Disclaimer: Please note that the specifics of this Course Syllabus can be changed at any time, and you will be responsible for abiding by any such changes. All changes will be communicated with you via Blackboard course announcement and/or update on Blackboard’s syllabus section.

Course Name: Software Processes  
Course #: 10466 SWEN 5234-01  
Class Room#: Delta 214  
Class Time: Wed 1.00 PM – 3.50 PM  
Instructor: Soma Datta, Ph.D.  
Office Hours: 11:00 -12:30 Tu/W/Th  

**Course Description**

Detailed coverage of the theory, application, assessment and evaluation of the Unified Process Model. Course will cover the process modeling, process assessment, quality assessment of process models and process improvement techniques. Introduction to Agile and other processes. The course introduces several software processes through real life examples and research papers.

**Instructor**

Soma Datta, Ph.D.  
University of Houston Clear Lake  
Office: Delta Building Room 225  
2700 Bay Area Boulevard  
Houston, Texas 77058-1098  
Phone: 281-283-3838 Fax: 281.283.3810  
My email address is datta@uhcl.edu

**Teaching Assistant: Kenneth Akpo**  
**Office Hours: Tu 9 AM to 12 PM, W 10 AM to 3 PM, Th 4 PM to 8 PM**

**Course Structure**

This class is discussion orientated. First part of the course will be concept presentation; it will be followed by examples about different processes. The class will be divided into groups and each group will be assigned projects/processes and papers to lead the discussions. The final part of this course is the preparation for in-class presentation of a publication-quality research paper.

**Learning Outcomes**

- After completion of the course the students are expected to be able to:  
- Understand what software process is  
- Knowledge of what a process is  
- The purpose of a software process  
- Differentiate and explain different software processes
• Describe and discuss the pros and cons of the Waterfall Model, Iterative, Evolutionary, V-model, and Component Based software processes.
• Skills to manage the core elements in a software process.
• Describe the responsibilities of the core actors in a software process: project managers, requirements managers, architects, designers, developers, test managers, testers, quality managers, change agents, and finally customers.
• Describe the execution of the core elements in a software process: requirements elicitation and management, project management, design management, development, test management, testing, quality control (reviewing), deliveries and deliverables, and finally customer involvement.
• Discuss alternate paths and needs to manage change in software processes.

Course Grading and Deliverables

Attendance Mandatory

Class Participation (8%)
Students are expected to read about the topic in a Class, come to class prepared to discuss their thoughts and take part of the classroom discussions. Each class will add 1% towards your class participation.

Short written exercise/Software Processes/in class work (30%)
Each team will write/detail the software process used and upload as per the assignment date by 11.59 PM using the following template:
  • A paragraph (3-5 sentences) about the process
  • At least two to three bullet points to highlight the advantages of the process they used.
  • At least two bullet point of the disadvantages of the process used
  • Mention if applicable for an alternative process and why
A template is uploaded on Blackboard.

Project proposal (5%)
The first deliverable of the course project is a project proposal. The project proposal should be maximum of three pages in length (plus references). The project proposal should be submitted by the end of Class 5.

Project paper (20% document+12%presentation)
A large portion of the course deliverables is a course research project. You are expected to work on the course project in groups of 2-3 students. Each group is expected to write a research paper by the end of the semester. The topic is to be discussed with the instructor. Examples include a new contribution on a specific software processes topic, a survey paper of a software processes related topic (typically involves surveying 10 – 20 papers), or building a software using one of the software processes with detailed
discussion on comparing different software processes.
The final report (4 pages in length) should be submitted by the end of Class 12. The final submission is expected to be of publishable quality. All project-related documents (i.e., project proposal and project report) should use the IEEE conference publication format. If the paper is deemed publishable, the instructor will work with the student to make appropriate changes to the final report and submit the paper for publication.

**Mid Term Exam 15%**
**Final Exam 10%**

### Grading System

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<tr>
<th>Letter Grade</th>
<th>Grade Points Per Semester Hour</th>
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### Course Schedule

<table>
<thead>
<tr>
<th>Class</th>
<th>Session</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Class Week 1</td>
<td>• Introduction/ Syllabus</td>
<td>Decide on groups</td>
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<tr>
<td>Class Week 2</td>
<td>• What is Software process? Software Lifecycle, purpose, knowledge of processes</td>
<td>Class Discussions (CD)</td>
</tr>
<tr>
<td>Class Week 3</td>
<td>• Waterfall, V model, Spiral model, Rational Unified Process, Agile Process</td>
<td>CD</td>
</tr>
<tr>
<td>Class Week 4</td>
<td>• Project Discussions</td>
<td>Group Discussions (GD)</td>
</tr>
<tr>
<td>Class Week 5</td>
<td>• Waterfall, V model, Spiral model, Rational Unified Process, Agile Processes/ Paper presentations</td>
<td>CD, 30 mins GD, 5 mins. group presentation. **</td>
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</tbody>
</table>
Class Week 6
- Waterfall, V model, Spiral model, Rational Unified Process, Agile Processes/ Paper presentations
- CD, 30 mins GD, 5 mins. group presentation. **

Class Week 7
- Mid-Term
- Individual Test taking

Class Week 8
- Project Prep day
- Teams work in class

Class Week 9
- Core actors in software processes/DFD’s
- **

Class 10 - 7
- DFD’s

Class 11 - 13
- DFD’s
- Debate in Class

Class 12 - 14
- Project Presentations
- Group Presentations

Class 13 - 20
- Review

Class 14 - 21
- Finals
- Individual Test taking

Class 15
- -

Class 16
- -

**Policies**

**Honesty Code**
The Honesty Code is the university community's standard of honesty and is endorsed by all members of the University of Houston-Clear Lake academic community. It is an essential element of the University's academic credibility.

It states:
I will be honest in all my academic activities and will not tolerate dishonesty.

**Disabilities**
If you have any special needs due to a disability please let me know. For information on disability accommodations and access, please contact the Disability Services Office, Bayou Room 1402 or call 281-283-2627.