Syllabus

Course Number: MSSE 610
Course Title: Software Requirements and Processes

Course Description:
This course covers system analysis techniques to acquire, analyze, specify, validate, verify, and manage software requirements using plan driven/waterfall and agile methodologies. Explores how quality requirements lead to quality software. Introduces risk management from a software requirements perspective.

Prerequisite Courses:
MSSE 600 Object-Oriented Software Engineering

Course Outcomes:
Upon completion of this course, learners should be able to:
• Describe the key competencies of a system analyst.
• Compare and contrast plan-driven/waterfall and agile methodologies.
• Employ tools and techniques to perform system analysis.
• Discuss the key differences between user stories and use-cases.
• Explain the purpose of requirement validation and verification.
• Describe the process of managing requirements.
• Describe risk analysis in the context of requirements management.

Required Texts:


Additional Required Readings*:


Lecture Presentations

…are linked in the weekly From the Experts webpages. In order to address the weekly Learner Outcomes you will want to read, understand, and synthesize the course content / material from the assigned readings. Then, review the weekly lecture presentation AFTER you have completed the readings.

Library Tutorials:

Purdue Online Writing Lab (OWL). Retrieved from https://owl.english.purdue.edu/owl/section/2/10/.

Research Tutorials (n.d.). Regis University Library.

- All tutorials, see http://libguides.regis.edu/tutorials.
- Computer and Information Science Research Tutorial, see https://mediaspace.regis.edu/media/Regis+Library+-+Resources+for+computer+and+information+science+/0_blk905nh/10579702

Technology Tools:


Pre-Assignment:

See Course Assignments and Activities table below for Week 1.
### Course Assignments and Activities:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Reading Assignments</th>
<th>Activities and Graded Assignments</th>
</tr>
</thead>
</table>
| 1    | Introduction to Waterfall & Agile Methodologies | Boehm & Turner (2003). Chapters 1-3, Appendix A  
        Cohn (2014). Chapter 15  
        Wiegers (2013). Chapter 20  
        *Lecture Presentation – Introduction to Waterfall & Agile Methodologies | Introductions – initial post required by Wednesday of Week 1  
        Discussion Questions (2.5%)  
        Weekly Reading Questions (1.25%) |
| 2    | Software Requirements & System Analysis | Cohn (2014). Chapter 12  
                     Wiegers (2013). Chapters 1-2, and 4  
                     *Lecture Presentation – Software Requirements & System Analysis | Discussion Questions (2.5%):  
                     Weekly Reading Questions (1.25%)  
                     Weekly Assignment: Research Paper - Waterfall versus Agile (5%) |
| 3    | Waterfall Projects | Wiegers (2013). Chapters 7-8 and 10  
                     Cohn (2014). Chapters 4-5  
                     *Lecture Presentation – Waterfall Projects | Discussion Questions (2.5%):  
                     Weekly Reading Questions (1.25%)  
                     Weekly Assignment: Golden Bike revised – Waterfall Project Charter (8.33%) |
| 4    | Waterfall Projects (part 2) | Wiegers (2013). Chapters 11-12  
                     *Lecture Presentation – Waterfall Projects (part 2) | Discussion Questions (2.5%):  
                     Weekly Reading Questions (1.25%)  
                     Weekly Assignment: Waterfall use-case & Wireframe diagram (8.33%) |
| 5    | Agile Projects | Cohn (2014). Chapters 1-3, 17  
                     *Lecture Presentation – Agile Projects | Discussion Questions (2.5%):  
                     Weekly Reading Questions (1.25%)  
                     Weekly Assignment: Agile Project Charter & Story Map (8.33%) |
                     *Lecture Presentation – Agile Estimating & Planning | Discussion Questions (2.5%):  
                     Weekly Reading Questions (1.25%)  
                     Weekly Assignment: Agile Requirements Sprint #1 (8.33%) |
| 7 | Agile Non-functional Requirements | Cohn (2014). Chapter 16 (nonfunctional pages)  
Wiegers (2013). Chapter 14  
*Lecture Presentation – Non-functional requirements | Discussion Questions (2.5%):  
Weekly Reading Questions (1.25%)  
Weekly Assignment: Agile Non-functional Requirements (8.33%) |
|---|---|---|---|
Wiegers (2013). Chapters 15, 17  
*Arnuphaptrairong (2011). Top Ten Lists of Software Project Risks  
*Lecture Presentation – Validating & Verifying, Managing Requirements, Managing Risk | Discussion Questions (2.5%):  
Weekly Reading Questions (1.25%)  
Weekly Assignment: Project Risk Evaluation (8.33%)  
Final Exam (10%) |

### Summary of Assignments and Percentage Weight towards course grade

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<tr>
<th>Assignments</th>
<th>Weighted Percentage</th>
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<tr>
<td>Discussion Questions/ Participation (Weeks 1-8)</td>
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<tr>
<td>Weekly Reading Questions (Weeks 1-8)</td>
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<tr>
<td>Weekly Assignment: Research Paper (Week 2)</td>
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<tr>
<td>Weekly Assignments (Weeks 3-8)</td>
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<tr>
<td>Final Exam (Week 8)</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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CC&IS Grading Scale

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<tr>
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<th>Percentage</th>
<th>Grade Point</th>
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<tbody>
<tr>
<td>A</td>
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<tr>
<td>A–</td>
<td>90 to less than 93</td>
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<tr>
<td>B+</td>
<td>87 to less than 90</td>
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<tr>
<td>B</td>
<td>83 to less than 87</td>
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<tr>
<td>B–</td>
<td>80 to less than 83</td>
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<tr>
<td>C+</td>
<td>77 to less than 80</td>
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<tr>
<td>C</td>
<td>73 to less than 77</td>
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<tr>
<td>C–</td>
<td>70 to less than 73</td>
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<tr>
<td>D+</td>
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<tr>
<td>D</td>
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<tr>
<td>D–</td>
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<tr>
<td>F</td>
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Additional information about grading can be found in the latest edition of the University Catalog, available at [http://www.regis.edu/Academics/Course%20Catalog.aspx](http://www.regis.edu/Academics/Course%20Catalog.aspx).

CC&IS Policies and Procedures

Each of the following CC&IS Policies & Procedures is incorporated here by reference. Students are expected to review this information each term, and agree to the policies and procedures as identified here and specified in the latest edition of the University Catalog, available at [http://www.regis.edu/Academics/Course%20Catalog.aspx](http://www.regis.edu/Academics/Course%20Catalog.aspx) or at the link provided.

- The CC&IS Academic Integrity Policy.
- The Student Honor Code and Student Standards of Conduct.
- Incomplete Grade Policy, Pass / No Pass Grades, Grade Reports.
- The Information Privacy policy and FERPA. For more information regarding FERPA, visit the [U.S. Department of Education](http://www.ed.gov).
- The HIPAA policies for protected health information. The complete Regis University HIPAA Privacy & Security policy can be found here: [http://www.regis.edu/About-Regis-University/University-Offices-and-Services/Auxiliary-Business/HIPAA.aspx](http://www.regis.edu/About-Regis-University/University-Offices-and-Services/Auxiliary-Business/HIPAA.aspx).

The CC&IS Policies & Procedures Syllabus Addendum summarizes additional important policies including, Diversity, Equal Access, Disability Services, and Attendance & Participation that apply to every course offered by the College of Computer & Information Sciences at Regis University. A copy of the CC&IS Policies & Procedures Syllabus Addendum can be found here: [https://in2.regis.edu/sites/ccccs/policies/Repository/CCIS%20Syllabus%20Addendum.docx](https://in2.regis.edu/sites/ccccs/policies/Repository/CCIS%20Syllabus%20Addendum.docx).