

ITM 320 Systems Planning & Analysis SYLLABUS

Dr. Rob Anson, Fall 2010

Course Syllabus

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Instructor Contact

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Official Office Hours:

ILC212 Tues and Thur, 9:00–10:00am and 11:00—12:00pm
Also, by Appointment or Drop-In

Office Hours are times that I will definitely be available to meet you on a drop-in basis. I am usually around Mon-Thur. Email me for an appointment, or just drop in. I am very flexible about times.

Class Sections

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ITM320 Meets: Tues & Thur (001) 7:40-8:55am and (002) 12:15pm - 1:30pm Room: ILC 315

Required Textbook and Readings

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Required Textbooks

Wiegiers, Karl (2003) Software Requirements Second Edition Microsoft Press
The book is available over the web at very reasonable prices.

Writing Guide COBE Writing Guide, Boise State University, 8/2007

You are responsible for downloading your own copy of the current COBE Writing Guide.

*It can be found on the Internet at <http://cobe.boisestate.edu/students/cobe-writing-styles-guide/>
Also, see sample paper at the same address.*

Other Readings

We will use some articles as required or optional reading. These can be accessed from the BIBLIOGRAPHY section of Blackboard.

Learning Goals and Objectives

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This course is intended to help you develop the core mindsets, skillsets, and toolsets of a Systems Analyst and Business Analyst.

The **mindsets** are those belonging to a Systems/Business Analyst and an IS Professional. A Systems/Business Analyst sees systems as a means to achieve organizational ends. The purpose of a system is to make people or processes more efficient and/or effective; the purpose is not the system itself. When systems are viewed as both Social and Technical in nature, we must view the Systems Analyst role similarly. The Analyst must have a broad and innovative skillset to visualize, describe, confirm, manage, and communicate systems and processes for both users and developers.

The **skillsets** are those involved in planning an IS development project, eliciting requirements from users, analyzing the requirements that a system needs to be able to accomplish in order to be able to design an effective

system. All these specific IS skills are based on the ability to communicate well: listen accurately, interview effectively, write concisely.

The **toolsets** are for planning and managing IS development projects and building models to clarify requirements. We will focus on the object oriented approach based on the emerging Universal Modeling Language (UML) standard, and place emphasis on Agile Scrum approaches to work.

After completing this course, you should be able to demonstrate the following:

I. Systems Analysis and Design Generic Skillsets

1. Be able to discuss the role and competencies of a Systems Analyst/Business Analyst.
2. Be able to communicate analysis and design concepts, orally and in writing, to technical and non-technical people.
3. Be able to write clear, readable, unambiguous technical documents.
4. Be able to work effectively and responsibly in a team.
5. Be able to review and give useful feedback to another on a planning or requirements document.

II. Planning and Project Management

6. Be able to describe the activities and deliverables of each phase of the Systems Development Life Cycle.
7. Be familiar with major system development methodologies--Waterfall, Iterative, Prototyping -- and be able to determine when each should be used.
8. Be able to outline an iterative project schedule for developing an IS.
9. Be familiar with project management approaches and best practices for estimating, prioritizing, scheduling, and tracking a systems development project.
10. Be able to create a Vision and Scope document including discussions of the system business case, value, feasibility, scope, features, stakeholders, and risks.

III. Requirements Analysis

11. Be able to plan an appropriate process for gathering requirements from users using a variety of techniques.
12. Be able to model system requirements using use cases.
13. Be able to model system requirements using standards-based, UML modeling techniques.
14. Be able to write requirements statements that are clear, unambiguous, and testable.
15. Be able to model a business process workflow.

IV. Design and Implementation

16. Be able to identify and apply major user interface design principles.
17. Be able to interpret Sequence and Class Diagrams, and compose ERD diagrams.
18. Be able to create and implement a test plan, and document results, for a prototype.
19. Be able to identify critical design, implementation and quality assurance activities and issues.

In addition, students will learn or practice the following COBE Core Curriculum concepts, methods and skills:

- Communicate effectively: Write messages and documents that are clear, concise and compelling
- Communicate effectively: Give oral presentations that use effective content, organization, and delivery
- Solve problems, including unstructured problems, related to business and economics
- Use effective teamwork and collaboration skills
- Resolve ethical issues related to business and economics

Course Website

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Blackboard at <http://blackboard.boisestate.edu/>

The official schedule is always the WEEKLY SCHEDULE in Blackboard; and the current weekly folders contain the official assignments. Period. I place all updated exercises, things due, lecture notes, reminders, etc. in the weekly folder, or the weekly folder will tell you where to go for it. Visit the site at least 2-3 times per week.

Assignments and readings will be posted at least 48 hours before the class they are due.

The instructor's lecture slides should not substitute for taking your own notes. Instructor reserves the right not to post lecture slides.

Group Work

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Team project work is required in this course, as it is with most IS work. Teams will be self-managing. You will periodically assess your team member contributions to improve yourselves. Also, the instructor will

review assessments to adjust individual team member grades. If you do not do your fair share, you will not receive full points for the team's product and you may be "fired" by your team.

Grading

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Grading Scale: I follow approximately a 90 – 80 – 70 grading scale, including plus/minus grading applied by dividing each grade percentage range in thirds. However, I reserve the right to divide the major letter grades by using the natural gaps between grade clusters. I will not go beyond 2 percent points above or below the formal cut off percentages. If in doubt, your individual scores on exams and the final exam merit will push you up or down.

% of Total Points	Grade	% of Total Points	Grade	% of Total Points	Grade
98 or higher	A +	93 – 97	A	90 – 92	A -
88 -89	B +	83 – 87	B	80 – 82	B -
78 – 79	C +	73 – 77	C	70 – 72	C -
69 -- 60	D	Below 60	F		

There are no separate extra credit assignments. However, on given assignments or exams I regularly give some extra credit for insightful test answers, or project work that is above and beyond expectations.

These point totals and percentages will be subject to change during the semester. The final grade is calculated as a percentage of the total actual points in the course.

Grading Items	Total Points	Percent	Special Notes
Homework, Exercises, Quizzes	95 (aprox)	15%	Homework and in-class exercises, small quizzes, etc. 5-25 points each Usually individual, but some may be done in groups or teams.
Interview Project	75	12%	
Big Fat Project	200 (aprox)	31%	Includes team products and individual products; submitted in 3 or 4 "milestones".
Individual Participation in Big Fat Project	50	8%	Your individual participation on your team as judged by peer evaluations and instructor evaluation of your individual participation and contribution.
Sprint Exams	80	12%	Mostly short answer and essay questions that emphasize application of concepts to real world problems. Probably 3 sprint exams. These will normally be taken outside of class as take-home or in lab.
Final Exam	150	23%	You must receive a 60% or better score on the final exam to pass the course. Exam is comprehensive.
Total Points	650	100%	

General Submission Policies

- If you have more than **2 late submissions** for any reason, you will forfeit your ability to submit late work for partial credit.
- Except where noted, if something is late I will subtract 10% off the top if submitted by the next class. After that, it loses 50%.

Homework

Concept: Homework is intended to help you practice certain techniques or concepts and receive feedback. I attach from 5-25 points to each to encourage you to do the practice. Most of their value, however, is in improving your understanding or skill in order to perform better on exams or projects (the big money).

Logistics: These are assigned to do outside of class. Unless it is explicitly stated, they can be handwritten or typed as long as I can read them. I am looking to see if you “get” the idea, model or skill.

Late Policy: I will state it on the assignment itself. When we will review it in class, then no late homework is allowed. When it is allowed, you have a maximum of one week to turn it in to me.

If You Will Miss Class: You must get it to me BEFORE class starts--via email, or dropping it off.

Quizzes

Concept: Quizzes are intended to check your reading and understanding of the more conceptual material. Usually quizzes are on assigned articles. These are worth 5 to 10 points each.

Logistics: Quizzes will be announced—and usually the questions posted--on Blackboard at least 40 hours before class. These are usually quick 4-5 minute writing on a question or two at the very start of class.

Late Policy: No Late Submissions allowed. These must be taken at the very start of class for full credit. NO MAKEUPS. **If You Will Miss Class:** Email me your answers BEFORE class starts. Each emailed quiz will count as one late assignment.

In-Class Exercises

Concept: We will frequently do in-class exercises in groups or individually. This is a chance to practice and learn. These are worth 5 to 10 points each.

Logistics: In-class exercises may or may not be announced on Blackboard. And when I ask you to turn in what you came up with, I may or may not decide to grade it.

Late Policy: No Late Submissions allowed, if you miss it, you miss it.

Interview Report

Concept: This is a chance to go out and interview someone with experience in an IS development project. The purpose is to help you relate what we are learning in class to the real world. Both the content and the form of your writing is important. Make extensive use of the COBE Writing Style Guide--I will also be looking at the quality of your writing for 20% of the points.

Logistics: You will need to find an interesting person to talk with. I'll give you the interview questions. You will need to write up a summary of the interview, and do some analysis to contrast interviewee experiences with issues from our class and readings and in class—i.e. how theory maps to reality.

Late Policy: If late and submitted within one week I will subtract 10% (-7.5 points) After that, it loses 50%. After Thanksgiving it is worth 0%.

Quality Policy: If the writing quality is below expectations, I will give you one week to revise and resubmit the report, with 10% subtracted in order to receive a grade. If it is not acceptable after that, it loses 50% if submitted at quality. After Thanksgiving it is worth 0%. Expected quality is that the paper has very few (<10) spelling or grammatical errors, it follows formatting guidelines, the cites and references meet COBE guidelines, and is written in a professional tone.

Big Fat Project (BFP)

Concept: The BFP helps you link concepts and apply techniques across a whole IS development project. Many students find the resulting notebook to be a valuable reference for use in their future career work.

Logistics: This will be broken up and turned in across three or four Milestones. I review each submission, provide extensive feedback, and a progress grade. You will have opportunities to make revisions to the first Milestones before submitting the final entire notebook for the full grade.

Late Policy: If late and submitted by the next class I will subtract 10% of possible points. After that, it loses 50%.

Sprint Exams

Concept: Exams assess how well you individually grasp the core concepts and skills from each module of the course. Usually exam questions ask you to explain and apply major concepts and techniques in the context of a scenario. They will focus on making sure you get the basic idea and can explain or do it.

Logistics: There are 3-4 small exams after each of the first three sprints. They will be taken outside of class in most or all cases.

Late Policy: Make ups will only be allowed because of a documented conflict, **BUT YOU MUST TELL ME IN EMAIL AT LEAST 7 DAYS BEFORE.** Please try to schedule your travel around the exam date.

Final Exam

Concept: The final is required and comprehensive. The good part is that I give you the actual questions a week in advance. At the exam, I give you a scenario to apply the questions to when answering. It is intended as an opportunity to put it all together, one last time. It also serves a quality control function: **everyone takes it, and if they don't pass it, they take the class over again.**

Logistics: The final exam period is on the Weekly Schedule. If you have a conflict, or have more than 2 total exams on that day, talk to me well in advance. We can work out a better time.

Late Policy: The final is required. If you can not take it during the time it is offered, see me well in advance to set up another time.

Communication Standards

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Standards for All Written Deliverables

Writing is an integral part of all of our disciplines, and especially ours. Developing an effective style of writing to convey your thoughts and ideas is one of the most important skills you should attain in college.

I grade your written submissions according to professional technical writing standards. Projects and large point assignments should be done on the computer (unless specifically noted), and grading will consider grammar, formatting, spelling and reference citation in addition to content. Look at any document I give you in class. You will see section headings and bullets used; you will see paragraphs that make sense as a whole unit and begin with a topic sentence. Pay attention to your writing!

The COBE Writing Guide (known as the "GUIDE") will be the writing standard we use in this class. The GUIDE was developed by your College of Business and Economics faculty to communicate our expectations for your written work. It lays out a set of basic writing standards that will be used across all courses in the College. These standards are subset of rules about good writing taught in English and Communications courses emphasizing professional communications in the workplace.

In our class, about 15% of your grade on writing assignments will be based on meeting the standards in the GUIDE plus any specific amendments that I add for our class.

Special Notes About E-mailing Instructor

Email is a great way to contact me to ask questions, request an appointment, give me feedback on the class, or for whatever purpose. But please, remember the following:

1. **SUBJECT LINE --start with ITM320** (if it is class related), then clearly state the nature of the message. For example, “ITM320 Request an appointment”, or “ITM320 HELP I’m Stuck !!!” I receive 40-50 emails per day so I use the subject line to prioritize which ones I answer when.
2. **MESSAGE --always include your name.** I often can’t tell from the email address.
3. **Replying --**When you reply to an email, ALWAYS use the reply, so your note is added to the trail of prior messages. If it is a new subject, then edit the Subject line so it is appropriate.
4. **If you are requesting an appointment,** give me choices for times that work for you in the e-mail. Add a phone number if necessary so we can schedule something quickly.
5. **ATTACHMENTS are great to use.** If you want feedback on something, attach it whether it is a Word Doc, an Enterprise Architect model or an Access Database.

Class Attendance

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Attendance is expected at every class session. While I do not take role, I do know who is attending and who is not. Understand that there is **no makeup for any in-class points** because we usually discuss the answers after doing it. Any class period is an opportunity for the instructor to assign in-class points, whether it is stated in the schedule or not.

If an assignment is due for a class that you will not be able to make it to, you may email it to me so that I receive it before the class. This will count as one of your 2 late assignments, but I will not take off points.

If you miss a class, check Blackboard! You are responsible for obtaining your own notes, lecture slides, assignment information, online discussions, etc. from the course web and/or other students.

Policy on Cheating and Plagiarism

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Plagiarism occurs when a person passes in another person's work as his or her own, or borrows directly from another's work, without clearly showing what was borrowed and from whom it was borrowed. Basically, it is plagiarism if the reader can not easily tell that something came from someone other than you.

Read the [COBE Writing Guide](#) for more information about plagiarism and how to avoid it. The Guide includes examples for how to correctly cite ideas and quotations from a variety of sources. I expect you to follow its standards. The excuse, “I didn’t know...” will not work. Don’t mess around with me on this!!!

For an individual assignment, I expect you to do it yourself. Usually it is fine to talk with other students, but the specific ideas and their expression must be yours and yours alone. If the ideas expressed on your paper are too similar to another student’s—whose name is not on the paper--I will assume you were plagiarizing. The first time you will receive a warning and half credit or no credit, depending on the circumstances. Plus, the incident will be reported to the student conduct office. The second time will be an automatic F for the course.

For a group assignment, **if you do not contribute, then do not put your name on it!** If you put your name on the assignment with the other group members, I expect that you contributed a fair share of the work. **If you did not, or if you disrupted the contributions of others, you will receive a warning and less than 100% of the group’s grade,** depending on the circumstances. The second warning will be an automatic F for the course.

Thoughts about how you can succeed in my class

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In a nutshell, here is my teaching philosophy....

* **Participate, Ask, Do**

Learning requires activity--talking, questioning, writing, and doing. Participating and asking questions--in and out of class--are equally important. Please, PLEASE ask questions, contribute your personal experiences

that are relevant to the discussions, and respond to questions I pose to yourself or the class. Likewise, I do not assign busy work. If you do not see the relevance, ask me how it relates.

* **Your Own Work**

I expect you to help one another outside of class. You are not competing. But, when I ask you to do an individual assignment, I expect that the product you turn in will be uniquely your own. I want to hear your thoughts and ideas, and I want to hear what you have learned from others (correctly cited!) In fairness to other students, and to you, I will deal very harshly with plagiarism, copying other's work, and any other such acts that are counter to responsible individual learning.

* **Contacting Me**

I am very accessible, and will make sure we can find a time to meet. I am also starting to be available via Skype. But E-Mail is always best--I read it often. Or leave me a voice mail message. If you need to turn something in when I am not around, slip it under my office door B-308-B.

* **Your Schedule Conflicts:**

We are all human. Regarding skipping class or missing deadlines, I understand that time conflicts do occur. I am very open to working around such conflicts, but you must communicate with me. Tell me what's up ahead of time, and I will work with you. But if it happens repeatedly, I will doubt your sincerity about learning, and become less flexible or suggest you try again some other semester.

* **Give Me Feedback**

My goal--my reason for teaching--is to make this class a rewarding learning experience for you. I am always open to constructive feedback about my teaching style, the course design, etc.--anything that I can do to help you learn. So be frank with me, in or out of class, in person or in writing, and I will be the same with you.

* **Twister**

As we get into the semester, the schedule will shift in order to keep the class moving at an appropriate pace and to accommodate some guest speakers. I will make announcements in class and on CourseInfo. The grading policy and point awards are more firm, although I reserve the right to change them after discussing changes with the class.

* **How Much Time To Put In**

In general, for ANY university class, you should plan to spend 2 to 3 hours out of class for every 1 hour in class. A 3 credit course is 2 1/2 hours of in-class time, and so 5 to 7 1/2 hours outside of class. In ITM320, that is my expectation. This class will be at the upper end of your workload.

For a 'B' in our class, I would expect you to spend, each week, about 1-2 hours reading (prior to the class it is discussed), 1/2 hour rewriting your notes AFTER class, and 1 - 3 hours on homework--exercises and project.

There are four phases the class goes through. The first part emphasizes heavier reading, including articles and quizzes. The second is on modeling, which requires more practice (and more homework). The third emphasizes the project—inside and outside class. The final part is picking up some topics through lecture and reading.

AFTERTHOUGHT Interestingly, a higher ed research group (NSSE) found the average student spends 10 or less hours on homework per week, TOTAL. That is a pretty dramatic gap between what instructors expect and what students put in. It is no wonder some people do not receive the grades they believe they should be given!

ITM320 Fall 2010 Course Schedule

Readings W= Karl Wiegers (2003) Software Requirements Second Edition.

BIB=articles from bibliography section on Blackboard

Week	Date	Topic	Readings	In-Class Activity	Home Work Due
		Sprint 1: Understanding the Analyst Roles, Rationales, and Methodologies	BA Environment Report Interview		
1.1	Tu 8/24	<u>Course Intro</u> Overview course design; Overview section; course map; Analyst jobs & roles	W-4	Essential Analyst Skills; Line Up-0 to Expert as BA, PM, SysArch	
1.2	Th 8/26	<u>Case for Reqs</u> Chaos; rationale why reqs are important	W-1 B-Chaos	QUIZ- Chaos & W-1	
2.1	Tu 8/31	<u>Lifecycles</u> SDLC, Methodology, Course Map	BIB-Whitten 1.1		
2.2	Th 9/2	<u>Project Initiation</u> Key concepts (system request, ethics, value, stakeholder, champion, PM, risk, feasibility, business driver, Kiviati diagram)	BIB-Principles BIB-Byrnolfson W-6	QUIZ-Compare Kiviats	
		Sprint 2: Planning the Project Developing a project plan via traditional and agile methods	Project Plan		
3.1	Tu 9/7	<u>Working Effectively in Teams</u> Discuss principles of working effectively in teams; identify key practices; meet briefly as team on Charter (BFP#1)	BIB-Hitchhikers	Discuss team practices; BFP Team Work on Charter	HW-Hitchhikers Essay HW-Take peer assessment
3.2	Th 9/9	Tradl. Project Management Concepts + Team Review Practice		EXE-Review; EXE-Critical Path Modeling	HW- Charter segment
4.1	Tu 9/14	Tradl. Project Management Concepts		EXE-Project Estimating	
4.2	Th 9/16	Agile Project Management Concepts		EXE-Agile team exercise	BFP #1
		Sprint 3: Visioning and Scoping Constructing the project vision, business case, scope, features, stakeholders, risks, and feasibility.	Vision/Scope Document		
5.1	Tu 9/21	<u>The Vision Scope Document</u> Writing the VSD, Section by Section Focus on Vision development	W-5	Teams review Visn Parts & consolidate	HW-Vision
5.2	Th 9/23	<u>The Vision Scope Document</u> Continued. Focus on Scope development	W-5 W-23 Risk	Teams review Scop Parts & consolidate	HW-Scope
6.1	Tu 9/28	BFP—Teams Develop Vision Scope Doc	BFP Team Work		
6.2	Th	BFP—Teams Develop Vision	BFP Team		

	9/30	Scope Doc	Work		
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		Sprint 4: Requirements Part 1-- Eliciting and Analyzing Requirement Statements How to gather, write, and validate requirements from stakeholders and business processes.	Business Requirements Document; Business Process Model		
7.1	Tu 10/5	Understanding and writing requirements	W-7 W-10 p181-192 P-4(BRD)	EXE-Teams Identify & write reqs by category (with written case & via interviews)	BFP #2
7.2	Th 10/7	<u>Group Requirements Elicitation</u> Interviewing & facilitating groups to elicit & model requirements	W-7 p113-119	Interviewing for reqs.	HW Interviewing
8.1	Tu 10/12	Requirements elicitation techniques		EXE-Creating an analysis plan	
8.2	Th 10/14	Business Process Modeling	BIB-Workflow?	EXE-Practice BP modeling	HW-Analysis Plan
		Sprint 5: Requirements Part 2-- Modeling Stories and Use Cases			
9.1	Tu 10/19	<u>Use Case Diagramming (UCD)</u>	W-8 p131-139	EXE-Practice UCD modeling	HW-Process Model
9.2	Th 10/21	<u>Use Case Specifications (UCS)</u>	W-8 p139-152	EXE-Practice UCS modeling	HW-UCD
10.1	Tu 10/26	<u>Use Case Specifications</u>	same	EXE-Practice UCS modeling	HW-UCS
10.2	Th 10/28	<u>Other Stories and Specifications</u> Writing stories, story and use case tradeoffs, other forms of specifications	W-11	EXE-Practice other models	HW- UCD+UCS
11.1	Tu 11/2	<u>BFP-Team work Use Cases</u>		BFP Team Work	
11.2	Th 11/4	<u>BFP-Team work Use Cases</u>		BFP Team Work	
		Sprint 6: Design			
12.1	Tu 11/9	<u>User Interface Design, Guest: Aaron Day</u> UI design principles, Web site design principles		Class Discussion	BFP #3
12.2	Th 11/11	<u>BFP-Prototype, Guest: Aaron Day</u> Sketch out UI for your BFP prototype	W-13	BFP Team Work	
13.1	Tu 11/16	<u>Quality Assurance</u> Internal and external quality; three defect goals; quality strategies; test cases	W-15		Draft UI Design
13.2	Th 11/18	<u>Moving on to Design</u> Translating req's into design documents			
XX	Tu 11/23 & 11/25	Thanksgiving			
		Sprint 7: Integration			
14.1	Tu 11/30	<u>Moving on to Implementation</u> Implementation issues, esp. scope creep and change control	W-19		

14.2	Th 12/2	<u>Agility</u> Managing your own development projects			
15.1	Tu 12/7	<u>Presentations & Review for Final Exam</u>			BFP #4
15.2	Th 12/9	<u>Presentations & Review for Final Exam</u>			
XX	Tu 12/14	Final Exam 7:40-8:55 AM class			
XX	Tu 12/14	Final Exam 12:15-1:30 PM class			