

ISOM 424 Syllabus



SUFFOLK
UNIVERSITY
BOSTON

SAWYER BUSINESS
SCHOOL

IS Strategy, Management, and Acquisition

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Office Hours: Thu 2pm – 4pm and by drop-in or appointment all other times

Course Location and Timing

Mondays 4:30 – 7:10 pm in Somerset 116 (plus Tue. Sept. 6)

(We will meet in Innovation Center in Sargent 5610 after day 1.)

Final meeting: Monday 12/19 5:00 pm – 7:30 pm

Catalog Description: This course explores the issues and approaches in managing the information systems function in organizations and how the IS function integrates/supports/enables various types of organizational capabilities. It takes a senior management perspective in exploring the acquisition, development, and implementation of plans and policies to achieve efficient and effective information systems. The course addresses issues relating to defining the high level IS infrastructure and the systems that support the operational, administrative, and strategic needs of the organization. The remainder of the course is focused on developing an intellectual framework that will allow leaders of organizations to critically assess existing IS infrastructures and emerging technologies as well as how these enabling technologies might affect organizational strategy. The ideas developed and cultivated in this course are intended to provide an enduring perspective that can help leaders make sense of an increasingly globalized and technology intensive business environment.

Prerequisites: ISOM 313, 314, 423 or permission from Instructor **Credit Hours:** 3¹

¹ *This course follows the Federal Government's Credit Hour definition: "An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutional established equivalence that reasonably approximates no less than:*

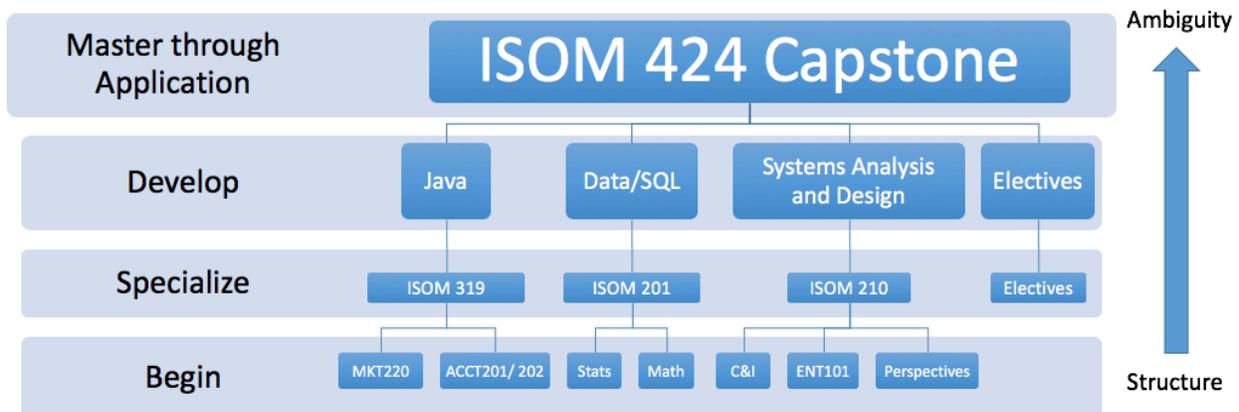
- (1) One hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or
- (2) At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours."

Textbook/Course Materials

- Redding, Jacob “Beginning Drupal” Wiley Publishing Inc. 2010.
 - ISBN: 978-0-470-43852-7
 - Available for free as PDF in Blackboard by special arrangement with the author.
- Tomlinson, Todd “Beginning Drupal 8” APress, Berkeley, CA 2015.
 - Available free as eBook from our library.
- **Bring your laptop every class session.** Every student needs at least a laptop with Windows or Mac or Linux OS on it and 8GB of RAM with enough extra space to install the Acquia DevDesktop and GIT source code management software. You will develop your own capacity to be a systems analyst/manager by setting up your laptop as a systems development/management machine in this course. Additional software is available to you via our Dreamspark program with Microsoft, as well as through webstore.suffolk.edu, where you can get the Microsoft Office suite for Mac or Windows for free.
- Various readings and other materials will be made available via Blackboard and probably via other systems we develop and share. Some useful texts are also available in the library as eBooks in case you need them (ie. CSS, HTML, etc).
- You will also need a Gmail account to access our shared GoogleDocs resources.

Course Goals & Learning Objectives

This course is different from your typical course up to now. It is your major capstone. It assumes you have various basic skills and knowledge from prior courses as well as some confidence and capability at using them in structured environments. Our biggest challenge in this course is to add to those skills while branching into more ambiguous applications more similar to the work you will encounter in your careers. (see diagram below, and accompanying 30 min. intro video in our Blackboard site)



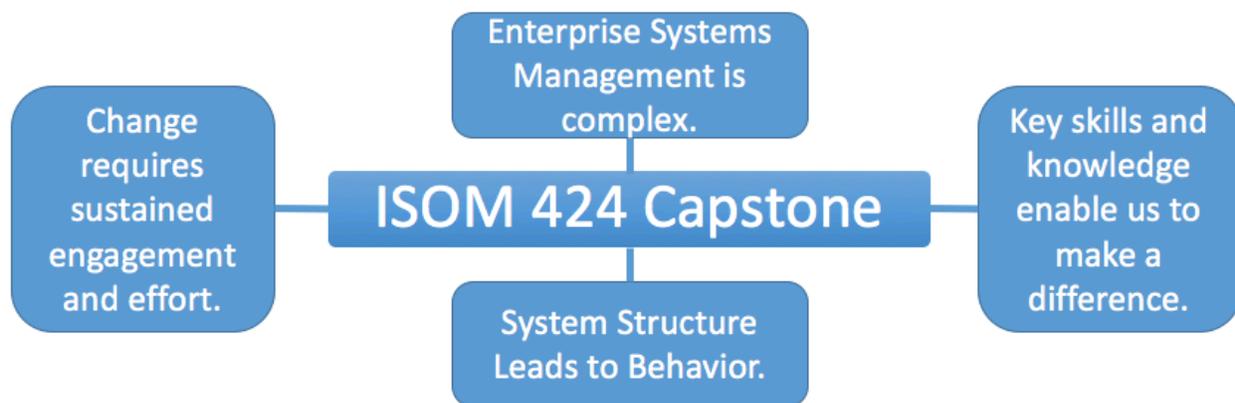
IS strategy, management, and acquisition in organizations constantly revolves around innovation and figuring out how to improve and drive competitive advantage through

successful applications of new and existing technology. This is not easy, which is why the IT services industry globally consumes \$3.7 *Trillion* each year (~5% of the global economy compared with financial services/asset management [NAICS 5239] which comprises only \$320B/year!) and continues to grow². When the environment around you at work is in chaos and you are having to work with teams to solve tough problems, you need deeper self-knowledge. You will notice that we do several activities up front to enhance reflection. We use a team evaluation tool (CATME) to behaviorally anchor and provide feedback on teamwork.

Another need is to have high-level understanding of how the many issues in IS fit together and become effective in enterprise contexts (synthetic understanding). The most fundamental and well-known Information Systems (IS) organizational framework is the core of our class. It provides such a view for us to learn. It says that information systems are the product of people, process, and technology combining. When they are effective, they lead to and enable competitive advantage in organizations (see our diagram below). They are not the only possible source of this competitive advantage, but in the information/analytics age, they are increasingly a primary enabler of the changes constantly needed³.

Finally, you can see various real questions related to IS strategy, management and acquisition listed. These are the leads for our learning objectives this semester. Specific activities and tasks will target each of these. The larger goal is to build skills for dealing confidently with these questions when you encounter them in practice.

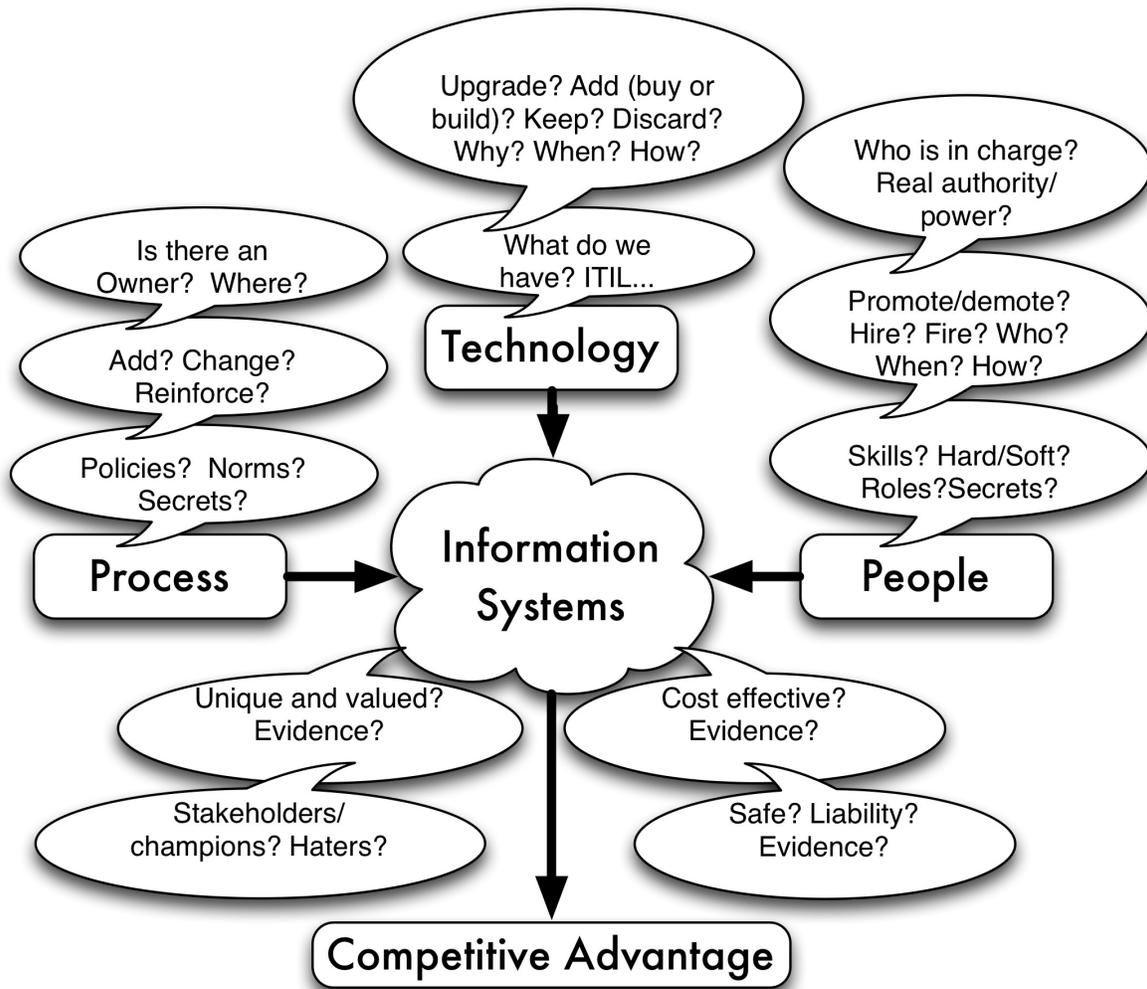
Logon to Blackboard and watch the 30-minute introduction video for a more in-depth explanation with examples. You will see there that we will focus on four key ideas in terms of your learning:



² Industry Overview Report from First Research Database accessed January 6, 2016 for NAICS codes 5415 and 5239.

³ "It's Official! The End Of Competitive Advantage," *Forbes*. [Online]. Available: <http://www.forbes.com/sites/stevedenning/2013/06/02/its-official-the-end-of-competitive-advantage/>. [Accessed: 21-Jan-2015]

Diagram Synthesizing IS Management Issues in Enterprises



Grading

Students will be evaluated on the following items:

Course Item	Responsibility	Weight	Running Total
MasterLab	Individual	20%	20%
Participation/Activities	Individual	40%	60%
Attendance	Individual	15%	75%
Client Project	Group	25%	100%

Notice that 3/4 of your grade is individual. The rest is group-oriented, though we will use self- and peer evaluations. Based on those evaluations, your group's grade will get individualized for

you (either up or down possibly). This design mimics the work environment in technology today, often team-based with peer evaluation.

No work is accepted late without special permission, which will be granted only for extenuating circumstances.

MasterLab

One of the best ways to learn and master a topic is to teach it. Communicating technical skills can be very challenging but a key to competitive advances using information technologies. You are capstone students. Masters of the Suffolk ISOM domain. Time to teach. You will also be joining companies where people will look to you for technical skills. Senior members of the organizations may need to learn things that you know how to do! Again, time to team and practice learning how to teach.

Create a 15-20 minute tutorial video aimed at a Suffolk constituency. The most popular ones are undergraduate business or IS majors. Your tutorial should be clear and hands-on. It needs to teach a non-trivial, cool, interesting IS skill using resources readily available to Suffolk. For example, someone taught how to use public data run through Google fusion tables to make interactive data visualizations. You could teach how get and effectively use Zotero reference software. You could teach some technical aspect of how to clean and improve data using Excel. You could extend the existing tutorial on how to use Edge Animate to build HTML animations. You could extend the existing tutorial on how to do effective editing and packaging of tutorial videos. Build off of what already exists. (All require prior approval from me.) See samples at:

<http://j.mp/masterlabs>

Or, you could ask ISOM professors what tutorials they think students really need to have and teach one of those (that would also be a great gift to that professor to use in class). Each topic must be preapproved by Prof. Thomas explicitly in writing. Get your topic approved as soon as possible. This work can be completed at any time. To turn in your project, you need to upload your video to YouTube or Panopto and post the URL in our MasterLaps spreadsheet. In YouTube make it either public or unlisted so that students with the URL can see it. If you post it on Panopto (Suffolk's Coursecast server), be sure the URL and access are public. Be sure to test and refine your video for clarity and completeness.

It will be graded based on four factors:

- 1) How important and relevant the topic is for the selected student population (who is your target?) - importance/relevance should be indicated in the video,
- 2) How clear the communication is - clear visuals? Clear voices and statements? Good grammar? No distracting "ums" or other audio/visual problems,

- 3) How effective the teaching is - how well can I start from the start and follow through to a completed product at the end just with the steps shown in the video?
- 4) Timeliness - the earlier you turn it in during the semester, the more points you get - full points for having it done 2+ weeks or earlier before the last day of class.

Participation/Activities

We will be doing a variety of activities and team/group tasks in class. I will assess your participation in these activities and tasks. For example, I have asked you to connect to me on LinkedIn at the beginning of this syllabus. I will award one participation point for doing this. I also want every student to meet with me at least once one-on-one this semester. Yep, I'll count that too. We will probably use/build some online systems and interact in them. I will probably pull logs from those systems to see if you participated, how much and how valuably. In the end, I will count up all the possible participation points and set the middle number or so as 100% participation. I do not expect everyone to do everything, but I know that you will learn more and enhance each others' learning more from early, active engagement. If I feel it is necessary, I will give quizzes on activities/content to check individual participation and use those quiz scores within my participation grading. I will also post progress for us to jointly see, in the same way software companies post shared status boards displaying each person's current status and contributions.

Attendance

Attendance is the counterweight to participation. Just being in class exposes you to our discussions and topics. That experience gives you learning potential. I measure that via attendance. This measure is pure. I do not attenuate it for any reason. If you were not in class, your attendance is counted as 0 for that day. If you are 5 minutes late or leave 5 minutes early, I count it as .75. If you miss a lot of a given class day, I adjust your attendance for that day down from .75.

Client Project(s)

This is the culmination of your IS major work. We will work with real clients on real systems. Do you have a candidate project? Let me know ASAP. We will use Agile Development principles to run these projects (see the manifesto copied at the end of this syllabus). More detail concerning these projects will be provided later. You will be graded based on your successful delivery of value to your client as well as self and peer evaluations administered through CATME. This tool will provide you the ability to behaviorally assess your peers as well as personal experience on the following metrics:

Contributing to Work, Interacting with Teammates, Keeping Team on Track, Expecting Quality, Having Knowledge/Skills, Team Conflict, Team Satisfaction, Team Cohesiveness

Statement on Physical/Emotional Health

A range of issues can cause barriers to learning, such as strained relationships, increased anxiety, health issues, alcohol/drug problems, feeling down, difficulty concentrating, lack of motivation or feeling ill. These concerns or other stressful events may lead to diminished academic performance or may reduce your ability to participate in daily activities. University resources can help you address these and other concerns. You can learn more about Suffolk's broad range of medical and confidential mental health services at www.suffolk.edu/health



Classroom Environment and Expectations

What you can expect of me:

- Come prepared to every class.
- Stay focused on your learning.
- Exhibit only professional behavior.
- Design course and activities to achieve stated goals and learning objectives.
- Listen, guide, and create environment for learning.
- Foster mutual respectful learning environment in classroom.
- Provide a model of how experts in the field diagnose and solve problems.
- Consider that it's not always your fault if you do not understand the material.
- Use best professional judgment to evaluate performance fairly, and not be capricious or prejudiced in any way.
- Preserve fairness of performance evaluation by upholding high standards of academic integrity.

What I expect of you:

- Come prepared to every class.
- Stay focused on your learning.
- Exhibit only professional behavior.
- Complete all work required on time, and with proper attention and thought.
- Listen, stay actively involved, study, and learn.
- Treat classmates and instructor with appropriate respect.
- Respect instructor's expertise in this field and emulate the model provided.
- Consider that it's not always the instructor's fault if you do not understand the material.
- Recognize that instructor uses best professional judgment to evaluate performance and is not "out to get" students.
- Preserve fairness of performance evaluation by adhering to high standards of academic integrity.

We are bound by the Business School Honor Code. There is a **zero tolerance** policy for violations of the code in this course.

Statement on Accommodations for Students with Disabilities

If you anticipate issues with the format or requirements of this course, please meet with me—I would like to discuss ways to ensure your full participation in my classroom. If you determine that you need formal, disability-related accommodations, it is very important that you register with the [Office of Disability Services](http://www.suffolk.edu/disabilityservices) (located at 73 Tremont Street, 7th floor, 617.994.6820, disabilityservices@suffolk.edu) and notify me of your eligibility for reasonable accommodations. We can then plan how best to implement your accommodations.

Suffolk's complete course policies can be read at: <http://www.suffolk.edu/explore/54511.php>

Schedule (subject to progressive elaboration and changes)

Date	Topics & Discussion Questions	Class Activities	Preparation / Assignments
Sep 6 TUE	<p>1. What is IS strategy, management and acquisition? Why is it our capstone topic?</p> <p><i>Reflection and Inquiry</i></p> <ul style="list-style-type: none"> • What makes managing IS in companies difficult? What needs to be managed? • What would make it difficult to set and adhere to an IS strategy in an organization? What are the components of an IS strategy? What if you don't have a "strategy"? • How do you know what you are getting when you acquire an IS? Are you guaranteed to get the benefits of systems acquired just by installing them? Why or why not? 	<ul style="list-style-type: none"> • Course Overview • Activity – Personal Goals and Dreams Survey • Activity 1 – Setup Drupal on Your Laptop (we will discuss the "stack" and technology and begin the activity in class) • Interactive Discussion 	<p><i>(do before next week)</i></p> <p>Read through the syllabus.</p> <p>Install: Install Acquia Drupal Desktop on your machine. https://dev.acquia.com/downloads Read the how-to get started page introducing how to use it. https://docs.acquia.com/dev-desktop</p> <p>Activity 1: Post a screen shot of your Drupal Site running on your laptop screen to Blackboard by Sept 11.</p>
Sep 12	<p>2. Communications and Process in the Black Box of Information Systems work</p> <p><i>Reflection and Inquiry</i></p> <ul style="list-style-type: none"> • IS work is difficult for even IS people to understand. How can we know what work people have done? Why is this a management problem? What makes IS work difficult to judge from the outside? • Why are systems like GIT becoming much more popular in IS departments? Why are they important in terms of effective management? 	<ul style="list-style-type: none"> • Review the results of Activity 1 and the Personal Goals and Dreams Survey • Intro to MasterLabs and the MasterLab assignment. • Activity 2 – Introduction to GIT (we will discuss the technology and begin the activity in class) • Interactive Discussion (possible brief visit from an IT leader) 	<p><i>Go ahead and connect to me on LinkedIn and join the IS alumni page on Facebook. The links are in the Content area in Blackboard.</i></p> <p>Activity 2: Post a screen shot of your GIT results running on your laptop screen to Blackboard by Sept 18.</p> <p>Do the data security training at home. You will be emailed a link from the Suffolk Chief Security Officer via "noreply@securingthehuman.org"</p>
Sep 19	<p>3. Introduction to User Experience (UX) Design, IT Infrastructure Analysis, and Sourcing/Open Sourcing</p> <p><i>Reflection and Inquiry</i></p> <ul style="list-style-type: none"> • What is different between <i>user experience design</i> and coding or analysis? Why is this new term becoming so important? What does it entail? • How do we get a handle on the full scope of IT infrastructure when we enter a new organization? How do we maintain that information in a useful manner accessible to the right people? • How do we analyze new acquisitions to fit into our infrastructure? What is open source and how has it impacted organizational IS acquisition? 	<ul style="list-style-type: none"> • Review results of Activity 2 and the Data Security training. • Intro to UX Design and Analysis – the TEPHINET example • Activity 3 – Extend Drupal (we will discuss and start in class) • Interactive Discussion (possible brief visit from an IT leader) 	<p>Begin your MasterLab. Find a client at Suffolk for whom you can make a technical tutorial. Define your topic and bring it to me to be approved and added to our MasterLabs spreadsheet. After this, you can begin making your tutorial.</p> <p>Activity 3: Post a screen shot of your workflow results running on your laptop screen to Blackboard by Sept 25.</p>

Date	Topics & Discussion Questions	Class Activities	Preparation / Assignments
Sep 26	<p>4. Cutting Edge IS Needs: Data and Analytics</p> <p><i>Reflection and Inquiry</i></p> <ul style="list-style-type: none"> • What are the emerging needs for data and analytics systems in organizations? • What makes data and analytics systems challenging to implement, maintain and evaluate? • How does self-serve access and visualization complicate data analytics support? 	<ul style="list-style-type: none"> • Review and update MasterLab topics progress and questions. Review results of activity 3. • Activity 4 – Use Drupal as a Data Engine (We will begin in class, especially focusing on how web systems are becoming enterprise front ends.) 	<p><i>Work on your MasterLab.</i></p> <p>Activity 4: Post a screen shot of your workflow results running on your laptop screen to Blackboard by Sept 25.</p>
Oct 3	<p>5. Cutting Edge IS Needs: Communications and Cooperative Work</p> <p><i>Reflection and Inquiry</i></p> <ul style="list-style-type: none"> • What happens when we digitize not only our basic communications but also our work and the process of working? • Why do communications technologies and cooperative work support systems pose challenges and opportunities for companies today? 	<ul style="list-style-type: none"> • Review Activity 4. Sample some completed MasterLabs. • Activity 5 – Intermediate GIT (we will see how GIT can be a cooperative work system enabling code auditing and management among team members; we will start in class; this is an intense tutorial) 	<p><i>Complete on your MasterLab and post the link to your video in our spreadsheet. Update the summary description if it is not accurate. Share the link with your client.</i></p> <p>Activity 5: Post a screen shot of your log1 command results running on your laptop screen to Blackboard by Oct 16.</p>
	Fall Break	<ul style="list-style-type: none"> • Enjoy! 	
Oct 17	<p>6. Enterprise Infrastructure and IT Funding</p> <p><i>Reflection and Inquiry</i></p> <ul style="list-style-type: none"> • How do organizations project IT budgets and needs, especially when infrastructure is complex and projects are innovative and have many unknowns? • What is MTBF and how does it relate to hardware reliability and IT budgeting? • What are the basics of IT sourcing and contracts in terms of key stipulations around costs and cost control? • What difference does end-user facing versus platform infrastructure make in IT infrastructure budgeting? 	<ul style="list-style-type: none"> • Review Activity 5. • Visit ITS server room for tour. • Activity 6 – Deploy Drupal to a Remote Server (we will learn about servers and connection technologies like FTP and certificates. We will begin in class, time permitting. This is a group activity.) 	<p><i>We will form teams for Activity 6 in class. I will also introduce you to the server infrastructure.</i></p> <p>Activity 6: Post a screen shot of your team's site running on the shared server with your personal account running (you will need an individual account so that your username will show in the screenshot) on your laptop screen to Blackboard by Oct 23.</p>
Oct 24	<p>7. Detecting and Handling Issues</p> <p><i>Reflection and Inquiry</i></p> <ul style="list-style-type: none"> • How do we know when things are not going well in a project? What evidence do we monitor? How do we track who caused problems and back out the specific problems? • What is the value of shared progress visualization and monitoring within technical teams? Why do many IS organizations display visuals of team progress publically? 	<ul style="list-style-type: none"> • Review Activity 6. • Introduce project clients and work. • Activity 7 – Advanced GIT (we will overview the activity and start in class) 	<p>Activity 7: Post a screen shot of your log1 command results running on your laptop screen to Blackboard by Oct 30.</p>

Date	Topics & Discussion Questions	Class Activities	Preparation / Assignments
Oct 31	8. Testing and Features QA <i>Reflection and Inquiry</i> <ul style="list-style-type: none"> How do we measure the efficacy of a system and know that it is actually working for users as intended? 	<ul style="list-style-type: none"> Launch project teams. Activity 8 – Testing and Features QA (we will begin in class) 	<p><i>Begin doing background work to organize your tasks and understand who the client is and what you need to do for the client.</i></p> <p>Activity 8: Post a copy of your team's completed Excel testing scheme sheet to Blackboard by Nov 6.</p>
Nov 7	9. IT Project Management and the Role of Agile <i>Reflection and Inquiry</i> <ul style="list-style-type: none"> What is agile project management, and why has it become so popular in IT? What are the useful tools in agile and normal IT project management, and how to we apply them in our projects this semester? 	<ul style="list-style-type: none"> Overview of project analysis and planning techniques. Plan your project sprint and begin. 	<p><i>You can do activity 9 if you wish. It is extra credit. Form a team and let me know, so I can setup server accounts for you. Complete it by Nov 13.</i></p>
Nov 14, 21, 28 Dec 5	10. Project Sprints and Updates <i>Reflection and Inquiry</i> <ul style="list-style-type: none"> How do you build and keep momentum in a project that has a short duration among team members who vary in their commitment and skill levels? How do you jointly detect and address blockages in projects so that people can work at full capacity? 	<ul style="list-style-type: none"> How is the project going? Update your Kanban on the wall. Ensure all group members are contributing meaningfully. If someone is not, it is a joint responsibility of the team to figure out why and fix the situation. 	<p><i>You can do activity 10 if you wish. It is extra credit. Form a team and let me know, so I can setup server accounts for you. Complete it by Nov 20.</i></p>
Dec 12	11. Fix and Package <i>Reflection and Inquiry</i> <ul style="list-style-type: none"> What do you do if your project did not fully deliver on its promised scope? How to you package and present your project results? What is demonstrable and valuable to your client? Why? 	<ul style="list-style-type: none"> We will share progress around the room and talk about how to deliver the end product to the clients as well as document the work for future groups to continue. 	
Dec 15 final	12. Present	<ul style="list-style-type: none"> Present your work and results from your project with your team members. Guests may attend, including your client if you invite them. 	<p><i>Provide me with any materials or results demonstrating your work and client deliverables from your project. These could include a report or document, code from a system, an Excel sheet, or whatever else you produced.</i></p>

The Agile Manifesto Principles (core principles for the future of IS)⁴

1. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
4. Business people and developers must work together daily throughout the project.
5. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
7. Working software is the primary measure of progress.
8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
9. Continuous attention to technical excellence and good design enhances agility.
10. Simplicity--the art of maximizing the amount of work not done--is essential.
11. The best architectures, requirements, and designs emerge from self-organizing teams.
12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

⁴ "Principles Behind the Agile Manifesto" [Online]
<http://www.agilemanifesto.org/principles.html> [Accessed: 21-Jan-2015]