

Texas Tech University
Dept. of Computer Science

Course Name: Programming Principles I – (Python) **Course Number:** CS1411

Section Number: 001

Semester: Fall 2016

Instructor: Cong Pu (Ph.D., Instructor)

Office: ENGCTR 304

Email: cong.pu@ttu.edu

Office Hours: 10:00AM-11:00AM (WF)

Class Room: Mechanical Engineering 132

Class Hours: 5:00PM-6:20PM (TR)

Lab Room:

Lab Hours:

Lab TA:

Lab TA Office: ENGCTR 201A

Lab TA Email:

Lab TA Office Hours:

Catalogue Listing: Procedural programming. Discipline of computer science; analysis, design, implementation, debugging, and testing of software. Introduction to field for majors.

Textbook (optional): The Practice of Computing Using Python, 3rd edition, William Punch & Richard Enbody. Pearson, 2016, ISBN-10: 0134379764, ISBN-13: 978-0134379760.

Course Objectives:

The purpose of this course is to expand the student's knowledge of computer science and the craft of programming. The course will delve into problem analysis, data modeling, and algorithm/program development. Students who succeed in this course will:

1. Have a basic understanding of what the discipline of Computer Science involves.
2. Be able to read and develop imperative programs of simple to moderate complexity in the Python or C programming language.
3. Be able to informally reason about the correctness of such programs
4. Understand the basics of recursion and develop simple recursive programs.

Key Topics:

These topics will be covered (as appropriate) in one or both (Python, C) programming languages.

- (a) Problem solving methodology, e.g., by refinement of specification or top-down approach
- (b) Data types (e.g., int, char, etc) and structures (arrays, lists, pointers?).
- (c) Expressions (assignment, arithmetic).
- (d) Control flow: conditional statements (if/else, switch), iteration (for, do-while, while).
- (e) Functions.
- (f) I/O (console, files (text, binary)).

Course Prerequisites: Department approval.

Expected prior knowledge and skills in: None

Learning Outcomes & Assessment Methods:

Students who have completed this course should have the ability to:

| Objective | ABET Outcomes | Assessment Methods |
|--|---------------|--|
| 1. Apply the learned methodology to solve problems. | a, b, c | Various lab assignments, assignments, all exams, and quiz. |
| 2. Comprehend and develop Python and C code to the extent covered in the course. | a, b, c | Various lab assignments, assignments, all exams and quiz. |
| 3. Comprehend and apply data types and structures. | a, b, c | Various lab assignments, assignment, all exams and quiz. |
| 4. Comprehend and apply the expression, control flows, functions and I/O. | a, b, c | Various lab assignments, assignments, all exams and quiz. |

Grading Policy: The final grade for this course will be based on lab assignments, lab project, assignments, quizzes and exams, as described below:

- **Lab Assignments: 35%.**
 - Lab assignments' solutions will be provided by lab TA after due.
- **Lab Project: 10%.**
 - One individual project.
 - Lab project's solution will be provided by lab TA after due.
- **Assignments: 10%.**
 - Assignments' solutions will be provided by instructor after due.
- **Quizzes: 15%.**
 - The dates for quizzes will not be announced before. There is no make-up for missing quiz. Instructor will give quiz any time.
 - The quiz starts at the very beginning of each lecture, and lasts for about 10 mins.
 - Quizzes' solutions will be provided by instructor after quizzes.
- **Exams: 30%. (first exam:10%; second exam:10%; third exam:10%)**
 - Students are required to **take exam on exam date**. There is no make-up for missing exam.
 - Exams' solutions will be provided by instructor after exams.
- **Submissions grading policy:**
 - All **lab assignments** and **project** MUST be submitted to **Blackboard**. **No Late submission allowed.**
 - All **writing assignments** MUST be submitted to **instructor in class**. **No Late submission allowed.**
 - Plagiarism – **0 point**. All the work should be finished **Individually**. First time reported to instructor. Second time reported to department.
 - All code (functions, programs, etc.) must be submitted as instructed by TA or instructor.
 - Additional grading policy will be applied by TA or instructor.
 - The instructor or TA reserves the right to explain the confusing issues

- The usual grading scale will be used:

| | |
|----|-----------|
| A+ | 100 – 97 |
| A | 96.9 – 93 |
| A- | 92.9 – 90 |
| B+ | 89.9 – 87 |
| B | 86.9 – 83 |
| B- | 82.9 – 80 |
| C+ | 79.9 – 77 |
| C | 76.9 – 73 |
| C- | 72.9 – 70 |
| D+ | 69.9 – 67 |
| D | 66.9 – 63 |
| D- | 62.9 – 60 |
| F | Below 60 |

Ethical Conduct:

Although students are encouraged to discuss ideas and problems with the TA, instructor and other students, academic dishonesty will not be tolerated. **It is your responsibility to educate yourself about actions that constitute academic dishonesty.** If you are not sure whether a specific action is allowed, contact the instructor and/or the TA before you indulge in it! All submitted homework will be randomly checked for plagiarism. Academic dishonesty of any kind, if discovered, will result in a grade of 0 for the corresponding assignment. Any student who is caught indulging in academic dishonesty more than once will lead to a grade of “F” in the course, and further action according to the TTU operating procedures: <http://www.depts.ttu.edu/opmanual/OP34.12.pdf>

Classroom Civility:

All violations of classroom civility will be reported to the Student Judicial Programs. The Texas Tech University Catalog states: “Students are expected to assist in maintaining a classroom environment that is conducive to learning.” In order to ensure that all students gain from time spent in class, **students are prohibited from engaging in any form of distraction**, e.g., reading newspapers (or other articles), working on other courses, and using cell-phones for calls or messages. If you indulge in any such inappropriate behavior (without explicit consent of the instructor), you will (at the very least) be asked to leave the classroom.

Student with Disabilities:

Any student who, because of a disability, may require special arrangements in order to meet course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services Office in 335 West Hall or 806-742-2405.

Course Schedule: This schedule is tentative and subject to change. All changes will be announced in class or on the course website (Blackboard).

- Aug 30: Welcome
- Sep 01: Ch0-Introduction to Computer Science
- Sep 06: Ch1-Python Beginnings; **Lab begins**
- Sep 08: Ch1-Python Beginnings
- Sep 13: Ch2-Control
- Sep 15: Ch2-Control
- Sep 20: Ch3-Algorithms and Program Development
- Sep 22: Ch4-Strings
- Sep 27: Ch4-Strings
- Sep 29: First Exam Review
- **Oct 04: First Exam (Ch0 – Ch4)**
- Oct 06: Ch5-Functions
- Oct 11: First Exam Solution
- Oct 13: Ch6-Files
- Oct 18: Ch6-Files
- Oct 20: Ch7-List
- Oct 25: Ch7-List; Ch7-Tuple
- Oct 27: Ch7-Exercise
- Nov 01: Ch8-More on Functions
- **Nov 03: Second Exam (Ch5 – Ch7)**
- Nov 08: Second Exam Solution
- Nov 10: Ch9-Dictionary
- Nov 15: Ch9-Set
- Nov 17: Ch15-Recursion
- Nov 22: Ch15-Recursion Exercises
- **Nov 24: Thanksgiving Holiday**
- Nov 29: C Programming Overview; **lab ends**
- Dec 01: C Programming Overview
- Dec 06: Third Exam Review
- Dec 08: No Class
- **Dec 10: Third Exam (Ch8, Ch9, Ch15, C Programming) 7:30PM-10:00PM**