**DYNAMICS;** ENGR 212 Spring 2019

**Class Time**: M 3:00 – 4:50 W 3:00-4:50; F 3:00-3:50

**Instructor**: David Kidd, IA 208, Phone: 917-4623 email: kiddd@linnbenton.edu

**Office Hours** M**,**T,WTh 11:30-12:30

I am often available during my off hours, stop by or make an appointment.

**Course Description and Outcomes**: This class covers particle and rigid body kinematics and kinetics, work energy analysis, and impulse momentum.. Upon successfully completing the course, a student should be able to

1. Perform kinematic analysis of particles and bodies

2. Perform kinetic analysis of systems using F=ma and M = Iα

3. Perform Work-Energy analyses of systems

4. Perform Momentum-Impulse analyses of systems

**Prerequisite Classes**: ENGR 211, Statics; Math 252, Calculus II

**Recommended Classes**: Physics I, Basic Spreadsheet knowledge

**Texts**: Dynamics Notes, Edition 2.00 LBCC

Engineering Mechanics, Dynamics, Hibbeler

**Grading**:

Exams and Quizzes 85% A 90% - 100% D 60% - 69%

Homework 15% B 80% - 89% F < 60%

C 70% - 79%

Three exams will be given, two midterms and a comprehensive final. There will be two methods for determining your grade, the method that gives you the best result will be used. Either each of the exams will count 28.33% of your grade; or the final will count 35% and each of the midterms will count 25%. To make up an exam, a student must contact the instructor before the exam and schedule a make-up exam within one week of returning. Incompletes will be handled on a case by case basis, it is the responsibility of the student to discuss the situation with the instructor.

The lowest weekly homework score will be dropped. Generally, late homework will not be accepted. In the event of illness, etc,; a student can contact me **before** the due date to request an extension. Any excused late homework must have a clear note on it stating the reason for the late submission and the date. I will keep graded homework and exams up to a week, and dispose of them after that.

This course prepares students for a professional work environment. Students are expected to act in a professional manner, attend class regularly, and participate in class activities.

**Class Schedule**

**Week** **Subject**

 1 Particle Kinematics, Curved Motion

 2 Curved Motion

 3 Relative Motion, F=ma

 4 Work Energy

 5 Momentum

 6 Momentum, Rotation of Objects

 7 Relative Motion of Objects

 8 Relative Motion of Objects, Moment of Inertia, F=ma: Translation

 9 Kinetics of Objects: Translation and Rotation

 10 Kinetics of Objects: Plane Motion

**Final Exam**: Wednesday, June 12; 3:00 – 4:50

**WHAT DO EMPLOYERS EXPECT OF ME AS AN EMPLOYEE?**

**They expect me to:**

1. Come to work, everyday ... on time.

2. Make smart decisions.

3. Follow directions.

4. Concentrate on my work and care about the quality of my work.

5. Read, write, and calculate well.

6. Recognize problems and find solutions.

7. Finish a job when I am supposed to without sacrificing quality.

8. Be honest and dependable.

9. Take the lead and work hard.

10. Communicate well and get along with other people ... especially customers.

11. Dress properly and practice good grooming.

12. Be cooperative.

13. Have a positive attitude.

From the Pittsburgh Connection Business/Education/Community

**Academic Honesty**:

Please work together on homework; but to receive credit, do your own work. Any cheating on homework or tests will result in a zero being assigned for the grade. Students who aid other students who cheat will be also be held responsible.

**Disability Services and Emergency Planning:** Students who may need accommodation due to documented disabilities, who have medical information which the instructor should know, or who need special arrangements in an emergency, should speak with the instructor the first week of class. If you have not accessed services and think you may need them, please contact Disability Services, 917-4789

**Anti Discrimination Statement**: LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws.