

MIS 6900: Topics in Information Systems Development Spring 2019

Instructor & Course Information

Instructor	Katherine M. Chudoba, PhD	Course Location	AG 101
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Introduction

Welcome! This is the capstone experience for you as MIS professionals in the MMIS program. The purpose of this class is to educate MIS graduate students in topics that are relevant regardless of your chosen career path: data scientist, IT manager, software developer, or database administrator. We will examine three topics: project management, agile software development, and DevOps, which will be important to your professional success. The objectives of this class are mapped to the IDEA center course evaluation objectives used by USU as shown below. **Please note that you will be asked to rate this course at the end of the semester based on the IDEA Center objectives listed.**

Course Objectives

Upon completion of this course, students should master the following knowledge and skills:

IDEA Center Learning Objectives	MIS 6900 Learning Objectives
<p>Objective 1 (Essential): Gaining factual knowledge (terminology, classifications, methods, trends)</p> <p>Objective 2 (Important): Learning fundamental principles, generalizations, or theories</p>	<ol style="list-style-type: none"> 1. Understand agile manifesto and main characteristics that distinguish agile methods such as Scrum from traditional systems development methods such as waterfall approach. 2. Understand project management principles applicable to client-facing projects. 3. Understand project management techniques such as multi-level planning, size estimation of user stories in story points and ideal days, incremental and iterative development, and management characteristics of agile methods such as Scrum. 4. Understand the structure and requirement of user stories and their conditions of satisfaction. Identify the players (e.g., product owner, scrum master, development team, and stakeholders), their roles, and the skills needed to be

	<p>successful in agile methods such as Scrum.</p> <p>5. Understand the science of lean software and DevOps</p>
<p>Objective 3 (Essential): Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course</p> <p>Objective 4 (Important): Learning to <i>apply</i> course material (to improve thinking, problem solving, and decisions)</p>	<ol style="list-style-type: none"> 1. Practice an agile approach (e.g., Scrum) to develop user stories of the new system with user stories and estimate project duration and team velocity. 2. Implement project management techniques to manage the system development process and monitor the progress of a development activity. 3. Develop and present a working system as a team, incrementally and iteratively. 4. Develop an understanding of group dynamics and facilitation of interactive teamwork required in organizational system development efforts.

Required and Recommended Textbooks

Required textbooks

Title: *Essential Scrum (ES)*
 Authors: Kenneth S. Rubin
 Publisher: Addison-Wesley Pearson Education
 ISBN: 978-0-13-704329-3

Title: *User Story Mapping (USM)*
 Authors: Jeff Patton
 Publisher: O'Reilly Media
 ISBN: 978-1-491-90490-9

Title: *Effective Project Management: Traditional, Agile, Extreme (EPM)*
 Authors: Robert Wysocki
 Publisher: Wiley & Sons
 ISBN: 9781118729168

Title: *The Phoenix Project, 5th Anniversary Edition (PP)*
 Authors: Gene Kim et al.
 Publisher: IT Revolution Press
 ISBN: 9781942788294

OPTIONAL (free pdf version available)

Title: *Agile Estimating and Planning*
Authors: Mike Cohn
Publisher: Prentice Hall
ISBN: 978-0-13-147941-8
OPTIONAL

Title: *Remaining Relevant In Your Tech Career : Navigating Over A Lifetime Of Constant Change*
Authors: Robert Stackowiak
Publisher: Apress L P
ISBN: 9781484237021

Required Software

Your team and you may use MSPProject and MSVisio in class for our exercises. Free student versions can be downloaded at <http://e5.onthehub.com/WebStore/ProductsByMajorVersionList.aspx?ws=3ab8aab6-bf9b-e011-969d-0030487d8897&vsro=8>. The course fee for MIS 6900 (\$30) is used to provide lab support, hardware maintenance and software licensing support.

Prerequisite

MIS 6230 Database Management

Course Materials/Access:

I will use Canvas (<http://canvas.usu.edu>) to post course material, including lecture notes, assignments, grades, etc. It is very important that you access Canvas early and regularly in the semester, since you will be responsible any course material, change, or notification that is posted there.

Grading Policy

Final grades will be determined as follows:

Exam I	20%
Exam II (comprehensive)	30%
Semester group project	30%
Quizzes	10%
Class activities	8%
Professional conduct	2%

A	A-	B+	B	B-	C+	C	C-	D+	D	F
≥93%	≥90%	≥87%	≥83%	≥80%	≥77%	≥73%	≥70%	≥67%	≥60%	<60%

Exams (50%)

There will be two exams which will consist of multiple-choice, fill-in-blank, and/or short essay questions that cover the material presented in your textbooks and lecture notes. **It is crucial that you read your textbooks and lecture notes to perform well on the exams**, as some material may not be covered during class.

Group Project (30%)

Students will work on a real world software development project that analyzes, designs, implements, and delivers the final outputs by the end of semester. Forming and working with a great team is one of the most important factors to determine whether your team project will succeed or fail, which will naturally lead to your final grade. Groups will be formed in the class and specific information will be given. Typical team size may include four or five members and may include at least one international and one female student, if possible. Due dates of intermediary deliverables will be noted on the Canvas.

Quizzes (10%)

There will be multiple quizzes, both announced and unannounced, to check the progress of students. Each student is solely responsible for each quiz. One lowest quiz score will be dropped.

Class Activities (8%)

There will be several class activities and each student or a group will be required to complete such activities during the class.

Professional Conduct (2%)

Professionalism implies positive participation in class discussions and an appropriate attitude for learning. I request that you always demonstrate professionalism in this course, in your work as well as in your conduct. I expect that you will demonstrate professionalism in your work by:

1. Submit your work on time. All assignments are typically due at 11:59pm, but you are allowed to upload your work by 5AM of the following day without any penalty. Remember you can submit an incomplete version and replace it with new one. Always check to make sure you uploaded the final version. I will deduct 0.5% from your professional conduct credit (2% of overall grade) each time when you ask for an extension of the due date of assignments for the following or similar reasons
 - You (including your babies, dogs, and cats) accidentally deleted or corrupted your file
 - You forgot to submit your work on time due to an annual family event or fatigue
 - You submitted an incomplete or incorrect version of your work (check to make sure it is the final version)
 - You have slow or lost Internet connection around midnight on due date (plan ahead)
 - You could not complete assignment because your computer was suddenly broken, stolen, or malfunctioned for hardware or software reasons.
2. Come to class regularly and on time. Although I may not take roll every class and I understand if you need to miss class periodically, I expect that you will attend class consistently.
3. Submit Group Project Peer Evaluations with thoughtful and detailed feedback.
4. Participate in class discussions and exercises.
5. Don't engage in activities that show disrespect to me or to your fellow students, including talking/texting on cell phones or browsing the Internet during class.
6. The Utah State University General Bulletin states that: "A student is expected to attend all meetings of a class for which he or she is registered. A student may be dropped from a course by the Dean if absences are repeated and the instructor recommends this action. A student can gain readmission only with permission of both the Dean and the instructor. A student dropped from a course receives an 'F' which counts as work attempted whenever grade point ratio calculations are made. Students with absences in

excess of 10% of scheduled class meetings may be administratively withdrawn from the class with a grade of F which will count as work attempted whenever grade point ratio calculations are made.”

7. Display integrity by doing your own work; **never plagiarize the work of others**, including the textbook, or cheat on quizzes or exams.
8. Submit college graduate-level work. Your writing should consist of complete sentences, and should be free from spelling and grammatical errors. It should demonstrate to me that you understand the material and that you can thoughtfully justify your answers.

HSB Differential Tuition

The Huntsman School of Business charges additional tuition, called differential tuition, for 3000-level and above undergraduate business school courses. More than 80 percent of this differential tuition is used to recruit and retain the top-level faculty who teach in the Huntsman School. We want our students to be informed about their education and we welcome input from all of our stakeholders. The Huntsman School Differential Tuition Advisory Board, comprised of students, faculty, and staff, meets annually to review the uses of differential tuition. More information about differential tuition is online at <https://huntsman.usu.edu/about/differential-tuition>.

A few examples of expenses for which Differential Tuition is used include but are not limited to:

1. Salaries and benefits for Huntsman School faculty and staff
2. New and existing student experiential programs
3. Administrative infrastructure and operating expenses

UNIVERSITY POLICIES & PROCEDURES

Academic Freedom and Professional Responsibilities

Academic freedom is the right to teach, study, discuss, investigate, discover, create, and publish freely. Academic freedom protects the rights of faculty members in teaching and of students in learning. Freedom in research is fundamental to the advancement of truth. Faculty members are entitled to full freedom in teaching, research, and creative activities, subject to the limitations imposed by professional responsibility. [Faculty Code Policy #403 \(Links to an external site\)](#) further defines academic freedom and professional responsibilities.

Academic Integrity – "The Honor System"

Each student has the right and duty to pursue his or her academic experience free of dishonesty. The Honor System is designed to establish the higher level of conduct expected and required of all Utah State University students.

[The Honor Pledge \(Links to an external site\)](#)

To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge:

"I pledge, on my honor, to conduct myself with the foremost level of academic integrity."

A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lives by the Honor Pledge:

- Espouses academic integrity as an underlying and essential principle of the Utah State University community;
- Understands that each act of academic dishonesty devalues every degree that is awarded by this institution; and
- Is a welcomed and valued member of Utah State University.

Academic Dishonesty

The instructor of this course will take appropriate actions in response to Academic Dishonesty, as defined in the University's Student Code. Acts of academic dishonesty include but are not limited to:

- **Cheating:** using, attempting to use, or providing others with any unauthorized assistance in taking quizzes, tests, examinations, or in any other academic exercise or activity. Unauthorized assistance includes:
 - Working in a group when the instructor has designated that the quiz, test, examination, or any other academic exercise or activity be done "individually;"
 - Depending on the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;
 - Substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work;
 - Acquiring tests or other academic material belonging to a faculty member, staff member, or another student without express permission;
 - Continuing to write after time has been called on a quiz, test, examination, or any other academic exercise or activity;
 - Submitting substantially the same work for credit in more than one class, except with prior approval of the instructor; or engaging in any form of research fraud.
- **Falsification:** altering or fabricating any information or citation in an academic exercise or activity.
- **Plagiarism:** representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials.

Sexual Harassment

Sexual harassment is defined by the Affirmative Action/Equal Employment Opportunity Commission as any "unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature." If you feel you are a victim of sexual harassment, you may talk to or file a complaint with the Affirmative Action/Equal Employment Opportunity Office located in Old Main, Room 161, or call the AA/EEO Office at (435) 797-1266.

Withdrawal Policy and "I" Grade Policy

Students are required to complete all courses for which they are registered by the end of the semester. In some cases, a student may be unable to complete all of the coursework because of extenuating circumstances, but not due to poor performance or to retain financial aid. The term 'extenuating' circumstances includes: (1) incapacitating illness which prevents a student from attending classes for a minimum period of two weeks, (2) a death in the immediate family, (3) financial responsibilities requiring a student to alter a work schedule to secure employment, (4) change in work schedule as required by an employer, or (5) other emergencies deemed appropriate by the instructor.

Students with Disabilities

Students with ADA-documented physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations. Veterans may also be eligible for services. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, (435)797-2444. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print, digital, or audio) are available with

advance notice.

Contact the Disability Resource Center (DRC):

- On Campus: Room 101 of the University Inn
- Phone: 435-797-2444
- Website: <http://www.usu.edu/drc/> (Links to an external site)

For additional information about the application process, accommodations for Online & Regional Campus Students, confidentiality, free and low cost accessibility apps, and the services provided by the DRC, please visit the [Students section of the Disability Resource Center website.](#) (Links to an external site).

Diversity Statement

Regardless of intent, careless or ill-informed remarks can be offensive and hurtful to others and detract from the learning climate. If you feel uncomfortable in a classroom due to offensive language or actions by an instructor or student(s) regarding ethnicity, gender, or sexual orientation, contact:

- Student Services: <http://www.usu.edu/student-services/> (Links to an external site), 435.797.1712, studentservices@usu.edu, TSC 220
- Student Advocates: <https://ususa.usu.edu/resources/legal-services/> (Links to an external site), 435.797.2912, TSC 340,
- Access and Diversity: <http://www.usu.edu/accesscenter/> (Links to an external site), 435.797.1728, access@usu.edu; TSC 315
- Multicultural Programs: <http://www.usu.edu/accesscenter/multiculture/> (Links to an external site), 435-797-1728, TSC 315
- LGBTQA Programs: <http://www.usu.edu/accesscenter/lgbtqa/> (Links to an external site), 435-797-GAYS, TSC 314
- Provost's Office Diversity Resources: <https://www.usu.edu/provost/diversity/> (Links to an external site), (435) 797-8176

You can learn about your student rights by visiting:

The Code of Policies and Procedures for Students at Utah State University:
<http://www.usu.edu/student-services/student-code/> (Links to an external site)

Grievance Process

Students who feel they have been unfairly treated may file a grievance through the channels and procedures described in the Student Code: [Article VII. Grievances](#) (Links to an external site).

Full details for USU Academic Policies and Procedures can be found at:

- [Student Conduct](#) (Links to an external site)
- [Student Code](#) (Links to an external site)
- [Academic Integrity](#) (Links to an external site)
- [USU Selected Academic Policies and Procedures](#) (Links to an external site)
- [USU Academic Policies and Procedures](#) (Links to an external site)
- [Academic Freedom and Professional Responsibility Policy](#) (Links to an external site)

Emergency Procedures

In the case of a drill or real emergency, classes will be notified to evacuate the building by the sound of the fire/emergency alarm system or by a building representative. In the event of a

disaster that may interfere with either notification, evacuate as the situation dictates (i.e., in an earthquake when shaking ceases or immediately when a fire is discovered). Turn off computers and take any personal items with you. Elevators should not be used; instead, use the closest stairs.

Tentative Class Schedule – Spring 2019

Last Update: 13 February 2019

Date	Topic	Preparation
Jan 9	Course introduction	SAD Terminology EPM 2 – What is Project Management
Jan 16	Agile Principles Agile Analytics Agile clock game	ES 3 https://www.thoughtworks.com/insights/blog/introducing-agile-analytics
Jan 23	Scrum & Sprints Intro to User stories User Stories & Product Backlog	ES 2, ES 4 USM xi-xliv ES 5, 6
Jan 30	User stories	USM 1-5
Jan 31 Feb 1	Silicon Slopes	Salt Palace, SLC
Feb 6	Agile Project Mgt Story Points & Estimation	EPM Ch10 – Agile Project Management ES 7
Feb 13	Sprint 1 Presentations Sprint 2 Planning Review for Exam I	
Feb 15-20	Exam I	Take Exam I in Testing Center BEFORE Feb 20 @ 5pm
Feb 20	Web AIM – Jared Hansen Sprinting	ES 19-22 (quiz in 2 nd half of class)
Feb 27	Planning	ES 14-15, 17-18
Mar 6	Sprint 2 Presentations Sprint 3 Planning Discovery	USM 14-15 (no quiz but active engagement in discussion expected)
Mar 13	No Class – Spring Break	Enjoy much deserved rest & relaxation (R&R)
Mar 20	Project Management Tools	EPM 5 (WBS, Duration & Estimating, Precedence/Dependencies/Constraints)
Mar 27	Sprint 3 Presentations Sprint 4 Planning Monitor & Control	EPM 7 (pp 267-279, 291-298)
Apr 3	The Phoenix Project – Part 1 (chapters 1-16)	Discussion Leaders – Jorge, James, Dan R, Isela Activity or Added Resource Leaders – Praveena, Dan, Joseph, Cody, Alex
Apr 10	The Phoenix Project – Part 2 (chapters 17-35)	Discussion Leaders – Justin, Nathan, Jonny, Morgan

		Activity or Added Resource Leaders – Supratik, Clay, Clayton, Josh, Xiao Yan
Apr 17	Sprint 4 Presentations Review for Exam II	
Apr 24	Final Exam II	
May 2-3	Graduation!	Your hard work has paid off!