Fall 2020

CS 683-001: Software Project Management

Samir Padalkar

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CS 683: Software Project Management

Syllabus, Fall 2020
Dr. Samir Padalkar
TA: Kamlesh Naik (krn9@njit.edu)
padalkar@njit.edu

Mondays, 2:30pm-5:25pm SYNCHRONOUS ONLINE

Office Hours: ONLINE, EMAIL, ZOOM, WEBEX, CANVAS ...
TA Office Hours: TBD

CS 683 – Software Project Management

This course gives the student the necessary background and direct experience to allow her/him to manage software projects. The essence of software engineering is not only to introduce a valuable software product, but to do so economically and competitively. Like any engineering discipline, software engineering depends critically on managerial, economic and organizational considerations. Students learn by forming teams and manage a project and learn how to apply software management techniques, how to select the best fit technique for the project at hand, various software costing techniques including COCOMO and ROI, team organization and management, and various methods of software development including LEAN and Agile.

Instructor Availability and Response Time

Please include cs683 in the Subject: line of any email you send; it will make it easier to manage my emails. I will do the same in emails I send to you. I will check email regularly. If I do not respond to your email within 48hrs (I usually respond within 24 hours or sooner) during the weekdays, please send the email again. If you need to have an online meeting with me, please send me an email / canvas-msg. I will make every effort to post your grades a week after they’re due.

Learning Outcomes

- Understand the five process groups of a software project and how to manage them
- Acquire direct, hands-on experience planning and managing a project
- Learn the Project Management Life Cycles (PMLC) of a software project and how to select the best fit for your project: traditional, Agile, Extreme, Emertxe
- Understand how to identify and manage the project stakeholders
- Understand business value and its role in project management
- Lean strategies to prevent and control distressed projects
All course materials, including lecture notes, papers, etc, will be posted on CANVAS. Announcements and notices will also be posted. WHEN IN DOUBT, CHECK CANVAS. CANVAS will be used for online Q&A and for any paper or presentation submissions.

**Textbook**
978-1-118-72916-8

Lists of interesting additional reading will be on the course website.

Papers and articles will also be posted.

**Grading**

<table>
<thead>
<tr>
<th>Attendance/Presentation</th>
<th>5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm</td>
<td>20%</td>
</tr>
<tr>
<td>Project</td>
<td>45%</td>
</tr>
<tr>
<td>Final</td>
<td>30%</td>
</tr>
</tbody>
</table>

**Simple rules**

Turn off the toys (phones especially).
I expect you to behave professionally.
Speak to me about any issues you have.

**Ethical Conduct**

(This should go without saying, people. Seriously.)

*Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on.*

Cheating during in-class tests or take-home examinations or homework is, of course, illegal and immoral.

The essential quality of the NJIT University Code on Academic Integrity is that each student shall demonstrate honesty and integrity in the completion of all assignments and in the participation of the learning process. Adherence to the University Code on Academic Integrity
promotes the level of integrity required within the university and professional communities and assures students that their work is being judged fairly with the work of others. See [http://www.njit.edu/academics/pdf/academic-integrity-code.pdf](http://www.njit.edu/academics/pdf/academic-integrity-code.pdf)

*Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu”*

**Project/Presentation**

The class will be divided into 3 person teams. A topic/project “On-Line Financial Trading System” OR SIMILAR has to be selected by each team. I have uploaded a possible list of projects on CANVAS.

Each team has to ----
1) Create Detailed Project Requirements
2) Create Detailed Project Plan (Work Breakdown, Resource & Time Estimation, Project Network Diagram).
3) Project Risk Assessment (Enumerate & Quantify Project Risk)
4) Submit a detailed Project Management Document (Project Requirements, Project Plan, Risk Assessment, & Risk Mitigation (optional)
5) 1 Interim Presentation (Each team does one), PLUS, One Final Presentation (for ALL TEAMS) on “Project Management Document”.

- There is NO Software Programming of any kind necessary for completing the project
- Most of the material submitted in the project must be backed by: Solid References from the open source online arena (websites, blogs, articles etc.) and/or academic papers & journals and/or magazines.
- You will need to work with your project team outside of lecture hours to prepare your submissions and presentations. It is not necessary to meet in person, collaboration can be done via online tools (Zoom, WebEx, Google Hangout, Email …)
- Project submissions are in form of either a Microsoft Word Doc or PDF.
- I am NOT going to judge/grade a project by the quality of the technical solution presented. The grading criteria is based on (for a 3 person team, 4 person teams shall require 33% more)
  I. Presenting at least 100 nodes & descriptions in Requirements
  II. Presenting at least 100 nodes in Work Breakdown & Project Plan
  III. Presenting a proper quantitative Risk Model
  IV. Presenting several High Quality References.
# Course Schedule

## COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>In Class Exercise</th>
<th>Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEP 08</td>
<td>Introduction to Project Management</td>
<td>Online Financial Trading System</td>
<td>1, 2</td>
</tr>
<tr>
<td>SEP 14</td>
<td>Project Management Process Groups</td>
<td>Detailed Requirements</td>
<td>3</td>
</tr>
<tr>
<td>SEP 21</td>
<td>Project Scoping</td>
<td>Delphi Exercise (Time Estimation)</td>
<td>4</td>
</tr>
<tr>
<td>SEP 28</td>
<td>Project Planning</td>
<td>Work Bkdn &amp; Resource Estimate</td>
<td>5</td>
</tr>
<tr>
<td>OCT 05</td>
<td>Project Launching</td>
<td>Project Network Diagram</td>
<td>6</td>
</tr>
<tr>
<td>OCT 12</td>
<td>Project Monitoring</td>
<td>Earned Value Analysis</td>
<td>7</td>
</tr>
<tr>
<td>OCT 19</td>
<td>Project Closing</td>
<td>Past Midterm Paper</td>
<td>8</td>
</tr>
<tr>
<td>OCT 26</td>
<td>MIDTERM (Probably)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOV 02</td>
<td>Project Risk Management</td>
<td>Project Risk Enumeration</td>
<td>9</td>
</tr>
<tr>
<td>NOV 09</td>
<td>Agile Project Management</td>
<td>Project Risk Quantification</td>
<td>10</td>
</tr>
<tr>
<td>NOV 16</td>
<td>Extreme Project Mgmt. &amp; PMLC Models</td>
<td>PRESENT : Project (Initial-I)</td>
<td>11, 12</td>
</tr>
<tr>
<td>NOV 23</td>
<td>Project Support Office, Portfolio Mgmt.</td>
<td>PRESENT : Project (Initial-II)</td>
<td>15, 17</td>
</tr>
<tr>
<td>NOV 30</td>
<td>FINAL PROJECT PRESENTATION - I</td>
<td></td>
<td>13 Self Study</td>
</tr>
<tr>
<td>DEC 07</td>
<td>FINAL PROJECT PRESENTATION - II</td>
<td></td>
<td>14 Self Study</td>
</tr>
<tr>
<td>DEC TBD</td>
<td>FINAL EXAM (TBD)</td>
<td></td>
<td>1 to 17</td>
</tr>
</tbody>
</table>

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# Project Schedule

## PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEP 08</td>
<td>Introduction</td>
<td>Online Financial Trading System</td>
</tr>
<tr>
<td>SEP 14</td>
<td>Project Team &amp; Topic Due</td>
<td>Team Consisting of 3 students &amp; Project Topic</td>
</tr>
<tr>
<td>SEP 21</td>
<td>Detailed Requirements Due</td>
<td>Alpha Version</td>
</tr>
<tr>
<td>SEP 28</td>
<td>Detailed Requirements Due</td>
<td>Beta Version</td>
</tr>
<tr>
<td>OCT 05</td>
<td>Detailed Requirements Due</td>
<td>Final Version</td>
</tr>
<tr>
<td>OCT 12</td>
<td>Detailed Project Plan Due</td>
<td>Work Breakdown</td>
</tr>
<tr>
<td>OCT 19</td>
<td>Detailed Project Plan Due</td>
<td>Resource &amp; Time Estimation</td>
</tr>
<tr>
<td>OCT 26</td>
<td>Detailed Project Plan Due</td>
<td>Project Network Diagram</td>
</tr>
<tr>
<td>NOV 02</td>
<td>Detailed Project Plan Due</td>
<td>Final Version</td>
</tr>
<tr>
<td>NOV 09</td>
<td>Project Risk Assessment Due</td>
<td>Enumerate Project Risk</td>
</tr>
<tr>
<td>NOV 16</td>
<td>Project Risk Assessment Due</td>
<td>Quantify Project Risk</td>
</tr>
<tr>
<td>NOV 16</td>
<td>PRESENT : Project (Initial)</td>
<td>1st half of teams</td>
</tr>
<tr>
<td>NOV 23</td>
<td>Project Risk Assessment Due</td>
<td>Final Version</td>
</tr>
<tr>
<td>NOV 23</td>
<td>PRESENT : Project (Initial)</td>
<td>2nd half of teams</td>
</tr>
<tr>
<td>NOV 30</td>
<td>FINAL PROJECT PRESENTATION</td>
<td>Half the number of Teams</td>
</tr>
<tr>
<td>DEC 07</td>
<td>FINAL PROJECT PRESENTATION</td>
<td>The remaining Teams</td>
</tr>
</tbody>
</table>
Important Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-Sep</td>
<td>First Day of Class</td>
</tr>
<tr>
<td>14-Sep</td>
<td>Project Team Assignment</td>
</tr>
<tr>
<td>05-Oct</td>
<td>Detailed Requirements Due</td>
</tr>
<tr>
<td>26-Oct</td>
<td>Midterm (probably)</td>
</tr>
<tr>
<td>02-Nov</td>
<td>Detailed Project Plan Due</td>
</tr>
<tr>
<td>23-Nov</td>
<td>Project Risk Assessment Due</td>
</tr>
<tr>
<td>30-Nov</td>
<td>All Presentations Due</td>
</tr>
<tr>
<td>30-Nov</td>
<td>1\textsuperscript{st} Final Presentations in class</td>
</tr>
<tr>
<td>07-Dec</td>
<td>2\textsuperscript{nd} Final Presentations in class</td>
</tr>
<tr>
<td>14-Dec</td>
<td>Final Exam (probably) (TBD)</td>
</tr>
</tbody>
</table>

Exams

- Two exams shall be held, a Midterm (20% of total grade) & a Final Exam (30% of total grade)
- Both exams shall be held “ONLINE”, and at pre-specified times & a duration of 2 hours 50 min. I shall upload the question paper (both as Microsoft Word Doc & PDF) into CANVAS, 5 min prior to the start of the exam. Students may download the paper, and submit answers:
  1. Type answers in Word Doc & upload back into CANVAS either as Word Doc or as PDF
  2. Print the Word/PDF file, write answers by hand, scan the answer sheets and upload back into CANVAS.
  3. Write answers on blank sheets of paper, taking care to also write the question #'s. Scan the answer sheets and upload back into CANVAS.
- All my exams are always “OPEN BOOK, OPEN INTERNET”. This implies you can refer to any Book/Magazine/Article/Class-Notes or anything found on the Internet, while answering any exam.
- The following is NOT ALLOWED during an exam
  1. Any communication with any other person
  2. Any email/message
  3. Any use of a cellphone or any other communications device
  4. Copying from another person or any form of Cheating
**Final Grade**

Grading is on a curve (relative grading), with the following scale as a guide

A = 90 to 100

B+ = 80 to 89

B = 70 to 79

C+ = 60 to 69

C = 50 to 59

NJIT CS Dept. guidelines state that this should be the grade allocation

A's <= 25 %

B+ <= 25 %

B <= 25 %

Less Than B <= 25 %

**MAKE-UP EXAM POLICY**

Make Up Exam policy is based upon generally accepted policies of the NJIT CS Dept., and individual circumstances.