CS 251: Intermediate Computer Programming
Spring 2011

Lecture Meeting Times

<table>
<thead>
<tr>
<th>Section</th>
<th>Day</th>
<th>Time</th>
<th>Room</th>
<th>Lecturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>401</td>
<td>MW</td>
<td>10:00am - 10:50am</td>
<td>EMS E190</td>
<td>Robert</td>
</tr>
</tbody>
</table>

Laboratory Meeting Times

<table>
<thead>
<tr>
<th>Section</th>
<th>Day</th>
<th>Time</th>
<th>Class Room</th>
<th>Lab Room</th>
<th>TA</th>
</tr>
</thead>
<tbody>
<tr>
<td>801</td>
<td>M</td>
<td>11:00am - 12:45pm</td>
<td>EMS E160</td>
<td>EMS E270</td>
<td>Olga</td>
</tr>
<tr>
<td>802</td>
<td>M</td>
<td>1:00pm - 2:45pm</td>
<td>EMS W110</td>
<td>EMS E270</td>
<td>Kamil</td>
</tr>
<tr>
<td>803</td>
<td>M</td>
<td>3:00pm - 4:45pm</td>
<td>CHM 169</td>
<td>EMS E270</td>
<td>Kamil</td>
</tr>
<tr>
<td>804</td>
<td>T</td>
<td>8:00am - 9:45am</td>
<td>EMS W120</td>
<td>EMS E270</td>
<td>Olga</td>
</tr>
<tr>
<td>805</td>
<td>T</td>
<td>10:00am - 11:45am</td>
<td>EMS W130</td>
<td>EMS E270</td>
<td>Ravali</td>
</tr>
<tr>
<td>806</td>
<td>M</td>
<td>5:00pm - 6:45pm</td>
<td>EMS W120</td>
<td>EMS E270</td>
<td>Ravali</td>
</tr>
</tbody>
</table>

Lecturers

Robert Sorenson
Office: EMS 386F
Phone: 229-2796
E-mail: sorenson@cs.uwm.edu
Office hrs:
MW: 11:00am - 12:00pm
or by appointment

Teaching Assistants

Kamil Samara
Office: EMS E280
Phone: 229-????
E-mail: ksamara@uwm.edu
Office hrs:
M: 11:30am - 1:00pm
R: 2:00pm - 3:00pm
or by appointment

Ravali Singamaneni
Office: EMS E280
Phone: 229-????
E-mail: ravali@uwm.edu
Office hrs:
M: 3:30pm - 5:00pm
T: 2:00pm - 3:30pm
or by appointment
The TAs are glad to help you with your questions during their office hours, regardless of which lab section they lead. Outside office hours, please make an appointment, or use email for simple questions.

**Course Objectives**

CS 251 seeks to teach its students basic object oriented programming skills using a modern Object Oriented language.

**Key Policies and Student Responsibilities**

**Workload:** This course entails a fair amount of work in homework assignments and class preparation. You should be prepared to spend several hours every week doing homework assignments and preparing for classes.

**Late Policy:** Homework assignments are only accepted late when an extension has been granted to the entire class. You are strongly advised to start early on the homework assignments. Unfortunately, computer systems sometimes go down before an assignment is due. You need to plan for these, and other, unexpected events. Homework assignments are not accepted after the due dates.

**Make-up Policy:** Failure to attend an exam without substantial, documented, and verifiable cause will not in any way warrant a make-up. The exam dates are posted below, please plan accordingly. Also students must contact their instructor as soon as possible to be eligible for a make-up.

**Computer Accounts:** You will receive an account on the Computer Science department’s computers. We expect you to use this account to read course e-mail and submit your programming assignments. You are allowed to work on your programming assignments on other machines (such as your own personal computer), but your solutions to these assignments must be submitted from and will be tested on the Computer Science department’s computers.

**Accommodations and Religious Obligations:** Please see the official UWM policy statement for complete descriptions.

http://www.uwm.edu/Dept/SecU/SyllabusLinks.pdf

**Course Home Page**

Assignment descriptions and some other course handouts are distributed via the CS251 course home page on the Web. The home page will also have an up-to-date version of this syllabus (office hours and locations can change). The url for the home page is:

http://www.cs.uwm.edu/~cs251
Prerequisite

- Competence in algebra as demonstrated by either
  - A grade of ´C´ or better in Math 116 or an equivalent course.
  - A score of 40 or higher on the UWM Math Placement Test.

To be ready to take CS 251, a student must be comfortable with intermediate algebra (as taught in UWM’s Math 116) because programming requires writing formulaes that are very similar to algebra problems. If you have any questions about this prerequisite, please feel free to talk to your instructor.

Course Materials

Required Text:

- Dean and Dean.
  - *Introduction to Programming with JAVA, A Problem Solving Approach*
  - First edition
  - McGraw-Hill (Higher Education), 2008
    MHID 0-07-737300-9

Optional Text:

- Schwartz.
  - *Introduction to UNIX*
  - Second edition
  - Pearson Prentice Hall, 2006

Grading

- Homework Assignments:
  - Weekly (8 or more) = 20% of course grade. The lowest single assignment score will be dropped.
  - Final Project (1) = 5% of course grade.
- Lab Exercises (8 or more) = 10% of course grade. The lowest single lab score will be dropped.
- Lab Quizzes (8 or more) = 15% of course grade. The lowest single quiz score will be dropped.
- Examinations (3):
  - Midterm I = 15% of course grade.
  - Midterm II = 15% of course grade.
  - Final = 20% of course grade.
- Course letter grades will be assigned using the following scale, unless we decide that this scale is too severe, in which case we will adjust the scale downward.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
<th>D+</th>
<th>D</th>
<th>D-</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Score</td>
<td>90</td>
<td>87</td>
<td>84</td>
<td>80</td>
<td>77</td>
<td>74</td>
<td>70</td>
<td>67</td>
<td>64</td>
<td>60</td>
<td>57</td>
<td>0</td>
</tr>
</tbody>
</table>
Homework Assignments

Most homework assignments will consist of a programming problem. Large portions of the quizzes and exams will test your understanding of course material that is illustrated in the assignments.

Each programming problem will be graded on a 10-point scale. Of that ten points, eight (8) points are given for program correctness, two (2) points is given for programming style (indentation, names of variables, sufficient commenting, etc.)

Assignment descriptions (with due dates) are posted on the course home page weekly. You will submit your solutions to homework on-line using the submit program.

Lab Quizzes

Most weeks you will given a quiz in your lab section, except when you have a midterm in the same week. The quizzes cover material from recent lectures and homework assignments. The quizzes will be graded on a 10-point scale.

Lab Exercises

Many weeks you will be given a lab exercises to be completed during your lab time. The lab exercises will be counted as completed or not completed.

Examinations

You will take two midterms and a final examination, which will be based on the material covered by lectures, assignments, labs, quizzes, and the Dean and Dean textbook.

The midterm examinations will be held at your normal lecture time in your normal lecture room, the examinations are closed notes and book.

The final examination will be held at a time and location to be announced in lecture and on the course home page when it is known, this examination is also closed notes and book.

Academic Misconduct

“Academic misconduct” is UWM’s formal term for cheating and related problems. There have been problems with academic misconduct in other programming courses in past semesters. We are determined to make sure that these problems do not occur in CS 201.

In CS 251, we find that it helps to talk about two kinds of academic misconduct:

Cheating is stealing someone else’s work and calling it your own. We despise cheating and will deal with it very seriously (in accordance with University policy). Cheating is not allowed in this course.

Collaboration is the sharing of work by two or more people. In CS 251, you are encouraged to help each other understand how to solve homework assignments. This can involve showing someone a program that you are writing in order to make clear the ideas that you are discussing. However, the work that each person turns in must be their own. You may not

- Give copies of assignments to other students through email, disks, scanning or any other automatic copying technique, except where specifically indicated in an assignment;
- Allow someone to copy work directly from the screen of your computer; or
- Give someone printed copies or photocopies of portions of your homework.
Whether or not you have permission of the other person, submitting someone else’s work as your own is plagiarism, a serious instance of academic misconduct and will be treated as such. It is also misconduct to allow someone to submit your work as their own.

For some assignments, you may be explicitly allowed to work in small groups. This is only allowed on certain assignments and the assignment descriptions for these assignments will give explicit permission to work together.

We may use software tools to help detect inappropriate collaboration in programming and homework assignments, but the final determination will be made by a person. If it is determined that you have engaged in academic misconduct, appropriate action will be taken. The action taken could be as severe as dropping you from the course or giving you a course grade of F or even expelling you from the University.

If you are unsure as to whether your actions may constitute cheating or collaboration, you should discuss them with your TA or lecturer.

You can find extensive information on UWM’s Academic Misconduct Policy at this URL:

http://www.uwm.edu/CHS/administrationinfo/acadmisc.html

**Tenative Course Schedule**

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Topics</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Syllabus &amp; Class Introduction</td>
<td>Class Homepage</td>
</tr>
<tr>
<td>2</td>
<td>Object-Oriented Programming</td>
<td>6.1 - 6.3</td>
</tr>
<tr>
<td>3</td>
<td>Object-Oriented Programming</td>
<td>6.4 - 6.5</td>
</tr>
<tr>
<td>4</td>
<td>Object-Oriented Programming</td>
<td>6.6 - 6.11</td>
</tr>
<tr>
<td>5</td>
<td>Object-Oriented Programming+</td>
<td>6.12, 7.1 - 7.4</td>
</tr>
<tr>
<td>6</td>
<td>Object-Oriented Programming+</td>
<td>7.5 - 7.7</td>
</tr>
<tr>
<td>7</td>
<td>Object-Oriented Programming+</td>
<td>7.8 - 7.10</td>
</tr>
<tr>
<td>8</td>
<td>Classes with Class Members</td>
<td>9.1 - 9.3</td>
</tr>
<tr>
<td>9</td>
<td>Classes with Class Members</td>
<td>9.4 - 9.7</td>
</tr>
<tr>
<td>10</td>
<td>Review for Midterm I (Chapters 6 - 9)</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Midterm I (Chapters 6 - 9)</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Arrays of Objects &amp; ArrayLists</td>
<td>10.10 - 10.13</td>
</tr>
<tr>
<td>13</td>
<td>Type Details &amp; Coding Mechanisms</td>
<td>11.1 - 11.6</td>
</tr>
<tr>
<td>14</td>
<td>Type Details &amp; Coding Mechanisms</td>
<td>11.7 - 11.12</td>
</tr>
<tr>
<td>15</td>
<td>Aggregation &amp; Composition</td>
<td>12.1 - 12.2</td>
</tr>
<tr>
<td>16</td>
<td>Inheritance</td>
<td>12.3 - 12.6</td>
</tr>
<tr>
<td>17</td>
<td>Inheritance</td>
<td>12.7 - 12.10</td>
</tr>
<tr>
<td>18</td>
<td>Inheritance &amp; Polymorphism</td>
<td>13.1 - 13.4</td>
</tr>
<tr>
<td>19</td>
<td>Polymorphism &amp; Dynamic Binding</td>
<td>13.5 - 13.6</td>
</tr>
<tr>
<td>20</td>
<td>Polymorphism &amp; Dynamic Binding</td>
<td>13.7 - 13.8</td>
</tr>
<tr>
<td>21</td>
<td>Polymorphism &amp; Dynamic Binding</td>
<td>13.9 - 13.10</td>
</tr>
<tr>
<td>22</td>
<td>Multi-Dimensional Arrays</td>
<td>10.9</td>
</tr>
<tr>
<td>23</td>
<td>Sets</td>
<td>lecture</td>
</tr>
<tr>
<td>24</td>
<td>Sudoku</td>
<td>lecture</td>
</tr>
<tr>
<td>25</td>
<td>Midterm II (Chapters 10* - 13)</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Midterm II (Chapters 10* - 13)</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Exception Handling</td>
<td>14.1 - 14.3</td>
</tr>
<tr>
<td>28</td>
<td>Exception Handling</td>
<td>14.4 - 14.6</td>
</tr>
<tr>
<td>29</td>
<td>Exception Handling</td>
<td>14.7 - 14.12</td>
</tr>
<tr>
<td>30</td>
<td>Files</td>
<td>15.1 - 15.6</td>
</tr>
<tr>
<td>31</td>
<td>Files</td>
<td>15.7 - 15.9</td>
</tr>
<tr>
<td>32</td>
<td>Review for Final (Chapters 13* - 15)</td>
<td></td>
</tr>
</tbody>
</table>
**Dates to remember**

(Consult the official UWM class schedule for full listings and details.)

- February 18th: Last day to drop without a 'W' on your transcript.
- March 9th: Midterm I – Lecture 401. This will be a fifty-minute, closed book exam and will be given in your normal lecture room during your normal lecture time.
- March 18th: Last day to drop course.
- March 20th - 27th: Spring Break (No Classes).
- April 18th: Midterm II Part I– Lecture 401. This will be a fifty-minute, closed book exam and will be given in your normal lecture room during your normal lecture time.
- April 20th: Midterm II Part II – Lecture 401. This will be a fifty-minute, closed book exam and will be given in your normal lecture room during your normal lecture time.
- May 12th: Last day of classes.

**Final Exam**

- **Friday**
- **May 20th**
- **10:00-12:00pm**

The final exam is held in our normal class room and is a two hour exam. You are allowed to prepare and bring one 8.5 X 11 cheat sheet for this exam.