



INFO Agile Software Development

Course Information

Course Title: Agile Software Development

Course Number: INFO 7245

Term and Year: Spring 2022

Credit Hour: 4

CRN:

Course Format: Live webcast (Boston, Seattle, SV).

Instructor Information

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Teaching Assistant Information

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Office Hours: TBD

Course Prerequisites

Pre-reqs/program restrictions associated with the course.

Course Description

Offers students an opportunity to achieve a high level of practical understanding of software development life cycle (SDLC) with emphasis on agile and adaptive incremental methodologies. Examines techniques for the management and evolution of software systems, including project planning from requirements gathering, analysis, estimation, and releasing using a hands-on approach to implement agile methodologies. Also covers maintainability, including software risk analysis, project retrospectives, and process models such as capability maturity model, configuration management, and their practical implementation.

Standard Learning Outcomes

Learning outcomes common to all College of Engineering Graduate programs:

- 1. An ability to identify, formulate, and solve complex engineering problems.*
- 2. An ability to explain and apply engineering design principles, as appropriate to the program's educational objectives.*
- 3. An ability to produce solutions that meet specified end-user needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.*

The Information Systems Program accepts students of different engineering backgrounds with minimum programming skills and produces first class Information Systems engineers that operate at the intersection of real-world complexity, software development, and IT management. Graduating students will be able to construct end-to-end advanced software applications that meet business needs.

Specific Learning Outcomes for the Information Systems program:

- 1. Create a strong technical foundation through diverse, high-level courses*
- 2. Built crucial interpersonal skills needed to succeed in any industry*
- 3. Foster a deep level of applied learning through project-based case studies*

Required Tools and Course Textbooks.

Agile! The Good, the Hype and the Ugly (required)

Bertrand Meyer

This book provides a guide to learn Agile Project Management and Understanding Methodologies for Control Quality.

Adaptive Project Framework: Managing Complexity in the Face of Uncertainty

(Recommended / Optional)

Robert K. Wysocki

This book provides a framework to address software development projects according to their complexity and uncertainty using not only Agile but indicating when it is still possible to use traditional waterfall models.

Course Schedule/Topics Covered. Please insert what is applicable for your class. See sample provided below.

In-Class Lecture 1 (8-Jan)

- Online IP Lecture 1: Basics of US legal system and intellectual property (2.25hrs)
- Online Ethics Lecture1: Introduction to Ethics (1.25hr)
- Quiz 1 (15 points, 22-January)

In-Class Lecture 2 (15-Jan) Confidentiality and Trade Secrets

- Online IP Lecture 2: Origin of Intellectual Property and Basics of the US government and legal system(3.25hrs)
- Readings: MARTIN Chapter 1(Ethics and Professionalism), REYNOLDS Chapter 1 (Overview of Ethics)
- Assignments: NSPE Case Study 15-7 (confidentiality) and NSPE Case Study9-2 (improper conduct)

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Grading Scale.

	87-89.9% B+	77-79.9% C+	
	84-86.9% B	74-76.9% C	

95-100% A			69.9% or below F
90-94.9% A-	80-83.9%B-	70-73.9% C-	

Grade Breakdown:

Category	Component	Percent
1	Class participation, discussion posts	25
2	Industry Trends presentation	7
3	Assignments (individual & group)	33
4	Mid-term Quiz (multiple choice format)	10
5	Final Exam (multiple choice format)	25
Total		100

Readings: There will be assigned readings (articles and cases) found on Canvas. These will provide the conceptual framework and background for each topic. Discussion questions will generally be based on the reading materials. For posts on Canvas, you should incorporate theories and frameworks to your responses to demonstrate your ability to apply the methodologies.

Presentations and discussions: To cover core principles and concepts to be applied toward current industry trends in APM.

Individual and group practical assignments:

Case studies. Students will have the ability to combine concepts and frameworks with real world use cases to better apply learnings.

In-class and Online Case Discussions and Participation

Discussion posts and in-class participation (25%)

- Good responses help further constructive discussion and learning. Please read initial posts diligently, think about your response to make sure it provides value and substance to the conversation
- Remember this is a respectful learning environment so all replies should be professional and not personal. You are encouraged to challenge each other but if you disagree with a statement, please use proper judgement
- Your Initial answer/solution to the discussion question/assignment before 11:59pm on Tuesday following the start date of each week. Initial posts should be between 150 and 200 words (average) and can contain references to the text, the course material and/or outside sources
- One response to one other student's initial post. Reply posts should be between 100 and 150 words (average)

Individual and group assignments (40%)

- Vendor Assessment Project (18%)
- “Selling Agile to Clients” group presentation gives students a real-world scenario that many organizations across most industries face today. Students will complete analysis and dig deeper into the benefits but also challenging change management effort this can be present depending on a company culture, industry and geographic location (15%)
- Individual innovation presentation (7%)

Multiple Choice Exams (35%)

- **Midterm open book online (10%)**
- **Final exam (25%)** All course material and cases may be covered in the exam. Closed book

Attendance/Late Work Policy. Please insert what is applicable for your class. See sample provided below.

Attendance Policy

Students are expected to complete course readings, participate in class discussions or other learning activities during the unit, and complete written assignments for each unit during the time of that unit. It is understood that there might be one week when active participation in ongoing class conversations and learning activities might be delayed. Beyond one week's time, if there is an absence or lateness in participation (1) faculty must be notified in advance; (2) grades will be adjusted accordingly.

Late Work Policy

Students must submit assignments by the deadline in the time zone noted in the syllabus. Students must communicate with the faculty prior to the deadline if they anticipate work will be submitted late. Work submitted late without prior communication with faculty will not be graded.

Course Schedule

[Note: This Topics Schedule is subject to change. Defer to Canvas Course Materials for the class content and requirements.]

Week	Date	Topic	Reading/Assignments
1	9/7	Getting Oriented: <ul style="list-style-type: none">➤ Course Overview➤ Instructor & student introductions➤ Review Syllabus, requirements and expectations.	Syllabus

2	9/14	History & Benefits: <ul style="list-style-type: none"> ➤ Overview, History, Benefits and Tenets of APM (advantages, principles) 	
3	9/21	APM Principles, Implementing Agile: <ul style="list-style-type: none"> ➤ “The Enemy: Big upfront Anything” ➤ Software Development Life Cycle (SDLC) ➤ Implementing Agile: How to apply the APM method effectively 	
4	9/28	Agile Roles, Agile Tools: <ul style="list-style-type: none"> ➤ Agile roles ➤ Agile Principles ➤ Tools and Methodologies for Quality Control in APM 	Discussion post and response on Canvas due 9/27 11:59pm ET (7 points).
5	10/5	Agile Practices: <ul style="list-style-type: none"> ➤ Individual Innovation Presentations 	
6	10/12	Agile Practices: <ul style="list-style-type: none"> ➤ Agile Practices Managerial ➤ Agile Practices Technical 	Vendor assessment project due 10/11 11:59pm ET.
7	10/19	Agile Debate Class Debate: Core Agile Topics.	Agile debate instructions.
8	10/26	Scaled Agile: <ul style="list-style-type: none"> ➤ Mid-term Quiz(in-class) ➤ Scaling Agile Projects 	Mid term quiz(10 points, 10%)
9	11/2	APF Cycle, Artifacts, Methods: <ul style="list-style-type: none"> ➤ How to Build the Agile Project Framework Cycle. ➤ Agile artifacts. ➤ Agile methods. ➤ Class discussion on Canvas discussion article related to collaboration tools. 	Read article “Agile Is Not Just a Method, It’s a Mindset”.
10	11/9	<ul style="list-style-type: none"> ➤ Agile Simulation 	Agile simulation instructions. Select role for Agile simulation.

11	11/16	Group Presentations: 'Selling Agile to a client' presentations (part 1).	"Selling Agile to a client" or "Sprint and Resource planning" group assignment due 11/15 11:59 pm ET. 10 minute presentations. (15 points)
12	11/23	No class - thanksgiving holiday	
13	11/30	Software development methodology trends and Dealing with Agile Teams: <ul style="list-style-type: none"> ➤ Latest trends in software development methodologies, does it depend on industry and corporate culture? ➤ Dealing with agile teams ➤ Prepare for Agile simulation (select roles, review exercise) Individual Innovation Presentations	Discussion post on Canvas due 11/30 11:59 PM ET (8 points).
15	12/7	Final exam	Final Exam will be given during class time (last class)

End-of-Course Evaluation Surveys

Your feedback regarding your educational experience in this class is particularly important to the College of Professional Studies. Your comments will make a difference in the future planning and presentation of our curriculum.

At the end of this course, please take the time to complete the evaluation survey at <https://neu.evaluationkit.com>. Your survey responses are **completely anonymous and confidential**. For courses 6 weeks in length or shorter, surveys will be open one week prior to the end of the courses; for courses greater than 6 weeks in length, surveys will be open for two weeks. An email will be sent to your Husky Mail account notifying you when surveys are available.

Academic Integrity

A commitment to the principles of academic integrity is essential to the mission of Northeastern University. The promotion of independent and original scholarship ensures that students derive the most from their educational experience and their pursuit of knowledge. Academic dishonesty violates the most fundamental values of an intellectual community and undermines the achievements of the entire University.

As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, examinations of whatever kind, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Students are responsible for learning the conventions of documentation and acknowledgment of sources in their fields. Northeastern University expects students to complete all examinations, tests, papers, creative projects, and

assignments of any kind according to the highest ethical standards, as set forth either explicitly or implicitly in this Code or by the direction of instructors.

Go to <http://www.northeastern.edu/osccr/academic-integrity-policy/> to access the full academic integrity policy.

University Health and Counseling Services

As a student enrolled in this course, you are fully responsible for assignments, work, and course materials as outlined in this syllabus and in the classroom. Over the course of the semester if you experience any health issues, please contact UHCS.

For more information, visit <https://www.northeastern.edu/uhrs>.

Student Accommodations

Northeastern University and the Disability Resource Center (DRC) are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act (ADAAA) to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that demonstrates a current substantially limiting disability.

For more information, visit <https://drc.sites.northeastern.edu>.

Library Services

The Northeastern University Library is at the hub of campus intellectual life. Resources include over 900,000 print volumes, 206,500 e-books, and 70,225 electronic journals.

For more information and for education specific resources, visit <https://library.northeastern.edu>.

24/7 Canvas Technical Help

For immediate technical support for Canvas, call 617-373-4357 or email help@northeastern.edu

Canvas Faculty Resources: <https://canvas.northeastern.edu/faculty-resources/>

Canvas Student Resources: <https://canvas.northeastern.edu/student-resources/>

For assistance with my Northeastern e-mail, and basic technical support:

Visit ITS at <https://its.northeastern.edu>

Email: help@northeastern.edu

ITS Customer Service Desk: 617-373-4357

Diversity and Inclusion

Northeastern University is committed to equal opportunity, affirmative action, diversity, and social justice while building a climate of inclusion on and beyond campus. In the classroom, members of the University community work to cultivate an inclusive environment that denounces discrimination through innovation, collaboration, and an awareness of global perspectives on social justice.

Please visit <http://www.northeastern.edu/oidi/> for complete information on Diversity and Inclusion

Title IX

Title IX of the Education Amendments of 1972 protects individuals from sex or gender-based discrimination, including discrimination based on gender-identity, in educational programs and activities that receive federal financial assistance.

Northeastern's Title IX Policy prohibits Prohibited Offenses, which are defined as sexual harassment, sexual assault, relationship or domestic violence, and stalking. The Title IX Policy applies to the entire community, including male, female, transgender students, faculty, and staff.

In case of an emergency, please call 911.

Please visit <https://www.northeastern.edu/ouec> for a complete list of reporting options and resources both on- and off-campus.