COSC 251 - Programming Languages

Spring 2016

Silly Bus

Programming Languages? Hasn't that been what we've been learning already?

Just the Facts

Course Number: COSC 251
Title: Programming Languages
Semester: Spring 2016
Meeting Time: TR 2:00-3:50pm
Locale: Schaefer 165
Instructor: Alan Jamieson
Office: Schaefer 154
Office Hours: T 5-6pm, TR 1-2pm.
Email: acjamieson@smcm.edu
Google Messenger: acjamieson@smcm.edu
Facebook: via COSC251 Group
Online Office Hours: Most evenings and weekends
Textbook: *Kernighan and Ritchie, The C Programming Language, 2e (recommended)*
Website: http://ripark.github.io/s16/cosc251
TAs: Cody Forrest (crforrest@smcm.edu)

Catalog Description: This course studies the categories and features of programming languages. An examination of one language from each group: imperative, applicative, and declarative. Topics include types and type resolution and checking; scope, visibility and binding; control structures; expression evaluation; data and behavior abstraction; parameter passing; error handling; concurrency. This course will also give an overview of lexical analysis and parsing techniques. Not open to students who have received credit for COSC 351. Prerequisite: COSC 201; and MATH 200 or MATH 281.

Overview: This course is designed to expose you to the core concepts that go into a programming language. As part of this we look at various kinds of programming languages and the different ways that programming languages have their syntax set up and how they are processed. Another important part of this course is a detailed study of the parts that most modern programming languages have as part of their language and the parsing and lexical analysis that goes into developing a working compiler.

Purpose: Thus far in your CS academic careers you have been exposed to JAVA and possibly other procedural languages (I know there are some exceptions out there, but bear with me). The trouble with teaching solely procedural languages is that it ignores a large percentage of the programming languages, and quite a few of the more interesting ones. My hope is that you will be able to take the tools that you have currently and add the tools that you will gain during this semester to learn about the basics of all programming languages, pick up a few new programming languages and gain the ability to learn a new programming language effectively, an essential skill in industry.

Grade Distribution:

Exams (1) - 15% each
Assignments (4) - 10% each
Presentation - 10%
Quizzes, Homework, Labs - 15%
Final Exam - 20%

The class will be run fairly informally. While there will be some amount of a traditional lecture involved with each class period, I expect there will be a less traditional discussion in each class period involving questions and concepts being batted back and forth amongst you, your peers and myself. Please participate in these discussions, I can almost guarantee that you'll get more out of

the class in general if you do.

Final Information: The final will be held Saturday, May 7th at 2pm in Schaefer 165. Except in emergency situations, you will be required to take the final exam at this time (unless exempt).

Assignments: There will be four out-of-class programming assignments during this course. Unless otherwise specified, these are to be done individually. You may ask for help from your instructor or TA on specific problems, and you may discuss general concepts with your fellow students. You may not debug code for someone else, or have someone else debug code for you. Under no circumstances should you have any other student (aside from the TA) looking at your code (unless I'm instructing you to do so). Each assignment will tie directly into concepts that we are discussing in class and will include one or more implementations of tools that we discuss in class. There will be one group presentation done close to the end of the semester requiring you and your group members to prepare an hour-long lecture on a particular language not presented in class, approved by your instructor. This will include the development of a programming assignment, including solution.

Labs: Each week we will take time out of the scheduled class time to do some hands-on, in-class assignments. Each lab will be short and sweet and go over some major topic presented in the last week. If you miss a lab due to an unexcused absence, you will not have a chance to make up that lab. Due to space and computer restraints, you may be paired for each lab.

Blackboard Use: I will be utilizing Blackboard primarily for your grades. Please check there often as I will be updating grades as I get graded material evaluated. Assignment sheets, example questions and other class materials will be posted to the website instead.

Policies

Cell Phones: Please, turn off or turn to silent any cell phones prior to getting to class. If they go off in class they are distraction not only to myself, but to everyone else in the class as well. Habitual offenders will be excused from the class with a 0 for any quizzes that day.

Computer Use: Computer use in this lab is for academic use only. If you bring a laptop with you to this class I expect you to be only using it for purposes related to this class. The same goes for the computers in this lab.

Attendance and Tardiness: Attendance is highly recommended. Missing a class not only causes you to miss the information disseminated in that lecture, but can cause you to miss important information in regards to exams and assignments and the potential of receiving a 0 for a quiz that day. I start class promptly on the hour and expect the students to be in class at that time. If you have circumstances that can prevent you from being in class on time, please let me know as soon as possible. Habitual offenders will be excused from the class with a 0 for any quizzes that day. If you miss class, it is your responsibility to get lecture notes and what was covered from your classmates.

Exams and Quizzes: Exams are scheduled well ahead of time. The current schedule shows what days I believe I will be issuing an exam. Any changes to this schedule will be noted and explained in class, well ahead (approx. 1 week) of the exam affected. Exams will not be rescheduled and I will not be offering make-up exams except under extraordinary and documented circumstances. Every class has the potential of having a quiz to reinforce the ideas from the lecture the previous class. These will not be announced ahead of time. They will be 1-3 question quizzes that can be easily done in 15 minutes either at the start or the end of the class period.

Assignments: Assignments and other outside of class work should be done on an individual basis unless otherwise specified in the description of the assignment. Assignments and other outside of class work will not be taken "late" (see Late Policy) except under extraordinary and documented circumstances.

Late Policy: You are allowed 3 "slip-days" throughout the semester. This means that you may turn in an assignment late, where each day it is late will reduce your number of slip-days by 1 (note that for group projects, if the project is turned in one day late, every group member loses a slip-day). So, you could turn in a project 3 days late, but then you wouldn't have any further slip-days left for the rest of the semester. Once you are out of slip-days, if you turn in the assignment late, you will earn a 0 for that assignment. Group projects are limited by the least number of slip days remaining for a group member. You may not re-allocate slip-days; once they are used, they are gone. As a further encouragement to turn in assignments on-time, each slip-day you have left at the end of the semester will add 0.5% to your final average.

Extra Credit: I may or may not be offering any extra credit opportunities in this class.

Final Exam: The final exam in this class is optional. You may take it if you wish in order to attempt to improve your grade. Regardless if you choose to take the final or not, every student is required to attend the final period. Failure to attend the final period will result in an F in the course.

Communication: The simplest way to get in touch with me is by coming by my office during my office hours or contacting me via email. The easiest way to get in touch with me "after hours" is to send me an email. I habitually check my St. Mary's email account all hours of the day. If you come by my office and the door is open, feel free to stop in to chat. The open door indicates that I'm not working on anything that has to keep my undivided attention at that time so do not feel that you are interrupting me or anything like that. I do make appointments if you have a certain time that you'd like to meet with me. If it fits in my schedule (meaning I'm not teaching class during that time and on campus) I will be happy to meet with you.

Academic Honesty: Academic misconduct policies are covered in the Student Code and Student Rights and Responsibilities, Article III. Pay close attention to the definitions of academic misconduct noted in Section 1. This can be found in the Student Handbook.

Disability: If you have any kind of disability that can affect your performance in this class, please let me know privately through email or stopping by my office.

Schedule: The schedule for the class will be posted to the class website. The schedule is subject to change (multiple times).

Closing: The most important thing in any of my classes is that you are learning and expanding your horizons. If you are having any undue difficulty with your work as it pertains to this class, please contact me as soon as possible. Always remember that professors win when you don't need us any longer. I want you to be bouncing ideas off of each other throughout the class and it is my hope that by the end of the semester that you are driving the class session rather than me.