Syllabus

Course Information
Name: CS180A Programming I
Semester: Fall 2006
Time and Location: Tuesday and Thursday 9:30 to 10:45 AM in MEM204 computer lab
Instructor
Mihaela Sabin, Ph.D.
Associate Professor of Computer Science
Office: Regis 305
Office hours:
- Tuesday and Thursday in MEM204 10:45 AM to 11:30 AM
- Tuesday in Regis Annex, Room 305 and Conference Room: 1:00 PM to 2:30 PM
- Tuesday in STH135 8:00 PM to 9:00 PM
- Thursday in Regis Annex, Room 305 and Conference Room: 1:00 PM to 3:00 PM
- Thursday in STH135 8:00 PM to 9:00 PM
- Monday and Wednesday in Regis Annex, Room 305 and Conference Room by appointment

Course Description
An introduction to problem solving and algorithmic solutions using a high-level programming language such as Java. Topics include primitive data types, control structures, and simple input-output operations. Emphasis is on functional abstraction and recursion, and on user-defined types, data structures, and run-time storage management.

Objectives: Upon completion of this course, students should be able to:
- Understand and apply the object-oriented approach for designing and implementing algorithmic and software solutions.
- Demonstrate mastery of fundamental programming skills.
- Solve computing problems and document and test proposed solutions.

Course Overview: The course will cover
- Programming concepts and practices for writing well-designed programs
- Class and method design, implementation, testing, and documentation
- Media computation using pictures, sounds, files, Web pages, and movies

Textbook: Introduction to Computing and Programming with Java – A Multimedia Approach
Mark Guzdial and Barbara Ericson
Pearson Prentice Hall, 2007
ISBN: 0-13-149698-0

Supplements:
The Source for Java Developers at http://java.sun.com/
DrJava Development Environment at http://www.drjava.org

Course Schedule
Lists class activities, homework and reading assignments, and tests:
- Assigned reading (R#) and assigned homework (H#)
- Tests (Test#)
- Class labs (L#)
- Due dates for all assigned work
The schedule web page on the Blackboard course web site is organized by weeks. Weekly postings include class agendas, feedback to graded assignments, and class presentations.

Check every class schedule in Blackboard and your Rivier email prior to class. Check your own class notes for additional information regarding next class. There are occasions when the web site might not be accessible or might not have the latest updates announced in class. If you have questions, email me at msabin@rivier.edu. I'm always one email away.

A copy of the schedule is included at the end of this document.

**Course Requirements**

1. **Participation**
2. **Reading and Homework Assignments**
3. **Laboratory Projects**
4. **Projects**
5. **Examinations**
6. **Academic Honesty and Collaboration**
7. **Portfolio**
8. **Attendance**
9. **Late Assignments, Make-Up Exams, Missed Classes**

This course emphasizes participation and learning through direct engagement, in and outside the class, with your peers and the course instructor.

This course has a very strong practical component that requires daily practice of programming skills and application of concepts. Reading and homework assignments are assigned every class and are due next class.

Students work on lab projects that are assigned and conducted in class. You are expected to finish these projects in class or before next class.

There are four projects in which students demonstrate their understanding of the course material, application of concepts, and programming practices.

There are three in-class tests and one final exam.

The examinations and projects are entirely students' individual work.

Participation in class becomes tangible, sharable, and transferable through the course portfolio. Students develop and maintain course portfolios that collect all the work produced by students and instructor in this course.

Missed classes contradict the strong participatory character of the class. Therefore, class attendance is not optional.

The policy for late assignments, missed labs, and make-up exams is very strict and applies only in exceptional cases of student illness, accident, or emergencies that are properly and PROMPTLY documented.
1. Participation [priceless]
Participation is essential to this course. Students participate in class discussions that are conducted both in and outside the classroom.

The Blackboard communication tools are designed to monitor and reflect all the dialog generated by the course material presented in class, by class activities and assigned reading, homework, and project assignments. These tools are:
- Announcements
- Discussion Board
- Drop box
- Email

With student permission, an emailing list will be created to keep us all just one email away. Rivier email addresses are part of the list. You are required to check your Rivier email daily, and necessarily PRIOR TO each class. Course emails should be managed in your Rivier email account.

Create a subfolder called **CS180** in your Rivier email **Inbox**. Save all course-related emails in it. You can use your Rivier email to email yourself work you have done at home. This way you'll have it available in the lab when you come to class. Another efficient way to transfer and synchronize work that you have in your Rivier computer account and home computer is to use a USB memory key.

Install the VPN client on your home machine to have direct access to your Rivier network drive, then map the Rivier network drive to a logical drive on your machine. The VPN client works only if you have a broadband Internet connection (cable or DSL).

Make sure you know the path of your Rivier network drive. It's usually `\pds\students\` followed by the first initial of your login name, followed by `\ (backslash)`, and followed by your login name. If you live on campus, you simply need to map the network drive to a logical drive on your machine. Check regularly that all the work you do on your machine gets saved to the network drive.

2. Reading Assignments [priceless]
Reading assignments are assigned every class and cover the material to be presented in the next class. Details on reading assignments are in the class agendas in the corresponding **Week #** folders on the **Schedule** web page.

3. Homework Assignments [18 points]
There are 18 homework assignments. Homework assignments are graded as follows:
- 1 point for solutions ranging from good to perfect.
- 1/2 point for fair attempts to solve the problem.
- 0 points for no submission or no attempt to work on the assigned work.
Occasionally, decimal points are given if performance lies in between 1/2 point increment.

**Deadline for Homework Assignments.** Homework assignments are given every class and are due the
following class. **No late submissions are accepted**, unless you comply with the “Late Assignment, Make-Up Exams, and Missed Classes” policy.

The homework assignments schedule is in the course schedule document on the Schedule web page. Details on homework assignments are in the class agendas in the corresponding Week # folders on the Schedule web page.

**IMPORTANT!** Always check your personal class notes and Rivier email to make sure that you have the latest information about homework. This is absolutely necessary when the course web site is temporarily down or you don’t have access to it.

4. **Laboratory Projects [priceless]**
   All classes include lab projects that are designed and implemented individually or by teams. There are occasions when hard copies of the .java files and project documentation are given to the instructor at the end of the class.

   Lab projects are not individually graded. They do contribute though to the credit students earn for the portfolios they develop during the semester. They are also essential to student performance on tests and homework and programming assignments.

5. **Projects [20 points]**
   There are **four** project assignments written in Java. Each represents **5 points** of the final grade.

   Although collaboration is allowed to discuss assignment specifications, language constructs, test data, Java library features, and conceptual aspects of the solution design, the Java programs and program documentation you submit **must be entirely your own work**.

   **Deadlines for Project Assignments**: Project assignments are ”starred” homework assignments (denoted H#*), and are due the following class. **No late submissions are accepted**, unless you comply with the “Late Assignment, Make-Up Exams, and Missed Classes” policy.

   If you want to receive prompt feedback, start early on writing the program, participate in class and online communication, and always submit your assignment on time. If your program does not compile, list the compilation errors in the documentation file.

   For each project assignment you have to submit a **project write-up** in the Blackboard digital dropbox. The projects are submitted PRIOR to the beginning of the class. See project submission **Guidelines** for more information.

   The project assignments schedule is in the course schedule document on the Schedule web page. Details on project assignments are in the class agendas in the corresponding **Week # folders** on the Schedule web page.

6. **Examinations [55 points]**
   There are **three tests** (10 points each) and a **final examination** (25 points).

   All course examinations are open texts, notes, and Web courseware. **No collaboration** is allowed while taking these examinations, that includes email or other Internet-enabled exchanges among students. Questions are addressed to the instructor and will be answered for the benefit of the entire class.
The examinations schedule is in the course schedule document on the Schedule web page.

The tests are in electronic format and are ready for upload from the digital drop box at scheduled times. Tests are graded electronically and dropped in each student's drop box.

7. Academic Honesty and Collaboration [priceless]
Collaboration is encouraged and supported in the classroom through lab activities and discussion, and outside the classroom via emails, course bulletin board posts, and interaction among students to understand an assignment description, course concepts and their application, programming features, debugging errors, outcome requirements. However, the Java programs, program documentation, homework write-ups you submit must be entirely your own work.

You are expected to abide by the College policy on Academic Honesty (see the statement at the end of this document).

8. Portfolio [7 points]
You are expected to maintain a course portfolio in which you assemble all the work produced during the course by you, your peers, and instructor. The portfolio becomes an indispensable resource for your learning of the subject matter. It is also a means of expressing yourself professionally in the field: materials are timely filed, well organized for easy access, and presented in a high-quality format.

The student portfolio is maintained in electronic format. Create a folder called CS180 in your Rivier computer account on the network drive. The folder has the following subfolders: Homework, Labs, Projects, and Tests. When you work on a Java project that is a homework assignment or a project assignment or a lab, the folder that contains all the files has the name H3T or L5R.

You earn 2 points for partial portfolio submissions when you take a test, and a final 1 point at the time of the final examination. Zipped portfolios are submitted in the digital drop box prior to the class when an examination is taken.

9. Attendance [priceless]
Attendance is taken every class. Students are responsible to attend all classes. Although there is no penalty for absences in this course, failure to attend impacts negatively the quality of your performance and the quality of our class as a whole.

Reading and homework assignments or project assignments are due every class. Teams develop lab projects every class. Except for exceptional situations you should not miss any class. In one sentence: attendance is not optional. It is really, truly (I cannot emphasize it enough!) priceless!

You are expected to abide by the College policy on attendance. See the Statement on Attendance at the end of this document.

10. Late Assignments, Make-Up Exams, Missed Classes [not a choice!]
Policies for late assignments and make-up exams are very strict and they apply only in exceptional cases of student illness, accident, or emergencies that are properly documented. Paraphrasing the attendance policy, on time submission of assignments is not an option.

A late submission may be granted ONLY IF you:

- Let me know ahead of time that the deadline will be missed.
Provide proof or explanation that serious medical, personal, or family circumstances prevented you from meeting the deadline.

- **A minimal submission is presented at the due date.**

There is no penalty for late submissions IF AND ONLY IF you comply with the late submission policy. If you omit to inform me about a missing deadline and do not present a minimal submission, you receive no credit for your assignment. Granted late submissions are due the following class.

It is your responsibility to make arrangements with the instructor for make-up exams before the class that follows the missed class.

If you miss a class, it is your responsibility to get informed about class presentation and activities. Use the web site and contact your peers. I will meet with you to answer your questions only after you have prepared for and got informed about the missed class.

**Grading**

Final grades are broken up as follows:

- Homework assignments: 18 submissions x 1 point each = 18 points
- Projects: 4 submissions x xx points each = 20 points
- Tests: 3 tests x 10 points each = 30 points
- Portfolio: 7 points
- Final Exam: 25 points

**Scheduled Work and Activities**

<table>
<thead>
<tr>
<th>W #</th>
<th>D</th>
<th>Date</th>
<th>Due Reading and Lab Activities</th>
<th>Assigned Homework and Next Class Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>R</td>
<td>Sep 7</td>
<td>R1R</td>
<td>H1R</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Ch1 Intro to CS and Media Computation;</td>
<td>R2T</td>
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<td></td>
<td>• Ch2 Intro to Java</td>
<td>L1R</td>
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<td>T</td>
<td>Sep 12</td>
<td>R2T: Ch3 Intro to Programming (3.1 to 3.5)</td>
<td>H2T</td>
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<td>L2T</td>
<td>R2R</td>
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<tr>
<td>2</td>
<td>R</td>
<td>Sep 14</td>
<td>R2R: Ch3 Intro to Programming (3.5 to 3.7)</td>
<td>H2R</td>
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<td></td>
<td>L2R</td>
<td>R3T</td>
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<tr>
<td>3</td>
<td>T</td>
<td>Sep 19</td>
<td>R3T: Ch4 Modifying Pictures with Loops</td>
<td>H3T</td>
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<td></td>
<td>L3T</td>
<td>R3R</td>
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<tr>
<td>3</td>
<td>R</td>
<td>Sep 21</td>
<td>R3R: Ch4 Modifying Pictures with Loops</td>
<td>H3R</td>
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<td></td>
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<td></td>
<td>L3R</td>
<td>R4T</td>
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<tr>
<td>4</td>
<td>T</td>
<td>Sep 26</td>
<td>R4T: Ch5 Modifying Pixels in a Matrix</td>
<td>H4T</td>
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<tr>
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<td></td>
<td>L4T</td>
<td>R4R</td>
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<tr>
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<td>R</td>
<td>Sep 28</td>
<td>R4R: Ch5 Modifying Pixels in a Matrix</td>
<td>H4R*</td>
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<tr>
<td></td>
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<td>L4R</td>
<td>R5T to prepare</td>
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<tr>
<td>Week</td>
<td>Date</td>
<td>Day</td>
<td>Topic</td>
<td>Lab</td>
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<td>5</td>
<td>Oct 3</td>
<td>T</td>
<td><strong>Test 1</strong>&lt;br&gt;R5T: Review Ch1 to Ch5&lt;br&gt;<em>No Lab</em></td>
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<td>5</td>
<td>Oct 5</td>
<td>R</td>
<td>R5R: Ch6 Conditionally Modifying Pixels&lt;br&gt;L5R</td>
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<td>6</td>
<td>Oct 10</td>
<td>T</td>
<td>R6T: Ch8 Modifying All Samples in a Sound&lt;br&gt;L6T</td>
<td>H6T</td>
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<tr>
<td>6</td>
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<td>R</td>
<td>R6R: Ch9 Modifying Samples Using Ranges&lt;br&gt;L6R</td>
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<td>7</td>
<td>Oct 17</td>
<td>T</td>
<td>R7T: Ch10 Making Sounds by Combining Pieces&lt;br&gt;L7T</td>
<td>H7T</td>
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<tr>
<td>7</td>
<td>Oct 19</td>
<td>R</td>
<td>R7R: Ch10 Making Sounds by Combining Pieces&lt;br&gt;L7R&lt;br&gt;<em>Mid term grades due Friday, Oct 20.</em>&lt;br&gt;&lt;br&gt;Mid term grades due Friday, Oct 20.</td>
<td>H7R*</td>
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<tr>
<td>8</td>
<td>Oct 24</td>
<td>T</td>
<td>R8T: Ch11 Creating Classes&lt;br&gt;L8T</td>
<td>H8T</td>
</tr>
<tr>
<td>8</td>
<td>Oct 26</td>
<td>R</td>
<td><strong>Test 2</strong>&lt;br&gt;R8R: Review Ch6 to Ch11&lt;br&gt;<em>No Lab</em></td>
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<tr>
<td>9</td>
<td>Oct 31</td>
<td>T</td>
<td>R9T: Ch11 Creating Classes&lt;br&gt;L9T</td>
<td>H9T</td>
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<tr>
<td>9</td>
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<td>R</td>
<td>R9R: Ch11 Creating Classes&lt;br&gt;L9R</td>
<td>H9R*</td>
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<td>T</td>
<td>R10T: Ch12 Creating and Modifying Text&lt;br&gt;L10T</td>
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<td>10</td>
<td>Nov 9</td>
<td>R</td>
<td>R10R: Ch12 Creating and Modifying Text&lt;br&gt;L10R</td>
<td>H10R</td>
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<tr>
<td>11</td>
<td>Nov 14</td>
<td>T</td>
<td>R11T: Ch12 Creating and Modifying Text&lt;br&gt;L11T</td>
<td>H11T</td>
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<tr>
<td>11</td>
<td>Nov 16</td>
<td>R</td>
<td>R11R: Ch12 Creating and Modifying Text&lt;br&gt;L11R&lt;br&gt;<em>Final day to withdraw from classes.</em></td>
<td>H11R</td>
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<td>12</td>
<td>Nov 21</td>
<td>T</td>
<td><strong>Test 3</strong>&lt;br&gt;R12T: Review Ch11 to Ch12&lt;br&gt;<em>No lab</em></td>
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<tr>
<td>12</td>
<td>Nov 23</td>
<td>R</td>
<td><strong>Thanksgiving Break</strong> starts at noon Wednesday, Nov 22.</td>
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</tbody>
</table>

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Americans with Disabilities Act (ADA)
Rivier College wants to provide reasonable accommodations to students with disabilities. To accomplish this goal effectively and to ensure the best use of our resources, the College expects students to provide timely notice of a disability to the Office of Special Services for verification and for evaluation of available options. Any student whose disabilities fall within ADA should inform the instructor within the first two weeks of the term of any special needs or equipment necessary to accomplish the requirements for the course. To obtain current information on this procedure, contact the Office of Special Services at telephone extension 8497.

Academic Honesty

Plagiarism and cheating are serious breaches of academic honesty. In general, plagiarism is defined as the presentation of someone else’s work in whatever form: copyrighted material, notes, film, art work, reports, statistics, bibliographies, and the like, as one’s own, and failing to acknowledge the true source. Quoting word-for-word, or almost so, or using the argumentation of another source without acknowledging this dependence also constitutes plagiarism. Cheating is defined as the giving or attempting to give or to receive unauthorized information or assistance during an examination or in completing an assigned project. Submission of a single work for two separate courses without the permission of the instructors involved is also a form of cheating.

If students are unsure whether a specific course of action would constitute plagiarism or cheating, they should consult with their instructor in advance.

Penalties for plagiarism and cheating vary with the degree of the offense and may take the form of the following academic sanctions:

- the grade of F for the work in question;
- the grade of F for the course;
- notification of the department chair and/or Academic Dean of the College of the misconduct of the student;
- recommendations that the student be suspended or dismissed from the College.
Statement on Attendance

The classroom is the heart of the educational experience at Rivier College because it provides, uniquely, a formal setting for the important exchanges among faculty and students. Regular and punctual attendance at all classes, essential for maximum academic achievement, is a major responsibility of Rivier College students. Failure to attend and contribute to the classroom environment significantly and demonstrably reduces the quality of the educational experience for everyone in the classroom. As a result, absences almost always impact the quality of performance.

As part of its commitment to a quality educational experience for all members of the Rivier community, the College formally requires specific attendance policies to be developed by its professors and reviewed by the Division Head and Academic Dean. Any attendance policy used by an individual professor as a criterion for evaluation must be specified in the course syllabus and presented to students during the first week of classes. These policies can be found in respective course syllabi, and may include reasonable penalties and sanctions for excessive absences.

In the event of prolonged illness, accident, or similar emergency, it is the responsibility of the student to notify both the professor and the Office of the Academic Dean. Students must remember that it is always their responsibility to make up the work they may have missed during an absence from class. Students are directed to confer with their professors when their absences jeopardize satisfactory progress. Whenever a professor is absent without notification, students are expected to wait fifteen minutes before leaving and to sign an Attendance List, which a class member delivers to the Office of the Academic Dean.

Instructors are required to record attendance and alert the Registrar when a student fails to attend the equivalent of two weeks of courses (2 absences for a course meeting once a week, 4 absences for a course meeting twice a week, 6 absences for a course meeting three times a week). The student will then be alerted that he/she is in danger of falling under the 'habitual non-attendance policy" (see below).

Habitual Non-Attendance Policy

Habitual non-attendance is defined as an absence in any course (for any reason whatsoever) equating to three full weeks of missed class sessions (3 absences for a course meeting once a week, 6 absences for a course meeting twice a week, 9 absences for a course meeting three times a week).

It is the responsibility of the student to notify the College of any intention to withdraw from a course or withdraw from the College. The College will attempt to resolve the issue of habitual non-attendance with the student; however, the College reserves the right to withdraw students who are no longer attending classes. Habitual non-attendance in one or more classes may result in administrative withdrawal from the class or classes affected, withdrawal from the College or, in cases with extenuating circumstances, an administrative leave of absence. In such cases a grade of W of NF will be assigned to the classes affected according to the appropriate date published in the academic calendar.

Students who have attended no class sessions of a course or courses from which they are registered by the end of the drop/add period will be dropped from each class not attended. If a student never
attended any courses during the drop/add period, the student will be withdrawn from his/her full schedule of courses.