

# CS3361 – Concepts of Programming Languages

Summer II 2014

## Course Syllabus

**Instructor:** Cong Pu

**Office:** 314

**Class room:** ENGCTR 205

**Email:** [cong.pu@ttu.edu](mailto:cong.pu@ttu.edu)

**Office hour:** 12 – 14 M-F or by appointment

**Class Time:** M-F 10am – 11:50am

**Textbook:** Programming Language Pragmatics, Third Edition, Michael L. Scott, ISBN-10: 0123745144, ISBN-13: 978-0123745149.

### Course objective:

The principal goal is to introduce the fundamental constructs of contemporary programming languages. The high-level programming languages will be compared in order to demonstrate general principles of programming language design. The course emphasizes the concepts underpinning modern languages rather than the mastery of particular language details.

### Prerequisites:

CS 2413 Data Structures.

### Course outline:

- Introduction
- Describing Syntax and Semantics
- Names, Bindings, and Scopes
- Data Types
- Expressions and Assignment Statements
- Statement-Level Control Structures
- Subprograms
- Implementing Subprograms
- Abstract Data Types and Encapsulation Constructs
- Object-Oriented Programming
- Concurrency
- Functional Languages and Scripting Language

**Learning Outcomes:**

1. Students develop the ability to implement algorithms using several different languages.
2. Students gain the confidence to learn a new programming language well enough to implement simple algorithm.
3. Students develop knowledge of various concepts and issues pertaining to programming languages.
4. Student gain knowledge of the implementation of programming languages.
5. Students gain knowledge of the strengths and weaknesses of programming languages as well as the domains for which they are intended.

**Grading Policy:** The final grade for this course will be based on attendance, projects, quizzes, and exams, as described below:

- Attendance: **10%**, each 1 point penalty will be given to each missing after the first two absences.
- Projects: **50%** (one or two projects)
- Quizzes: **10%**
- Exams: **30%** (First exam: 15%, Second exam: 15%)
- The usual grading scale will be used: 90-100 A, 80-89 B, 70-79 C, 60-69 D, 0-59 F, but it may be adjusted based on students' scores.

**Course Schedule:**

- July 8 – July 11  
Introduction;  
Describing Syntax and Semantics;  
Names, Bindings, and Scopes.
- July 14 – July 18  
Data Types;  
Expressions and Assignment Statements;  
Statement-Level Control Structures.
- July 21  
First Exam
- July 22 – July 25  
Subprograms;  
Implementing Subprograms
- July 28 – June 1

Abstract Data Types and Encapsulation Constructs;  
Object-Oriented Programming

- July 4 – July 6  
Concurrency  
Functional Languages and Scripting Language

**Ethical Conduct:**

Although students are encouraged to discuss ideas and problems with the 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 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 or laptops 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.