand
Application of systematic analysis and scientific control of business records from their creation through processing, maintenance, protection, and final disposition or archival retention. Controlling the quantity, quality, and cost of paperwork and information.

9.817 Livestock Care and Management
■1-2 class hrs/wk ■1-2 cr. ■On Demand
General practices related to feeding, care, selection, and management of livestock.



9.818 Horsemanship & Horse Husbandry
■2 lec/1.5 lab hrs/wk ■3 cr. ■On Demand

The proper care and use of the animal for new horse owners or those interested in further instruction. Health characteristics, nutrition, reproduction and housing will be covered, as well as safety, training procedures, performance and equipment. Tips on horse selection and a review of literature.

9.824 Advanced Horsemanship & Horse Husbandry
■2 lec/1.5 lab hrs/wk ■3 cr. ■On Demand

An advanced course covering selection and care of the horse including anatomy, judging, nutrition, foot care, unsoundness and disease, reproduction, and genetics; management and utilization of the horse, including training and showing horse production management; review of literature.

9.828 Tractor Safety
■12 class hrs/term ■1 cr. ■On Demand

Tractor safety and operation in accordance with federal regulations for under age farm workers. Class developed and operated with the cooperation and assistance of the Agriculture Extension Program.

9.832 Farm Machine Safety
■12 class hrs/term ■1 cr. ■On Demand

Farm Machinery safety in accordance with federal regulations for under age farm workers. Class is developed and operated with the cooperation and assistance of the Agriculture Extension program.

9.842 Laboratory Animal Technology
■1.5 class hrs/wk ■2 cr. ■On Demand

Basic duties of a laboratory animal technician, including husbandry and management of laboratory animals.

0.519 Basic Photography I
■3 class hrs/wk ■2 cr. ■On Demand

Basic black and white photography covering cameras, film developing and printing negatives, enlarging, lighting subjects and other basic skills.

0.519 Basic Photography II
■3 class hrs/wk ■2 cr. ■On Demand

Zone system method of film exposure and development will be taught. Further printing techniques and different types of photographic paper will be used. Bleaching and toning of photo prints will also be covered.

0.595 Bookkeeping
■3 class hrs/wk ■3 cr. ■On Demand

Operation of an accounting system, including its use in making management decisions. Active participation through projects involving flow of data through the accounting system.

0.685 Career Decision Making
■3 class hrs/wk ■3 cr. ■On Demand

Students will determine their occupational abilities, examine alternative careers and develop individual plans to fulfill their job goals.

0.685 Life Planning for Adult Women
■2 class hrs/wk ■2 cr. ■On Demand

Women seeking new direction in their lives can explore their values, interests and abilities through this course with professional guidance and testing that will help look at alternative careers or roles in society.

0.686 Your Attitude is Showing
■3 class hrs/wk ■3 cr. ■On Demand
Reading, studying, and discussing "Your Attitude is Showing" to give confidence in dealing with many human relations problems.

0.686 I'm OK, You're OK
■3 class hrs/wk ■3 cr. ■On Demand
Concepts of Transactional Analysis. Students learn to be aware of how they respond to stimuli so they may have a choice to change unproductive or inappropriate behavior.

0.686 Applied Transactional Analysis
■3 class hrs/wk ■3 cr. ■On Demand
A laboratory experience in human relationships in which the concepts of Transactional Analysis are practically applied to the life situation of the students. Training in accurate, therapeutic listening, congruent communication and no-loss conflict resoluton are an integral part of the course.

0.688 Shifting Gears
■3 class hrs/wk ■3 cr. ■On Demand
The course is a lecture/laboratory experience in coping constructively with change, i.e. vocational, aging, marital crisis, divorce, adolescence, etc. Students will be helped to develop a strategy for intentionally changing their lives instead of simply responding to the rapid changes in society.

0.695 Applied Assertion
■2.5 class hrs/wk ■1 cr. ■On Demand
A class to facilitate the application of assertive concepts to the life style of each individual. Limited to students who have completed Assertiveness Training.

0.695 Assertiveness Training
■2.5 class hrs/wk ■1 cr. ■On Demand
A class to facilitate the learning of a package of communication skills termed assertive behavior. Students will learn productive self-confidence through understanding of assertive, acquiescent and aggression principles.

0.695 Personal Development
■2 class hrs/wk ■2 cr. ■On Demand
An experience in interpersonal communications with the use of Gestalt Theory and Group Dynamics. The discussions and exercise in a small group setting are intended to increase self understanding, self support, self responsibility and awareness of choice.

0.841 Get Your Money's Worth
■5 wks, 3 class hrs/wk ■1 cr. ■On Demand
Helps student evaluate and plan to become more skillful in managing money.

0.844 Stretching your Dollar
■5 wks, 3 class hrs/wk ■1 cr. ■On Demand
Live better and spend less by using all your resources, time, skill and good planning to ease the pressure on the dollar. Become a bargain hunter and a knowledgeable consumer.

0.853 Managing your Life vs Life Managing you
■5 wks, 3 class hrs/wk ■1 cr. ■On Demand
For students who seek to add organization to the problem solving process we call LIFE. It is for those who desire to take charge of the multitude of daily situations in more creative ways.

9.802 Beekeeping I
■3 class hrs/wk ■2 cr. ■On Demand
The course is designed for anyone who has an interest in honeybees and particularly for those who would like an opportunity to learn what is necessary to successfully manage a few colonies.

9.803 Beekeeping—Intermediate
■3 class hrs/wk ■2 cr. ■On Demand
Designed for the amateur beekeeper with some knowledge of honey bees. Gives a summary of the terminology, biology, marketing management, swarming, pollination, pesticides, diseases, parasites, and predators of the honey bee and/or its products.

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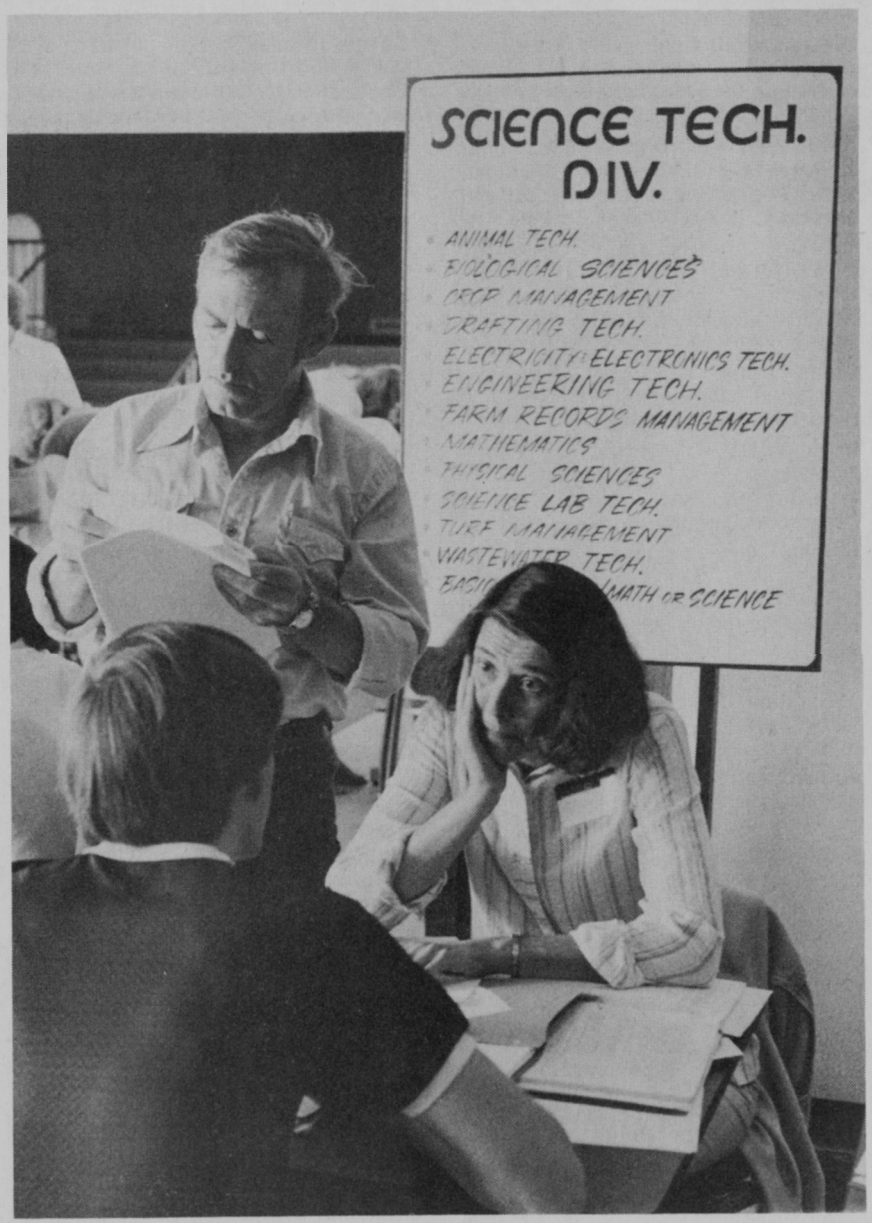
SCIENCE TECH.
DIV.
ANIMAL TECH.
BIOLOGICAL SCIENCES
CROP MANAGEMENT
DRAFTING TECH.
ELECTRICITY/ELECTRONICS TECH.
ENGINEERING TECH.
FARM RECORDS MANAGEMENT
MATHEMATICS
PHYSICAL SCIENCES
SCIENCE LAB TECH.
TURF MANAGEMENT
WASTEWATER TECH.
MATH OR SCIENCE

College Personnel

The faculty and staff of Linn-Benton Community College represent a wide background of education, training and experience.

They are chosen not only for their skills but for their belief in the college philosophy of readily-available education opportunities for men and women of the district.

Because of the college's size and the nature of its programs, the relationship between students and staff is close and informal. Students should not hesitate to seek advice or help with their career goals and college programs from instructors or other members of the college staff.

Faculty and Administrative Staff

Adams, O. Robert, Vice President. B.A., Oregon State University; M.A., D.Ed., University of Oregon. At Linn-Benton since 1968.

Alvin, John, Welding Faculty. B.S., Oregon State University; State of Oregon Welding Certification; 7 years Journeyman welding experience. At Linn-Benton since 1968.

Arasmith, Everett, Water/Wastewater Technology Faculty. A.A., Oregon Institute of Technology. At Linn-Benton since 1974.

Archibald, A. Lee, Dean of Students. B.A., M.Ed., Oregon State University. At Linn-Benton since 1967.

Arman, Mary, Community Education, Lincoln Center Coordinator. B.A., Colorado College. At Linn-Benton since 1977.

Armstrong, Harry, Construction Technology Faculty. B.S., Oregon State University; related construction experience. At Linn-Benton since 1975.

Atwood, Illa, Business Skills Faculty. B.S., M.Ed., Oregon State University. At Linn-Benton since 1971.

Badal, Fred B., Electricity/Electronic Technology Faculty. A.A., Modesto Junior College' B.S., M.S., California State University, San Jose; M.B.A., Santa Clara University. At Linn-Benton since 1979.

Bakley, David, Health & Physical Education Faculty. B.S., Westmar College; M.Ed., Oregon State University. At Linn-Benton since 1972.

Bennett, Rosemary, Career Counselor. B.S., Oregon State University; M.S. University of Oregon. At Linn-Benton since 1975.

Benoff, Judith, Associate Degree Nursing Faculty. AASN, Marshall University; B.S.N., Old Dominion University. At Linn-Benton since 1977.

Benson, David, Biology Faculty. B.S., University of the Pacific, Stockton. At Linn-Benton since 1978.

Bergeman, Richard, Coordinator of Public Information. B.S., Bowling Green State University. At Linn-Benton since 1976.

Bervin, Arthur, Language Arts Faculty. B.A., Portland State University; M.A., University of Redlands. At Linn-Benton since 1970.

Bible, Laurel, Community Education, ABE/GED/ESL Faculty. B.A., University of Oregon. At Linn-Benton since 1975.

Boyse, Peter, Albany Center Director/Evening Administrator. B.A., Albion College; M.S., University of Michigan; M.S., Oregon State University. At Linn-Benton since 1976.

Bowler, Virginia, Acquisitions/Reference Librarian. Ed.B., University of California at Los Angeles; M.L.S., University of Oregon. At Linn-Benton since 1969.

Brem, Janet, Guidance Counselor. B.S., M Ed., Oregon State University. At Linn-Benton since 1969.

Brick, Walter J., Art and Art History Faculty. B.A., University of Washington; M.S., University of Oregon. At Linn-Benton since 1969.

Brooks, Jay, Business Management Faculty. A.A., San Jose City College; B.S., M.Ed., Oregon State University. At Linn-Benton since 1968

Brown, Brian H., Guidance Counselor. B.S., University of Oregon; M.A., San Jose State University; Ph.D., Oregon State University. At Linn-Benton since 1976.

Brown, Marc, Food Services Manager. B.S., Oregon State University. At Linn-Benton since 1973.

Burke, Michael, Machine Tool Technology Faculty. A.A., Santa Ana College; 16 years field experience. At Linn-Benton since 1975.

Butler, J. Michael, Heavy Equipment, Diesel Faculty. B.S., Utah State University; M.Ed., Oregon State University; 13 years industrial experience. At Linn-Benton since 1977.

Call, Shirley, Language Arts Faculty. B.A., Goshen College; M.A., University of Oregon. At Linn-Benton since 1967.

Carnahan, Jon, Director of Admissions and Registrar. B.A.Ed., M.Ed., Central Washington University. At Linn-Benton since 1973.

Carnegie, John W., Water/Wastewater Technology Faculty. B.S., M.S.,f fPh.D., Oregon State University. At Linn-Benton 1971-75 and since 1977.

Carter, David, Automotive Technology Faculty. Eugene Technical Vocational School; General Motors Training School; Toyota Training School; IGOA Master Technician Certificate; Colorado State University Vehicle Emission Certificate. At Linn-Benton since 1969.

Chambers, Maynard, Business Management Faculty. B.S., M.B.A., Oregon State University. At Linn-Benton since 1970.

Chase, Thomas, Language Arts Faculty. B.A., University of Colorado, Boulder; M.A., California State University, Hayward. At Linn-Benton since 1971.

Cheney, Kenneth, Director of Humanities and Social Sciences Division. B.A., M.A., Northern Colorado University. At Linn-Benton since 1969.

Chester, Patsy, Business Skills Faculty. B.S., Idaho State University; M.Ed., Oregon State University. At Linn-Benton since 1967.

Clark, Douglas, Political Science Faculty. B.A., M.A., University of Oregon. At Linn-Benton since 1972.

Clark, Katherine, Developmental Studies Faculty. B.A., University of California, Santa Cruz; M.A., Stanford University. At Linn-Benton since 1975.

Clark, Philip V., Director of Business Division. B.S., M.B.A., San Jose State College. At Linn-Benton since 1969.

Conner, Gerald H., Business Management and Economics Faculty. B.A., Park College; M.B.A., University of Oregon. At Linn-Benton since 1974.

Cope, Marian, Study Skills Faculty. A.A., B.S., Montana State University. At Linn-Benton since 1973.

Craven, William, Real Estate Faculty. B.S., University of Notre Dame; B.S., Long Island University; J.D. California Western University, San Diego. At Linn-Benton since 1978.

Cripe, Sue, Assistant Registrar. Attended University of California, Berkeley. At Linn-Benton since 1968.

Crisp, Ann C., Community Education, Benton Center Director. B.S., Ball State University; Master of Home Economics, Oregon State University. At Linn-Benton since 1975.

Crosman, Arlene, Physical Education Faculty. B.S., M.Ed., Oregon State University. At Linn-Benton since 1972.

Dallmann, Charles R., Culinary Arts & Restaurant Management Faculty. Cooking Certificate, Laney Community College; Community College Teaching Certificate-Food Services, California;

B.A., University of Connecticut. At Linn-Benton since 1974.

Dangler, David R., Physical Education Faculty. B.S.Ed., Oregon College of Education; M.S.T., Portland State University. At Linn-Benton since 1976.

Deems, Mary (Dee), Director of Lebanon Center. B.S., Willamette University. At Linn-Benton since 1979.

Denny, Gerald, Community Education, Benton Center Electricity/Electronics Faculty. B.A., University of California at San Diego; U.S. Navy instructor training. At Linn-Benton since 1978.

Dixon, Barbara, Associate Dean for Vocational Education & Instructional Operations. B.S., Oregon State University. At Linn-Benton since 1969.

Donovan, Jane, Speech Faculty. B.A., Illinois State University; M.A., Ph.D., University of Illinois. At Linn-Benton since 1979.

Durham, Russell, History Faculty, B.A., M.A., Arizona State University. At Linn-Benton since 1967.

Eastburn, Harold, Music Faculty. B.S., Minot State University; M.A., Colorado State University; D.M.A., University of Northern Colorado. At Linn-Benton since 1979.

Easton, Joyce, Health Counselor. R.N., Methodist Hospital School of Nursing, Los Angeles; B.S., M.Ed., Oregon State University. At Linn-Benton since 1971.

Exton, Lynn, Mathematics Faculty. B.S., M.S.T., University of Missouri. At Linn-Benton since 1979.

Farnell, Vernon E., Dean of Business Affairs. B.S., M.Ed., University of Idaho. At Linn-Benton since 1967.

Floyd, Stewart, Farm Records Management Faculty. B.S., M.S., New Mexico State University. At Linn-Benton since 1978.

Gilson, Melvin L., Community Education. Special Programs Coordinator. B. Music, Willamette University. At Linn-Benton since 1970.

Gregory, Russell, Study Skills Faculty. B.A., M.Ed., Colorado State University. At Linn-Benton since 1975.

Griffiths, John, Machine Tool Technology Faculty. B.S., M.Ed., Utah State University; Professional Counseling Certificate; Journeyman machinist experience. At Linn-Benton since 1972.

Grigsby, Paula, Community Education, ABE Living Skills Faculty. B.S., Portland State University; M.S., Oregon College of Education. At Linn-Benton since 1973.

Hansen, Kent, Electricity/Electronics Technology Faculty. A.S., Oregon Institute of Technology; B.S., M.Ed., Oregon State University. At Linn-Benton since 1974.

Hansen, Leroy, Auto Mechanics/Diesel Faculty. Attended University of Montana, North Montana College, Montana State University; related experience. At Linn-Benton since 1979.

Harris, William M., Construction Technology Faculty. Related construction experience. At Linn-Benton since 1977.

Harrison, Clifford W., Auto Body Repair Faculty. Certified from Provinces of Alberta And Ontario, Canada. At Linn-Benton since 1977.

Heaton, LeRoy H., Water/Wastewater Technology Faculty. B.S., Oklahoma State University; M.S., Colorado State University. At Linn-Benton since 1972.

Hedberg-Duff, Judith, Graphic Communications Faculty. B.S., M.A., Oregon State University. At Linn-Benton since 1976.

Henich, Michael, Auto Mechanics/Diesel Faculty. B.G.S., University of Nebraska; M.S.E., University of Southern California. At LBCC since 1979.

Hogan, Daryl, Auto Body Repair Faculty. Training School certificated from Chrysler corporation, General Motors and Ford Motor Division. At Linn-Benton since 1976.

Hogan, Thomas, Coordinator of Cooperative Work Experience. B.S., M.S., University of Wisconsin. At Linn-Benton since 1978.

Horton, Richard, Coordinator of Cooperative Work Experience. B.S., Fort Hays University; M.S., Kansas State University. At Linn-Benton since 1979.

Hughey, Randy W., Construction Technology Faculty. Attended Lane Community College, Oregon State University; related cabinetmaking experience. At Linn-Benton since 1978.

Irvin, Jean, Physical Education Faculty. B.A., Slippery Rock State College; M.A., Ohio State University. At Linn-Benton since 1975.

Jackson, Merle, Heavy Equipment Mechanics/Diesel Faculty. A.S., Oregon Institute of technology. At Linn-Benton since 1978.

Jean, Raymond A., Director of Facilities. Certification, Journeyman's Carpenters and Joiners, Plant and Field Concrete Supervisors; construction experience. At Linn-Benton since 1971.

Johnson, Jerome A., Director of Developmental Center. B.A., Western Washington State College; M.A., University of Puget Sound; D.Ed., Oregon State University. At Linn-Benton since 1977.

Johnson, Lyndall, Associate Degree Nursing Faculty. DN., Emanuel Hospital; B.S., Pacific Lutheran University; M.Ed., Oregon State University. At Linn-Benton since 1976.

Kauffman, F. Michael, Business Management Faculty. B.B.A., University of Notre Dame; M.B.A., Pepperdine University. At Linn-Benton since 1977.

Kimpton, Verlund (Butch) Physical Education Faculty. B.S., M.S., University of Oregon. At Linn-Benton since 1970.

Kleine, Carroyl, Staff/Instructional Development Coordinator. B.A., Northern Colorado State University; M.A., Adams State College. At Linn-Benton since 1976.

Klopping, Paul H., Water/Wastewater Technology Faculty. B.S., California State University, Long Beach. At Linn-Benton since 1976.

Kraft, John R., Chemistry Faculty. B.A., Willamette University. At Linn-Benton since 1973.

Lambert, Rita, Director of Financial Aids & Placement. B.S., Mt. Angel College; M.S., Oregon State University. At Linn-Benton since 1971.

Lamberton, Bobbie, Health Occupations Faculty/Coordinator of Continuing Education. R.N., B.S., Walla Walla College. At Linn-Benton since 1976.

Lawrence. Dorothy, Business Skills Faculty. Certified Professional Secretary; B.S., M.S., Oregon State University. At Linn-Benton since 1972.

Ledbetter, Ward, Business Management Faculty. B.S., University of Tulsa; M.B.Ed., Indiana University. At Linn-Benton since 1967.

Lee, Yvonne, Cataloging/Reference Librarian. B.A., Ewha Women's University, Korea; B.A., Oregon State University; M.L.S., University of Oregon. At Linn-Benton since 1968.

Lenhart, Richard, Business Management Faculty. B.S., M.B.A., San Jose State University. At Linn-Benton since 1978.

Lewis, Norman, Technical Theatre Faculty. B.A., Michigan State University; M.F.A., Ohio University. At Linn-Benton since 1979.

Liebaert, Richard M., Biology Faculty. B.S., Michigan State University; M.A., University of California at Davis. At Linn-Benton since 1978.

Lieberman, Max, Sociology Faculty. B.S., Defiance College; M.A. Miami University; M.A. California State University, San Jose. At Linn-Benton since 1969.

Liles, Jack V., Dean of Instruction. B.S., Pacific University; M.Ed., Oregon State fUniversity. At Linn-Benton since 1975.

Lind, Peggy, Secretarial Sciences Faculty. B.S., M.S., Southern Oregon College. At Linn-Benton since 1978.

Liverman, Earl, Security/Information Coordinator. B.A., Southern Methodist University; M.S., Southern Oregon State College. At Linn-Benton since 1976.

Love, Carl, Metallurgical Technology Faculty. San Diego Vocational School

Welding Certification; Eggets Electronic Institute, on year certificate; B.S., M.S., Oregon State University; Ph.D., Laurence University. At Linn-Benton since 1968.

Lucas, James, Farm Management, Crop Management Faculty. B.S., University of California at Davis; M.S., California State University, Fresno. At Linn-Benton since 1978.

Magers, Howard, Heating, Refrigeration & Air Conditioning Faculty. A.A. Oregon Institute of Technology; related experience. At Linn-Benton since 1978.

Maier, William D., Business Manager. B.B.A., Southwest Texas State College. At Linn-Benton since 1969.

Mann, Charles, Reading and Study Skills Faculty. B.S., M.A., Oregon State University. At Linn-Benton since 1968.

Martin, Stephen B., Data Processing Faculty. A.B., Harvard College; J.D., Golden Gate University. At Linn-Benton since 1977.

Mason, Ronald, Mathematics Faculty. B.A., M.A., University of Southern Florida. At Linn-Benton since 1979.

Mayfield, Jerome, Placement Officer. A.A., Air University; B.S., Oregon State University; M.Ed., University of Idaho. At Linn-Benton since 1979.

McCauley, Molly P., Dental Hygiene Faculty. A.S., Lane Community College; B.A. University of Utah. At Linn-Benton since 1978.

McClain, H. Richard (Dick), Director of Health Occupations and Physical Education Division and Sports Director, B.S., M.S., University of Oregon. At Linn-Benton since 1969.

McDaniel, Lee, Community Education, Benton Center, Farrier Faculty. Related work and teaching experience. At Linn-Benton since 1978.

McMurray, Martha M., Business and Data Processing Faculty. B.S., Ohio University; M.B.A., Oregon State University. At Linn-Benton since 1977.

McPheeters, Mary Lou, Secretarial Sciences Faculty. B.S., M.Ed., Oregon State University. At Linn-Benton since 1978.

Metcalf, Carol, Nursing Assistant Faculty. B.S.N., Barry College. At Linn-Benton since 1979.

Meyrick, Nancy, Community Education, Benton Center, ABE/GED/HSC Faculty. B.A. Eastern Oregon College. At Linn-Benton since 1972.

Miles, Martha, Associate Degree Nursing Faculty. B.S.N., University of New Mexico. At Linn-Benton since 1979.

Miller, Carolyn, Community Education, Special Programs, Job Skills Faculty. Attended Utah State University, Portland State University, Oregon College of Education, Seattle University. At Linn-Benton since 1974.

Miller, David F., Drafting Technology and Engineering Technology Faculty. B.S., M.Ed., Oregon State University. At Linn-Benton since 1971.

Miller, Joan, Mathematics Faculty. B.A., University of Nebraska; M.S., Oregon State University. At Linn-Benton since 1979.

Miller, Raymond, Guidance Counselor. B.A., California State College at Los Angeles; M.S., University of Oregon. At Linn-Benton since 1969.

Miller, Robert A., Director of Campus and Community Services. B.S., Southern Oregon State College; M.S., Ph.D., Oregon State University. At Linn-Benton since 1969.

Minnick, Donald, Language Arts Faculty. B.A., Cornell College; M.A., State University of Iowa. At Linn-Benton since 1968.

Montgomery, Maribel, Psychology Faculty. B.A., M.A., University of California, Berkeley. At Linn-Benton since 1969.

Moore, Beverly, Emergency Medical Training Faculty. Diploma of Nursing, Massachusetts School of Nursing; Military Nursing, Medical Field Service School; related experience. At Linn-Benton since 1977.

Moos, Bruce, Animal Technology Faculty. B.S., Fresno State; Vocational Certificate, University of California at Davis. At Linn-Benton since 1975.

Moreira, Joyce L., Business Skills Faculty. B.S., M.Ed., Oregon State University. At Linn-Benton since 1971.

Morgan, Jerry, Dental Assistant Faculty. Certificate, USAF; Certificate, University of North Carolina; CDA, American Dental Assistants Association; Radiological Proficiency and Expanded Duties Certificate, State of Oregon. At Linn-Benton since 1972.

Morgan, Michael Mathematics Faculty. B.s., Oregon College of educaton; M.S., Ph.D., Oregon State University. At Linn-Benton since 1972.

Mullikin, Carolyn J., Biology Faculty. B.S., M.S., Oregon State University. At Linn-Benton since 1976.

Needham, Raymond J., President. B.S., M.Ed., Washington State University; Ph.D., Colorado State University. At Linn-Benton since 1970.

Orr, Bonnie, ABE/GED Faculty. B.A., University of California at Santa Cruz; M.A., University of Colorado, Boulder; M.A., Oregon State University. At Linn-Benton since 1967.

Osterlund, Blair, Counseling Psychologist. B.S., University of Washington; M.S., University of Oregon; Ph.D., University of Missouri. At Linn-Benton since 1969.

Patrick, Michael, Associate Dean for Community Educaton. B.A., California State Polytechnic. At Linn-Benton since 1971.

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