

**Department of Mathematics and Computer Science  
St. Mary's College  
St. Mary's City  
Maryland 20686-3001**

Semester: Spring 2007  
Course Number: COSC 251.01  
Course Title: Programming Languages  
Prerequisites: COSC 230  
Meeting Times: Mondays and Wednesdays, 2:40pm to 4:30pm  
Location: Schaefer Hall, Room 160  
Instructor: Simon Read  
Office Location: Schaefer Hall, Room 174  
Office Hours: Mondays 10:40am to 11:50am and 4:00pm to 6:00pm, and  
Wednesdays 1:10pm to 2:30pm.  
Telephone Number: ~~Extension 4442 (240-895-4442)~~  
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yahoo.com}, sread@smcm.edu@msn.com  
Class Web-Site: <http://courses.smcm.edu>  
Required Textbook:

“Modern Programming Languages: A Practical Introduction”, Adam Brooks  
Webber, Franklin, Beedle & Associates, 2002, ISBN 1-887902-76-7.

**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. The course will also give an overview of lexical analysis and parsing techniques. Not open to students who have received credit for COSC 351.

**Objectives:**

There are a large number of programming languages available. Each of these languages has advantages and disadvantages, and allows the solutions to certain problems to be expressed easily or efficiently. The choice of programming language can be critical to the success of a project.

Even though the choice of programming languages is often constrained by non-technical factors, it is important to understand the “comparative anatomy” of programming

languages. Since a strong understanding of the features of programming languages allows new programming languages to be understood more quickly and used more efficiently. In addition it allows the features of one programming language to be used to emulate those of another.

At the end of this class, you should be able to select the most appropriate language to express the solution to a particular problem, and justify that selection to others. You should be able to learn new programming languages in a much shorter period of time. You should be able to make appropriate, efficient and effective use of the special features of a particular programming language.

### **Methods of Instruction:**

Assigned readings, lecture, class discussion and in-class activities will be used to convey the informational part of the course, to re-enforce that material and to develop critical thinking skills.

In-class multiple choice quizzes will support the assigned readings. In-class examinations will be used to further develop critical thinking skills and to develop the use of the material in problem-solving.

Homeworks, drawn from the book, will re-enforce the factual material, develop problem solving skills by its practical application.

Interactions with the instructor outside scheduled class times will be an important part of your learning in this class. You should use the instructor's office hours as time to discuss concepts and homeworks.

### **Grading Criteria:**

There are four elements to the grading of this class – the examinations; the homeworks; in-class multiple choice quizzes and participation in class.

You will take a mid-term examination (**1 hour, weight 10%**) and a final examination (**2 hours, weight 35%**). You may prepare a crib sheet for use in the examinations.

There will be homeworks based on the material covered that week (**weight 35%**). Homeworks are due before class on Wednesdays. They should be sent by email to the instructor.

There will be weekly multiple choice quizzes based on the reading assignments (**weight 10%**). These will usually consist of 10 questions, occur in the first five minutes of Monday class, be closed book and be administered through Blackboard. Since group work is an important part of the learning process in this class, you will be expected to attend and participate in classes (**weight 10%**).

### **Policies:**

#### *Communications*

This course uses the course management software Blackboard. This system will be used to provide: announcements concerning the class; homework assignments and model solutions; multiple choice quizzes; and external links to useful World Wide Web

resources. Your grades will be displayed on Blackboard. **You** are responsible for making sure that this grade sheet accurately reflects the grades given for each piece of work.

### *Plagiarism*

Students must be familiar with the “Student Code of Rights and Responsibilities”, as stated on pages 81-95 in the “To The Point Student Handbook”, especially Article III Section 1. Not being familiar with your rights and responsibilities is no excuse. Any direct quotes and someone else's ideas or information **must** be referenced.

### *Incompletes*

“An I (Incomplete) may be given by the instructor only at the request of the student when extraordinary circumstances, such as extended illness or other serious emergency beyond the control of the student, prevent the student from completing a course within the academic term. To qualify for an Incomplete, the extraordinary circumstances must have occurred near the end of the term and the student must have been attending the course regularly throughout the term up until that point.”

- Academic Policies, St. Mary's College of Maryland, Catalog 2002-2003, p. 181

### *Late Submission*

Except for unusual, documented circumstances assignments will not be accepted late.

### *Examinations*

Unless otherwise stated, all examinations are 'in class', 'cumulative' and 'closed book'. Calculators are allowed, but must be 'cleared' before the examination starts. Students may use a 'crib sheet' during the examination. The 'crib sheet' may be: only one sheet of paper; written or printed on both sides; no larger than US letter sized. Preparing the 'crib sheet' is a helpful part of studying for the examination.

### *Grading*

To earn a C grade, your work must show a strong understanding of the information presented in the course. To earn a B grade your work must show a strong understanding of the information presented in the course **and** an ability to apply this information in problem solving. To earn an A grade your work must show a strong understanding of the information presented **and** an exceptional ability to apply this information in problem solving.

### **Schedule:**

The schedule is available on Blackboard. All homeworks, reading assignments and the time of examinations are already set. In the unlikely event that the schedule changes, you will be informed by email to your Saint Mary's account and an announcement on Blackboard. It is your responsibility to check both at least daily.

The schedule is aggressive, so you should expect to be challenged and need to manage your time carefully.

The final examination will be on Tuesday, 8<sup>th</sup> May 2007 between 9:00am and 11:15am.