

# **INF 496/596 PAD 424/524: Strategy and Systems Thinking (3 credit hours)**

**Meeting Information:** Tuesdays 4:15 – 7:05 PM in room HU133

## **Instructor: Luis F. Luna-Reyes**

Office location: BB004

Office hours: Tuesdays and Thursdays 12:00 – 1:00 PM

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## **Course Information:**

### **Course description:**

This is a course designed to teach key aspects of strategic planning and systems thinking without teaching mathematical systems modeling. The course will draw together and teach key concepts from the strategic planning and system thinking literature using cases, examples, and computer-based gaming environments.

The course presents a set of concepts and tools for thinking through complex system-wide problems that challenge managers' ability to design and manage large initiatives, strategies and programs. Students will learn to diagnose and solve complex system-level problems by applying strategy planning and systems thinking tools to case examples. Although the course has an emphasis on system dynamics, we will also learn other system approaches to management. This course can be counted as an elective in several of the existing MPA and MPP concentrations as well as the PhD in Information Science.

### **Course Approach:**

I believe that learning occurs when we all engage in reading, discussing and doing some tasks. I also believe that learning happens only when the learner commits to his or her own learning. In this way, the class is organized around a series of readings and cases for class discussion.

### **Course Goals:**

By the end of the semester, you should be able to:

- Value the importance of understanding causality in problem solving and strategy making.
- Think about a problem following a holistic approach.
- Use systems thinking tools to diagnose complex problems.
- Value the importance of the social process involved in making strategy.

## Readings & Additional Required Materials

### Required readings:

- Ackermann, F., Andersen, D. F., Eden, C., & Richardson, G. P. (2011). ScriptsMap: A tool for designing multi-method policy-making workshops. *Omega*, 39(4), 427–434. <http://doi.org/10.1016/j.omega.2010.09.008>
- Ackermann, F., & Eden, C. (2011). *Making Strategy: Mapping Out Strategic Success* (Second Edition edition). London: SAGE Publications Ltd.
- Andersen, D. F., & Richardson, G. P. (1997). Scripts for group model building. *System Dynamics Review (Wiley)*, 13(2), 107–129.
- Chen, D. Q., Mocker, M., Preston, D. S., & Teubner, A. (2010). Information Systems Strategy: Reconceptualization, Measurement, and Implications. *MIS Quarterly*, 34(2), 233–259.
- Jackson, M. C. (2003). *Systems Thinking: Creative Holism for Managers* (1 edition). Chichester, West Sussex ; Hoboken, N.J: Wiley.
- Lane, D. C. (2008). The emergence and use of diagramming in system dynamics: a critical account. *Systems Research and Behavioral Science*, 25(1), 3–23. <http://doi.org/10.1002/sres.826>
- Luna-Reyes, L. F., Martinez-Moyano, I. J., Pardo, T. A., Cresswell, A. M., Andersen, D. F., & Richardson, G. P. (2006). Anatomy of a group model-building intervention: building dynamic theory from case study research. *System Dynamics Review (Wiley)*, 22(4), 291–320. <http://doi.org/10.1002/sdr.349>
- Porter, M. E. (1996). What Is Strategy? *Harvard Business Review*, 74(6), 61–78.
- Richardson, G. P., & Andersen, D. F. (1995). Teamwork in group model building. *System Dynamics Review (Wiley)*, 11(2), 113–137.
- Senge, P. M. (1994). *The Fifth Discipline Fieldbook: Strategies and Tools for Building a Learning Organization* (1 edition). New York: Crown Business.
- Senge, P. M. (2006). *The Fifth Discipline: The Art & Practice of The Learning Organization* (Revised & Updated edition). New York: Doubleday.

### Required Additional Materials:

Personal, portable laptop or tablet for use during class.

## Class Meetings

The class meets every Tuesday from 4:15 to 7:05 pm. It is *very* important that you attend class.

## Course Policies

### Attendance:

Attendance is expected in every class and students are expected to arrive on time. If you foresee a time conflict in advance that will prevent attendance at a class or exam or completion of an assignment, you need to report this prior to scheduled class time. An absence will only be considered excused if it was previously discussed and agreed upon by me.

Students absent (for any reason!) for more than 20% of classes (3 classes) will receive a grade of E.

Plan carefully for classes that you know you will need to miss. Work, religious practice, sports team travel, military duty, club activities, fraternity/sorority obligations, family responsibilities, assignments for other courses, and even brief illnesses, etc.—these are your responsibility to manage. If you need to be out of class for any of these, make sure you have conserved your allowable absences (i.e. no more than three!) to cover the class you need to miss.

### **Grading & Evaluation Methods:**

*The grade breakdown for the course is:*

- Mid-term paper: 30%
- Final paper: 30%
- Class presentation: 25%
- In-Class Participation: 15%

*A-E graded:*

93 – 100%	A	77 – 79%	C+	60 – 62%	D-
90 – 92%	A-	73 – 76%	C	0 – 59%	E
87 – 89%	B+	70 – 72%	C-		
83 – 86%	B	67 – 69%	D+		
80 – 82%	B-	63 – 66%	D		

*Make-up Policy:*

There are generally no make-up opportunities for missed assignments and quizzes.

*Late Assignments:*

Assignments are due on the due date at the specified time, in class or submitted through Blackboard, depending on the assignment. Late assignments will be accepted, but at the cost of a full letter grade for missing the first deadline and an additional letter grade for each additional 24 hours late. No work will be accepted five days past the original due date or the last day of classes for the semester at noon, which ever date falls first.

### **Other Course Information:**

#### **CEAS Showcase:**

On December 1st, the Department of Informatics is having a showcase event from 2:00 pm to 5:00 pm. It will provide an additional opportunity to learn about other courses and projects.

#### **Withdrawal from the course:**

The drop date for the Spring semester is Tuesday, November 9 for undergraduate students. That is the last date you can drop a course and receive a 'W'. It is your responsibility to take action by this date if you wish to drop the course. In particular, grades of "incomplete" will not be awarded to students because they missed the drop deadline.

### **Cell phones, tablets & laptops:**

Please make sure your phones and other electronic devices are turned off before entering the classroom unless we are doing a class exercise where they are required. Use of phones, tablets, computers, etc. for non-class purposes during class will count against you in your class participation grade. While you may be using computers in class, texting, using Facebook, etc., are not appropriate uses of class time and your participation grade will suffer for it.

### **Incompletes:**

As per the Undergraduate Bulletin, the grade of Incomplete (I) will be given "only when the student has nearly completed the course requirements but because of circumstances beyond the student's control the work is not completed." A student granted an incomplete will make an agreement specifying what material must be made up, and a date for its completion. The incomplete will be converted to a normal grade on the agreed upon completion date based upon whatever material is submitted by that time.

*Important:* Incompletes will not be given to students who have not fulfilled their classwork obligations, and who, at the end of the semester, are looking to avoid failing the course. This is asking for special treatment.

### **Academic Integrity**

It is every student's responsibility to become familiar with the standards of academic integrity at the University. Claims of ignorance, of unintentional error, or of academic or personal pressures are not sufficient reasons for violations of academic integrity. See [http://www.albany.edu/undergraduate\\_bulletin/regulations.html](http://www.albany.edu/undergraduate_bulletin/regulations.html)

Course work and examinations are considered individual exercises. Copying the work of others is a violation of university rules on academic integrity. Individual course work is also key to your being prepared and performing well on tests and exams. Forming study groups and discussing assignments and techniques in general terms is encouraged, but the final work must be your own work. For example, two or more people may not create an assignment together and submit it for credit. If you have specific questions about this or any other policy, please ask.

The following is a list of the types of behaviors that are defined as examples of academic dishonesty and are therefore unacceptable. Attempts to commit such acts also fall under the term academic dishonesty and are subject to penalty. No set of guidelines can, of course, define all possible types or degrees of academic dishonesty; thus, the following descriptions should be understood as examples of infractions rather than an exhaustive list.

- Plagiarism
- Allowing other students to see or copy your assignments or exams
- Examining or copying another student's assignments or exams
- Lying to the professor about issues of academic integrity
- Submitting the same work for multiple assignments/classes without prior consent from the instructor(s)
- Getting answers or help from people, or other sources (*e.g.* research papers, web sites) without acknowledging them.
- Forgery
- Sabotage
- Unauthorized Collaboration (just check first!)
- Falsification
- Bribery

➤ Theft, Damage, or Misuse of Library or Computer Resources

Any incident of academic dishonesty in this course, no matter how "minor" will result in

1. No credit for the affected assignment.
2. A written report will be sent to the appropriate University authorities (e.g. the Dean of Undergraduate Studies)
3. One of -
  - A final mark reduction by *at least* one-half letter grade (e.g. B → B-, C- → D+),
  - A Failing mark (E) in the course, and referral of the matter to the University Judicial System for disposition.

Policies from Undergraduate Bulletin: [http://www.albany.edu/undergraduate\\_bulletin/regulations.html](http://www.albany.edu/undergraduate_bulletin/regulations.html)

### Responsible Use of Information Technology

Students are required to read the University at Albany Policy for the Responsible Use of Information Technology available at the ITS Web Site:

<https://wiki.albany.edu/display/public/askit/Responsible+Use+of+Information+Technology+Policy>

### Time Management

For every credit hour that a course meets, students should expect to work 3 additional hours outside of class every week (3 x 3= 9). For a three-credit course you should expect to work 9 hours outside of class every week. Manage your time effectively to complete readings, assignments, and projects.

### Available Support Services

#### Reasonable accommodation

Reasonable accommodation will be provided for students with documented physical, sensory, cognitive, learning and psychiatric disorders. If you believe you have a disability requiring accommodation in this class, please notify the Director of Disability Resource Center (Campus Center 137, 442-5490). That office will provide the course instructor with verification of your disability, and will recommend appropriate accommodations. In general, it is the student's responsibility to contact the instructor at least one week before the relevant assignment to make arrangements.

### Course Outline and Schedule

The following schedule of lecture topics and reading assignments is preliminary and may be changed as the semester progresses. The final schedule and specific homework and lab assignments and materials will be provided in Blackboard. Students are expected to have read the listed material before it is covered in class. Unannounced "reading quizzes" will be given throughout the semester.

Date	Topic	Readings	Individual Assignments
09/01	Introduction and Overview	None	

Date	Topic	Readings	Individual Assignments
09/08	What is Strategy	(Ackermann & Eden, 2011, Ch 1-2; Chen, Mocker, Preston, & Teubner, 2010; Porter, 1996)	Sunpower Case
09/15	What is Systems Thinking	(Jackson, 2003, Ch. 1-3)	Digital Divide Data Case
09/22	No Class		
09/29	Hard Systems Thinking	(Jackson, 2003, Ch. 4)	
10/06	System Dynamics 1	(Jackson, 2003, Ch. 5; Senge, 1994, pp. 97-103, 113-120, 2006, Ch. 4)	
10/13	System Dynamics 2	(Senge, 1994, pp. 121-150, 2006, Ch. 5)	
10/20	System Dynamics 3	(Lane, 2008)	
10/27	System Dynamics 4	(Ackermann, Andersen, Eden, & Richardson, 2011; Andersen & Richardson, 1997; Luna-Reyes et al., 2006; Richardson & Andersen, 1995)	Richardson School Case Mid-term paper
11/03	System Dynamics 5	None	
11/10	System Dynamics 6	None	
11/17	Complexity Theory	(Jackson, 2003, Ch. 7)	Team 1 presentation
11/24	SAST	(Jackson, 2003, Ch. 8)	Team 2 presentation
12/01	Interactive Planning	(Jackson, 2003, Ch. 9)	Team 3 presentation
12/08	Soft Systems Methodology Total Systems Intervention	(Jackson, 2003, Ch. 10 and 14)	Team 4 presentation Final Paper Due