

# COSC 480 - Topics in Computer Science

Robotics  
Spring 2011  
Syllabus

ERROR, ERROR, DOES NOT COMPUTE. DANGER, WILL ROBINSON!

## Just the Facts

**Course Number:** COSC 480  
**Title:** Topics in Computer Science  
**Semester:** Spring 2009  
**Meeting Time:** TR 2:00 - 3:50 p.m.  
**Locale:** Schaefer 160  
**Instructor:** Alan Jamieson  
**Office:** Schaefer 154  
**Office Hours:** MW, 3 - 4 p.m, TR 1-2 p.m.  
**Email:** acjamieson@smcm.edu  
**AIM:** DrRipark  
**Online Office Hours:** Most evenings and weekends  
**Textbook:** *NONE!* (*woo*)  
**Website:** <http://faculty.smcm.edu/acjamieson/s11/cosc480.html>

**Catalog Description:** This course is a rigorous study of an important field in computer science. Examples: data security; bioinformatics; natural language processing; compilers. A detailed course description will be available before registration. The course may be repeated for credit where the topic is not repetitive. Prerequisite: COSC 201 or permission of the instructor.

**Overview:** In this course you will be learning how to put together and instruct an artificial life-form made from pressure molded acrylonitrile butadiene styrene. In addition to the high-level programming required for the various projects, you'll also learn about the various aspects of robotic design and fabrication, low-level programming, circuit design and embedded systems. You may even get to take the Drone for a whirl.

**Purpose:** By popular request, we bring a robotics course to SMCM. You'll get a chance to do a bit of building, maybe a bit of low-level programming and a lot of hands-on experience with teaching your artificial life-form the basics of movement and interaction. The purpose of the course is to give each student a hands-on tour of the robotics subfield from a (mostly) Computer Science standpoint.

### Grade Distribution:

Weekly Assignments - 20%  
Projects (4) - 15% each  
Final Project - 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 Friday, May 6th from 2 - 4:15 pm in a location to be announced at a later date. Except in emergency situations, you will be required to demonstrate your final project at this time.

**Assignments:** This course features several major team-based projects. You and your team will utilize a full LEGO Mindstorms(r) kit and the Microsoft Robotics Developer Studio in progressively more complex tasks including object manipulation and path finding. Many of these projects will be in competition with your fellow classmates. Teams will be 4 students each and team assignments

will be decided in the first week of class. Teams will be reevaluated and possibly reassigned in the 7th week.

**Labs:** This course is organized as a lab course. The bulk of the course will be spent in hands-on weekly exercises that you will complete with your project teams. There will be very little (i 25 %) lecture in the course, but each week we will take time to do a post-mortem discussion of the weekly assignments. Due to the nature of the exercises, if you are unable to demonstrate your weekly exercise solution by the due date (typically Tuesday's) then you will receive a 0 for that exercise. I anticipate there being approximately 18 of these exercises.

**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 grade points 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 grade point 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 grade points that day.

**Exams and Quizzes:** There will be no quizzes or exams in the course. The entirety of your grade is based on project work and weekly assignments.

**Assignments:** Projects and weekly assignments will be assigned to teams unless otherwise noted.

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

**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) 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.