|  |  |
| --- | --- |
| **Email:** virasas@linnbenton.edu | **Class Room:** MKH-101 |
| **Office:** MKH-108 | **Class Day/Time:** MW @ 12-1:20 PM**Lab Time:** F 12-1:50 PM |
| **Phone:** 541-917-4617 | **Office Hours:** M 2-4, W 3-4 PM/TR 10 AM-3PM |

**Course Description and Objectives**:

Introduces the principles of computer programming using an object-oriented language. The course topics include problem-solving concepts, verification and validation, representation of numbers and Strings, sources of error, debugging techniques, conditional statements, loops, and arrays. Students are introduced to graphics and command line applications.

**Prerequisites**

• CS160 Orientation to Computer Science, with a 'C' or better

• MTH95 Intermediate Algebra or equivalent with a 'C' or better

**Text:**

Python Programming: An Introduction to Computer Science (Third Edition) John Zelle

**Learner Outcomes:**

Upon successful completion of this course, students will be able to:

* Demonstrate an understanding of the difference between primitive data types and objects and their representation using an object-oriented approach.
* Demonstrate the use of good program development, debugging techniques and documentation. Write object-oriented code that includes control statements, while loops, for loops, output to the screen and input from the keyboard and from a file.
* Write, compile and run simple web-based and desktop-based FUI applications using components and containers.
* Write simple, user-designed classes that demonstrate an understanding of encapsulation.
* Write object-oriented code that includes the use of single-dimensional arrays.

**Grades Table:**

|  |  |
| --- | --- |
| **Assignments/Exams** | **Weight** |
| Programming Assignments  | 25% |
| Labs | 25% |
| Quizzes | 20% |
| Final Exam | 30% |
| TOTAL | 100% |
| **Grades:****IMPORTANT:** A grade of “C” or higher is considered passing. | A: 90-100%B: 80-89%C: 70-79%D: 60-69%F: < 60%P: >= 70%NP: < 70% |

**Instructor and Student Responsibilities:**

|  |  |
| --- | --- |
| **Instructor Responsibilities** | **Student Responsibilities** |
| I commit to starting all classes on time. | You agree to attend all classes and to comply with college code of conduct. |
| I commit to showing up to class prepared. | You agree to actively participate in class discussions and exercises. |
| I commit to balancing class time between lecture and hands-on exercises. | You agree to spend an average of 4 hours per week on readings and assignments outside of class (see Moodle for details). |
| I commit to holding published office hours. | You agree to complete all readings and course assignments on time (due on Sunday night). |
| I commit to responding to your email within 24 hours (no voice mail please). | You agree to collaborate professionally with fellow students on the class project. |
| I commit to grading assignments within 3 days (after due date). |  |
| If I'm unable to come to a class, I commit to doing my best to find a substitute instructor while keeping you up-to-date. |  |

**Academic Honesty:**

Helping, or being helped by, another student during an exam will be considered a breach of academic honesty and is grounds for receiving a zero grade and/or failing the course among other possible remedies.

**Classroom Conduct:**

1. Please silence cell phones and do not use during class.
2. Please do not bring other electronic devices to class including laptops, iPods, iPads, etc.
3. No food or drink in the classroom.
4. Please respect the learning environment of others and keep distractions to a minimum.

**LBCC Center for Accessibility Resources:**

Students who may need accommodations due to documented disabilities, or who have medical information which the instructor should know, or who need special arrangements in an emergency, should speak with the instructor during the first week of class. If you believe you may need accommodations, but are not yet registered with CFAR, please go to <http://linnbenton.edu/cfar> for steps on how to apply for services or call 541-917-4789.

**LBCC Comprehensive Statement of Nondiscrimination:**

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.

**LBCC Statement of Inclusion:**

The LBCC community is enriched by diversity. Each individual has worth and makes contributions to create that diversity at the college. Everyone has the right to think, learn, and work together in an environment of respect, tolerance, and goodwill (related to Board Policy #1015).

**Schedule and Weekly Activities**

We will cover one chapter per week for 9 weeks in the programming textbook Python Programming, by John Zelle. All pre-lab reading and written exercises for (Zelle) should be completed before lab in preparation for discussion at the beginning of lab time. The exercises do not require any programming, but you must prepare your answers in writing, so you can correct them during the lab. You will hand in your written solutions to the pre-lab exercises in lab.

We'll generally start playing with the Python examples in each chapter through guided exercises during the workshop portion of lab and then start working on the programming exercises. You do not have to start programming before the lab, but, of course, you can if you want.

Prelab exercises and in-lab workshop exercises are due at the end of the lab. Turn in what you have. Don't hold on to your work to complete it later. I generally don't accept late work.

Homework programming exercises for each week must be submitted by **Sunday 11:55 PM in Modle**. Be sure each program of your assignment is properly commented with your name, the chapter and problem number, and a short description all at the top of your source code file.

Submit programs with the following naming scheme:

ChxPyname.py

example: Ch1P4chaos.py

where x is the chapter number, y is the programming exercise number and name is your choice.

|  |  |  |
| --- | --- | --- |
| Week | Activity | Due |
| Week-1Jan 7 | Welcome, introductions, scope & set clear expectations Chapter 1 - Computers and ProgramsPre-lab* Zelle: Read Ch 1
* Answer all T/F and Multiple-Choice review questions pp20-21
* Briefly answer Discussion Questions 1,2,4 pp21-22

In-lab Orientation, Ch 1 discussion, sample programs, Lab 1 activities**Homework Programming Exercises 4,5 pp24-25****No Quiz** | Jan 13@ 11:55 pm |
| Week-2Jan 14 | Chapter 2 - Writing Simple ProgramsPre-lab* Zelle: Read Ch 2
* Answer all T/F and Multiple-Choice review questions
* Briefly answer all discussion Questions

In-lab Ch 2 discussion, Lab 2 activities **Homework Programming Exercises 1,2,4,5,8****Chapter 1 Quiz Wed Jan 16** | Jan 20@ 11:55 pm |
| Week-3Jan 21 | **\*\*Jan 21 No class – Martin Luther King Jr. Day\*\***Chapter 3 - Computing with NumbersPre-lab* Zelle: Read Ch 3
* Answer all T/F and Multiple-Choice review questions
* Briefly answer all discussion Questions In-lab Ch 3 discussion,

 Lab 3 activities **Homework Programming Exercises 1,5,11,12,16****Chapter 2 Quiz Wed Jan 23** | Jan 27@ 11:55 pm |
| Week-4Jan 28 | Chapter 5 – Sequences: Strings, Lists, and FilesPre-lab* Zelle: Read Ch 5
* Answer all T/F and Multiple-Choice review questions
* Briefly answer all discussion Questions

In-lab Lab 5 activities**Homework Programming Exercises 1,3,5,8,10****Chapter 3 Quiz Wed Jan 30** | Feb 3@ 11:55 pm |
| Week-5Feb 4 | Chapter 6 - Defining FunctionsPre-lab* Zelle: Read Ch 6
* Answer all T/F and Multiple-Choice review questions
* Briefly answer all discussion Questions

In-lab Lab 6 activities. **Homework Programming Exercises 3,4,9,10,11****Chapter 5 Quiz Wed Feb 13** | Feb 10@ 11:55 pm |
| Week-6Feb 11 | Chapter 7 - Decision StructuresPre-lab* Zelle: Read Ch 7
* Answer all T/F and Multiple-Choice review questions
* Briefly answer all discussion Questions

In-lab Lab 7 activities.**Homework Programming Exercises 3,4,7,11****Chapter 6 Quiz Wed Feb 20** | Feb 17@ 11:55 pm |
| Week-7Feb 18 | **\*\*Feb 18 No class – President’s Day\*\***Chapter 8 - Loop Structures and BooleansPre-lab* Zelle: Read Ch 8
* Answer all T/F and Multiple-Choice review questions
* Briefly answer all discussion Questions

In-lab Lab 8 activities.**Homework Programming Exercises 1, 3-7****Chapter 7 Quiz Wed Feb 27** | Feb 24@ 11:55 pm |
| Week-8Feb 25 | Chapter 10 -Defining Classes Pre-lab* Zelle: Read Ch 10
* Answer all T/F and Multiple-Choice review questions
* Briefly answer all discussion questions

In-lab Lab 10 activities **Homework Programming Exercises 1,7****Chapter 8 Quiz Wed March 6** | Mar 3@ 11:55 pm |
| Week-9Mar 4 | Chapter 11 -Data Collections Pre-lab* Zelle: Read Ch 11
* Answer all T/F and Multiple-Choice review questions
* Briefly answer all discussion questions

In-lab Lab 11 activities **Homework Programming Exercises 1,6,7****Chapter 10 Quiz Wed March 6** | Mar 10@ 11:55 pm |
| Week-10Mar 11 | Review and Reflection  |  |
| Week-11Mar 18 | * Final Exam Monday March 18 1-2:50 PM Must be in class
* Covering Chapters 1-3,5-8,10,11, Two hours.
* Open book, open notes, in class, two hours,
 |  |