



# Oklahoma State University

## Spears School of Business

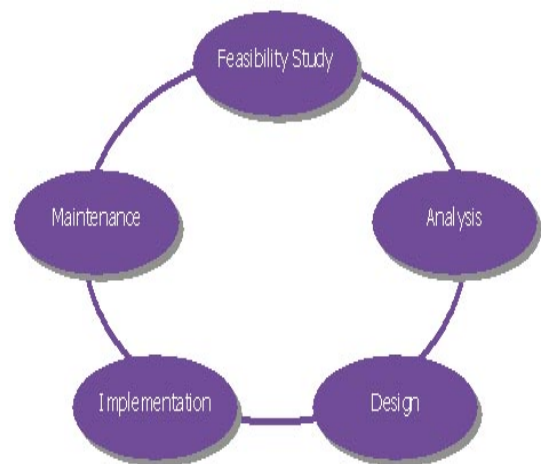
### Department of MSIS

## Advanced Systems Analysis and Design

MSIS 5653 CRN 26988 (online), 22728 (F2F section 1), 29214 (F2F section 2)

### Spring 2018 Course Outline

Systems Analysis and Design is fundamentally the *art* of problem-solving for building a modern information system. This course will explore the functions and methods of systems analysis and design from both theoretical and applied perspectives. The focus of this course is not on programming languages or tools but on analysis and design, which includes systems thinking, modeling, and agile approaches.



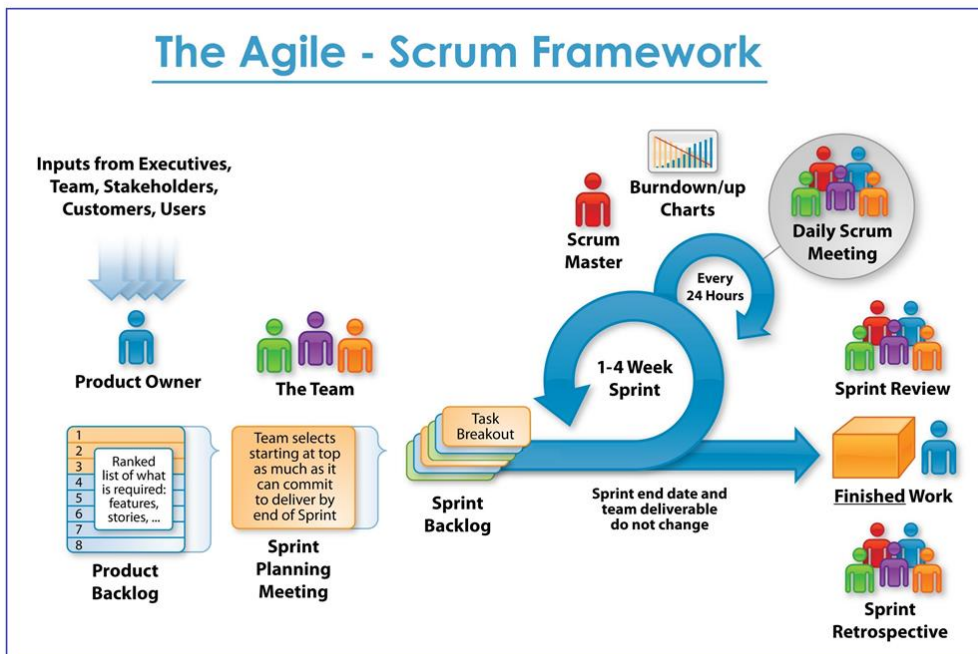
The course will be taught in a flipped class format, which is a teaching approach in which the typical lecture and homework elements of a course are reversed. Video lectures are viewed by students at home and miniquizzes are completed before the class session, while during class, rather than lecturing, all or a significant portion of the time is used for practice, application exercises, discussion-based activities, collaborative learning, paired problem-solving, question and answers, and other active learning techniques.

#### Learning Outcomes

Course Objective	Program Learning Goal
1. Students should be able to understand and apply systems thinking concepts.	<ul style="list-style-type: none"> <li>Critical and creative thinking</li> </ul>
2. Students should be able to compare and choose intelligently from among methods, tools, and techniques of systems analysis and design including agile and SDLC-based approaches.	<ul style="list-style-type: none"> <li>Business knowledge and competency</li> <li>Critical and creative thinking</li> </ul>
3. Students should be able to model organizational scenarios using techniques from data, process, and object modeling.	<ul style="list-style-type: none"> <li>Business knowledge and competency</li> </ul>
4. Students should understand the process of information systems development while working as a group member in a project.	<ul style="list-style-type: none"> <li>Business knowledge and competency</li> <li>Technology Skills</li> <li>Communication Skills</li> </ul>

5. Students should be aware of new developments in the IS/IT field

- Technology Skills
- Communication Skills



**Instructor**

Dr. Nik Dalal

**Office**

OSU-Stillwater, SSB 220

**Phone**

(405) 744-8618

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(405) 744-5180

**E-mail**

[nik@okstate.edu](mailto:nik@okstate.edu)

Email is usually the best way to communicate with me. Routine queries should be sent to my teaching assistant with a cc to me. I will be checking my email at least once every week day and will respond at my earliest, usually within 12 to 24 hours on weekdays.

**Office Hours**

Wed: 3:00 - 4.00 pm (in SSB 220), after class session, and by appointment

**Class time**

**[Advanced Systems Analysis and Design - 22728 - MSIS 5653 - 0](#)**

Class 4:30 pm - 7:10 pm T Morrill Hall 204

**[Advanced Systems Analysis and Design - 29214 - MSIS 5653 - 0](#)**

Class 7:20 pm - 10:00 pm T Morrill Hall 204

**[Advanced Systems Analysis and Design - 26988 - MSIS 5653 - 0](#)**

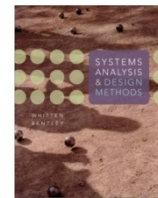
**Online**

**Class Web Site**

Course Site: (Brightspace by D2L): <http://online.okstate.edu> or <http://my.okstate.edu> (choose Online Classroom after logging in)  
Online Learning Support: [spearsonline@okstate.edu](mailto:spearsonline@okstate.edu)

**Required text**

Whitten, Jeffrey L. and Lonnie D. Bentley.  
Systems Analysis and Design Methods. 7th  
edition, New York: McGraw-Hill/Irwin 2007

**Modeling software**

There is no required software for this course but one may choose from many modeling/diagramming/CASE/project management tools such as MS Project, MS Visio, open-source diagramming tools (such as [DBDesigner 4](#) and [Open ModelSphere](#)) and CASE tools such as [System Architect](#) and [Visible Analyst](#). Or try out a simple easy to use web-based diagramming tool such as [Gliffy](#).

**Exercises**

There will be weekly exercises to be explored at home prior to class and to be done in the class, dealing with modeling, discussion, research, project, and simulation. If you miss class, you lose points. An online student will work on the exercises independently or collaboratively with another online student though their submission is independent. After the exercise is done in class, an acceptable submission is made to the instructor. Non-acceptable submissions will be returned. These exercises must be submitted and must reflect the student's final work. Each exercise should be submitted online in the Brightspace drop box as a **single** MS Word file. Models created using any tool must be copied and pasted as graphic images in Word or pdf. **DO NOT SUBMIT OTHER FILE FORMATS.** (If greater or fewer than 120 total points are assigned to exercises, the scores will be scaled down or up to a max. of 120 points in the same proportion.)

**Quizzes**

There will be several mini-quizzes available on a weekly basis to help you assess your learning. These on-line quizzes will be available on Brightspace. Although you may take the quiz as an open book/ open notes quiz, you should be aware that the quizzes are timed and you will not necessarily have time to look-up quiz answers. Therefore, you should study for the quiz before you take it. If you miss the deadline, you will not be able to take the quiz later. There are no makeup quizzes but the two lowest quiz scores will be dropped from the evaluation at the end of the semester. After taking the quiz, you are on

an honor system and you should not discuss the quiz items with other class members. Assistance in answering the quizzes from another person or discussing quiz items with other students in the class prior to the quiz deadline will not only prevent your learning but will also be considered cheating.

1. Before you start a miniquiz, be sure to start and finish a sample quiz to ensure that your Internet connection and the Brightspace quiz feature works correctly on your browser/machine.
2. For your convenience, each miniquiz may be taken up to two times, and many of the questions may be different the second time. If you decide to take it twice, the average of the two scores will be used as your final score. (Obviously, if you score a full 5 points in the first attempt, you do not have to take the miniquiz a second time!)
3. Be sure you save every answer before you go to the next question.
4. Do not exceed the miniquiz time limit. If you exceed the time limit by more than ten seconds, your score will be reduced to zero and additional penalties may be considered.

## Tests

There will be one mid-term and one final test. The tests may include a combination of multiple-choice, fill-in-the-blanks, matching, modeling, and short answer essay questions. The test will be online on Brightspace, closed book, closed notes, and taken in a proctored environment.

Online students only: Within the first week of class, go to the Spears School of Business Online Learning website to choose a proctor at: <https://spearonline.okstate.edu/proctor-per-course>. Then make your appointment directly with your testing center to take each exam. Contact the Spears School Online Learning office at [spearonline@okstate.edu](mailto:spearonline@okstate.edu), or call (405) 744-4048 if you have any questions regarding the proctoring process. You may also visit <http://spears.okstate.edu/online/guide>.

## Project

Each student will work on a team project involving the complete systems development lifecycle in which you will develop a system or a mobile app for a real-world organization. Depending on class size, the team may consist of 3 (max 4) students. You will be responsible for selecting team members; finding a real-world organization need that can be met with an information system; organizing and planning the systems development project; modeling/analysis; systems design; selection of programming tools for implementing the design; building a prototype system, and presenting your work. Stay tuned for detailed project guidelines later.

**Current topic presentation (CT)**

Student groups will be assigned to make presentations on current pre-selected systems topics in class. As the systems landscape is constantly changing with new developments, we will be exploring innovative tools, technologies, and solutions. The CT will relate to systems analysis and design/software engineering and may include **demonstrations** of software development tools, new software development methodologies, new programming languages, development platforms (e.g., Eclipse), CASE tools (e.g., Papyrus, Oracle Designer), modeling tools (e.g. Rose Enterprise), etc.

**Participation and online discussion**

Watching lecture videos in advance, regular attendance, in-class participation, online discussion and professionalism is important for your success in this course. Online discussion is encouraged.

**What makes up a quality online discussion?**

- Input that creates awareness of issues
- Input that maintains the continuity and focus of the discussion at hand.
- Input that raises intelligent, critically-thought out even controversial issues
- Input that challenges the status-quo with well-reasoned arguments
- Input that provides an example from your own observations or experience of the current topic
- Input that is original - not a copy and paste from somewhere else

**Grading**

	<b>Exercises</b>	<b>120</b>
	<b>Miniquizzes</b>	<b>50</b>
	<b>Project</b>	<b>100</b>
<b>Current topic presentation (CT)</b>	<b>50</b>	
	<b>Participation</b>	<b>30</b>
	<b>Mid-Term Test</b>	<b>100</b>
	<b><u>Final Test</u></b>	<b><u>100</u></b>
	<b><i>Total</i></b>	<b><i>550</i></b>

*The final grade will be determined using a standard scale based on the total points: (>90%: A, 80-89%: B, 70-79%: C, 60-69%: D, <60%: F). A decision to curve (if needed) will be made only at the end of the semester.*

**Special Accommodations for Students**

According to the Americans with Disabilities Act, each student with a disability is responsible for notifying the University of his/her disability and requesting accommodations. If you think you have a qualified disability and need special accommodations, you should notify the instructor and request verification of eligibility for accommodations from the Office of Student Disability Services. Please advise the instructor of your disability as soon as possible, and contact Student Disability Services, to ensure timely implementation of appropriate accommodations. Faculty have an obligation to respond when they receive official notice of a disability but are under no obligation to provide retroactive accommodations. To receive services, you must submit appropriate documentation and complete an intake process during which the existence of a qualified disability is verified and reasonable accommodations are identified. Go to [www.okstate.edu/ucs/stdis/](http://www.okstate.edu/ucs/stdis/) or call 405-744-7116.

**Courtesy code**

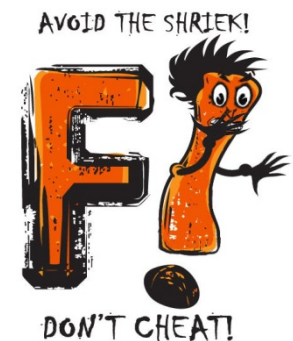
For online communication and discussion, please be aware of Netiquette. For details, visit the following hyperlinks.

- ◆ Rule 1: Remember the Human
- ◆ Rule 2: Adhere to the same standards of behavior online that you follow in real life
- ◆ Rule 3: Know where you are in cyberspace
- ◆ Rule 4: Respect other people's time and bandwidth
- ◆ Rule 5: Make yourself look good online
- ◆ Rule 6: Share expert knowledge
- ◆ Rule 7: Help keep flame wars under control
- ◆ Rule 8: Respect other people's privacy
- ◆ Rule 9: Don't abuse your power
- ◆ Rule 10: Be forgiving of other people's mistakes

**Academic Dishonesty**

You are expected to be aware of all kinds of academic dishonesty. Please check with the instructor if you have any doubts or questions. In particular, any work found to be similar to that on existing websites or similar to work done by current or former students in the past will be considered for plagiarism. **This will be checked by means of suitable software.**

Participating in a behavior that violates academic integrity (e.g., unauthorized collaboration, plagiarism, multiple submissions, cheating on examinations, fabricating information, helping another person cheat, unauthorized advance access to examinations, altering or destroying the work of others, fraudulently altering academic records, and similar behaviors) will result in a sanction. . Sanctions include: lowering of a letter grade, receiving a failing grade on an assignment, examination or course, receiving a notation of a violation of academic integrity (F!) on your transcript, and



being suspended from the University. You have the right to appeal the charge. Contact the Office of Academic Affairs, 101 Whitehurst, 405-744-5627.

**Syllabus Attachment**

See syllabus attachment for the current semester at <http://academicaffairs.okstate.edu/content/resources-faculty-staff>

**Writing**

This instructor identifies “fatal flaws” in writing in assignment submissions such as: misspelled words, sentence fragments, run-on sentences, erroneous capitalizations, incorrect punctuation, mistakes in verb tense or subject/verb agreement, improper citations, incorrect word usage, awkward writing, and lack of conformity with assignment format (as identified by Carol DeMoranville at Bryant University.)

The Writing Center can offer you a free fifty-minute session with a trained writing consultant. The consultant will read over your text and discuss ways you can improve your composing strategies and strengthen your writing habits. See <http://english.okstate.edu/writing/appointment.html>. Also that they have a Writer’s Hotline (744-6671 or email [writingcenter@okstate.edu](mailto:writingcenter@okstate.edu)) to answer quick writing questions that do not require a 50-minute consultation.

**Tentative Schedule**

A tentative schedule follows. Changes if any to this schedule will be announced in class. **Several changes are likely.**

Week	Week starting  (Shows Monday of the week; class is on Tue)	Topic	Exercises/ Project	Miniquiz	Required Readings
1	1/15	Overview of course, Context of systems analysis and design methods, Problem solving	P1: Proposal P2: Req. specs P3: Design specs P4: Prototype and Final Report P5: Presentation  E1	Practice quiz (Always available) MQ 1	M: Main text: By Whitten and Bentley  Class Brightspace site may have additional readings  M1

2	1/22	Systems thinking, Problem-Solving, Information systems development	E2	MQ 2	M3, Brightspace Skip M2
3	1/29	Systems analysis, requirements discovery, feasibility analysis	E3	MQ 3	M5, M6, M11
4	2/5	Modeling system requirements with use cases	E4, P1	MQ 4	M7
5	2/12	Data modeling and analysis	E5	MQ 5	M8
6	2/19	Process Modeling	E6	MQ 6	M9
7	2/26	Project Management and Agile methods	E7, P2	MQ 7	M4
8	3/5	Agile methods and SCRUM	E8	MQ 8	Brightspace, TBA
9	3/12	<b>Test 1 on 3/13</b>	T1		
10	3/19	NO CLASS March 19-23: Students' Spring Break			
11	3/26	Systems Design, Application architecture and modeling, Database design	E9, P3	MQ 9	M12, M13, M14
12	4/2	Object-oriented analysis and design with UML	E10, P4	MQ 10	M10
13	4/9	Input, output, and interface design	E11	MQ 11	TBA and M15, M16, M17
14	4/16	Systems construction and implementation issues	E12, P5	MQ 12	M19, M20
15	4/23	CTs and Project presentations			
16	4/30	CTs and Project presentations	T2		



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17		Test 2 during official allocated time on 5/18			
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*The instructor reserves the right, when necessary, to modify the syllabus: alter the grading policy, change examination dates, and modify the course content. Modifications will be announced in class and/or discussed on the class website. Students are responsible for those changes.*