Spring 2-1-2004

CS 442.01: Theory and Practice - Advanced Programming

Joel E. Henry
University of Montana, Missoula

Let us know how access to this document benefits you.
Follow this and additional works at: https://scholarworks.umt.edu/syllabi

Recommended Citation
https://scholarworks.umt.edu/syllabi/9378

This Syllabus is brought to you for free and open access by the Course Syllabi at ScholarWorks at University of Montana. It has been accepted for inclusion in Syllabi by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.
Course Syllabus
CS 442 Theory and Practice Advanced Programming

PREREQUISITE: CS 441 or consent of instructor.

COURSE OBJECTIVES:
This is your capstone sequence in the Computer Science Department and therefore this course will extend and deepen your understanding of topics previously covered. Specifically the objectives of this course are:

- Experience a group project
- Utilize project planning, scheduling, engineering, and coordination skills
- Engineer and deliver a high quality software product
- Gain experience with software planning and development tools
- Present project information professionally

This will be a unique course in that you will be attending class but focusing on a single large group project. You will be learning techniques and skills from your group experience and from the other groups. Attendance will be mandatory, as you will be tasked to understand, contribute, and learn from the other projects in this course.

INSTRUCTOR:
Name: Joel Henry
Office: Social Sciences 411
Office Hours: MW 10-12; Tu/Th 9:30-11; If the door is open I am available
E-mail address: henryj@cs.umt.edu
Phone: 243-2218

TOPICS:
I. Project planning and scheduling.
II. Software design.
III. Product documentation.
IV. Coding and unit testing.
V. Software testing.
VI. Software maintenance and documentation issues.
VII. Product delivery.
VIII. Project and process assessment based on measurement.

TEXTS:
REQUIRED: Software Project Management, Henry
**Computer Science 442 - Syllabus**

**COURSE STRUCTURE:** Your grade will be based on the following assignments.

<table>
<thead>
<tr>
<th>Individual – 40%</th>
<th>Group – 40%</th>
<th>Attendance/Participation – 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Presentation - 100pts</td>
<td>Presentations - 100pts each</td>
<td>Attendance and Participation - 100pts</td>
</tr>
<tr>
<td>Engineering Notebook - 100pts</td>
<td>Engineering Notebook - 100pts</td>
<td>Weekly Progress Reports - 100pts</td>
</tr>
<tr>
<td>Two Tests – 100pts each</td>
<td>Products – 100 pts each</td>
<td></td>
</tr>
<tr>
<td>Primary Products – 100pts</td>
<td>Project Assessment - 100pts</td>
<td></td>
</tr>
</tbody>
</table>

**Individual Evaluation:**
- **Presentations** - one professionally done presentation focusing on your role and associated products on this project
- **Engineering Notebook** - an accurate, consistently maintained, and professionally presented engineering notebook submitted each Thursday by 5:00 pm
- **Two exams** - questions pertaining to the required text, your project, and **all** project presentations – closed note, closed book
- **Primary group product** - final submission of the product(s) for which you have primary responsibility on the project; each submission will show evolution of the product

**Group Evaluation:**
- **Project presentations** - four group presentations
- **Software products** - project schedule, requirements document, design document, source code, testing plan and results, user documentation
- **Measurements** - accurate measurements over time of process activities and product characteristics
- **Engineering Notebook** - accurate, professionally maintained, and professionally presented project engineering notebook updated and submitted each Thursday by 5:00 pm
- **Assessment** - project post-delivery assessment of project culture, process activities, and product characteristics

**Attendance and Participation**
- **Attendance** - arrive within ten minutes of class start time, or before the first presentation begins, and remain attentive for the duration of class (if the first presentation begins before you arrive, you will get no credit for attendance)
- **Participation** - contribute to class discussion

**LATE POLICY:**
- If you cannot present when you are scheduled, individually or as a group, there will be a 100% late penalty.

**CHEATING:**
- Plagiarism will be handled harshly, as per the Student Conduct Code. You may fail the assignment or the course. **MY ADVICE:** Take an F rather than cheat.
COURSE INFORMATION:
This course is the capstone of your undergraduate education in the Computer Science Department at the University of Montana. You will engineer a high quality software product on time utilizing all your skills, and those of your teammates. In this course you will put into practice those skills you will need to be effective computer science professionals. In short, I asked myself, “What skills would have been most useful to me in a capstone course prior to graduation?” This course answers that question.

You probably have never had a course like this one. You will be working in a group and individually on various tasks. A portion of your grade will be based on individual work and a portion on group results. You will also be held responsible for attending and contributing to class discussions. You will be reading an important text and being tested on it and project materials. The text is easy reading and will aid you in your future as a computer science professional.

I firmly believe your group will complete the project assignment, and complete it with full documentation, accurate measurement, and smooth delivery. I believe you will meet my high expectations. If you and your group are working hard at this course, I will do all I can to insure you succeed. If you attempt to do as little as possible to succeed, or just are plain being lazy, you will find me indifferent to your success.

Come to class on time, just as you would if working for a prospective employer. If I am talking, or a presentation is in progress, you are not talking. This is also a behavior I get upset with very quickly. If you want to chat, don’t come to class. If you are talking when I am, or others are presenting, you will get to leave.
## Tentative Schedule:

<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesday</th>
<th>Thursday</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>27 – Introduction, Syllabus, Course Information, group assignment</td>
<td>Project Requirements overview</td>
<td>Read McConnell - Introduction</td>
</tr>
<tr>
<td>2</td>
<td>Group Presentations</td>
<td>Group Presentations</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>3</td>
<td>Individual Presentations</td>
<td>Individual Presentations</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>4</td>
<td>Individual Presentations</td>
<td>Individual Presentations</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>5</td>
<td>Individual Presentations</td>
<td>Individual Presentations</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>6</td>
<td>Individual Presentations</td>
<td>Individual Presentations</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>7</td>
<td>Group Presentations</td>
<td>Group Presentations</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>8</td>
<td>Individual Presentations</td>
<td>Midterm – Parts I and II Henry</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>9</td>
<td>Spring Break</td>
<td></td>
<td>Read McConnell</td>
</tr>
<tr>
<td>10</td>
<td>Return test</td>
<td>Group Status</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>11</td>
<td>Individual Presentations</td>
<td>Individual Presentations</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>12</td>
<td>Individual Presentations</td>
<td>Individual Presentations</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>13</td>
<td>Individual Presentations</td>
<td>Individual Presentations</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>14</td>
<td>Individual Presentations</td>
<td>Individual Presentations</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>15</td>
<td>Group Presentations</td>
<td>Group Presentations</td>
<td>Read McConnell</td>
</tr>
<tr>
<td>16</td>
<td><strong>Final Exam – Part III Henry</strong></td>
<td><strong>Henry text</strong></td>
<td></td>
</tr>
</tbody>
</table>