INTRODUCTION

Engineers, social scientists, and managers frequently bring people and technology together to address complex problematic situations in an equitable way that benefits people and the environment. Multiple systems concepts and methods have been developed to address these situations, and typical courses in systems focus on a relatively small portion of the rich assortment of available approaches to addressing systems problems. This course introduces students to multiple systems concepts and methods via readings and class lecture. The students then apply these concepts and methods on team-based projects. The course will emphasize critical thinking about how the concepts and methods are applicable to the problematic situations of the projects and how well the project teams were able to perform the required activities.

This document contains basic information about the SYS 530 class, including contact information for the instructor. The distribution of reading material, project assignments, etc. uses Purdue's Brightspace site. Students must register for SYS 530 to access the class page on Brightspace. Any information given in class or via Brightspace will supersede information given in this document.

Meeting Times and Location
Monday, Wednesday, Friday 3:30-4:20 ET (13-Jan to 3-Feb)
WANG Room 2579

Instructor
Dr. Jason C. Reinhardt
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Web Page: http://web.ics.purdue.edu/~reinha19/
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Office Hours: You have two options to request a meeting with Professor Reinhardt.
1. For a more seamless meeting request interaction, create an Exchange meeting request by accessing your purdue.edu account via a browser at https://outlook.office365.com or via the Outlook desktop application, which has Meeting Planning and Scheduling Assistant capabilities
2. Check the Bookings link at Professor Reinhardt's email signature, or type up and send an e-mail that suggests a couple of times to meet, and wait for an e-mail response from Professor Reinhardt

Teaching Assistants

Dongyang Li	Cassandra McCormack
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Office hours: Please contact via e-mail to ask a question or to set up a phone or Webex appointment.	Office hours: Please contact via e-mail to ask a question or to set up a phone or Webex appointment.

SYLLABUS

Course Outcomes
There are five key learning outcomes for this course:
1. Learning about group project team formation, operation, and evaluation
2. Learning and applying the viable system model in a team environment
3. Learning and applying critical systems heuristics and soft systems methodology in a team environment
4. Learning and applying a collection of functionalist systems methods in a team environment
5. Developing written and oral communication products to present results

Course Goals
This course has two major goals:
1. Introduce multiple systems concepts and methods via readings, class lecture, reflective writing assignments, and selected projects
2. Emphasize critical thinking about the concepts and methods
   a. How they relate to each other
   b. How they might be applied individually and in combination

Prerequisites
Graduate students and undergraduate students with Upper Division standing from all majors are welcome.

Course Topics
Table 1 shows the nominal course topics that cover the system concepts and methods. This is subject to change.

Table 1. Course Topics

Module	Lecture	Topics
1 – Intro	1	Welcome, Systems Language, and Course Admin
	2	Systems Thinking, Terms, and Methods
2 – Groups	3	Groups, Teams, and Online Project Teams
3 – Viable System Model	4	The Viable Systems Model Part 1
	5	The Viable Systems Model Part 2
4 – Soft Systems Methods	6	Soft Systems Methodology
5 – Critical Systems Heuristics	7	Critical Systems Heuristics and Concept Generation Part 1
	8	Critical Systems Heuristics and Concept Generation Part 2
6 –Concept Generation and Concept Selection	9	Concept Generation and Concept Selection
	10	Recap and Catch-up (TBD)

There is a PDF Calendar File posted to Brightspace that serves as a master schedule for all class sessions and assignments that is updated regularly. If you have issues with access to this file, please contact the ITaP Customer Service Center.
       By Phone: +1-765-494-4000
       By Email: itap@purdue.edu

Policies
Academic Integrity
Academic integrity is one of the highest values that Purdue University holds.
Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

Purdue's Honor Pledge was developed by students to advance a supportive environment that promotes academic integrity and excellence. It is intended that this pledge inspires Boilermakers of all generations to stay "on track" to themselves and their University.

<div align="center">

As a Boilermaker pursuing academic excellence,
I pledge to be honest and true in all that I do.
Accountable together – We are Purdue.

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Assignments and Projects
The course format is that of a reading / lecture / projects. An Excel file that shows the reading assignments for the lectures is posted to Brightspace. Check Brightspace often, as the schedule and assignments will change as the semester progresses. Access to Brightspace is restricted to students currently enrolled in the course.

Team Exercises and Projects
Students will complete three team exercises and three team projects during the semester. These exercises and projects will provide students with the opportunities to practice applying some of the concepts and methods encountered during the semester. Exercises and project will require students to submit team reports, team briefings, and individual peer evaluations of team members. The project assignment descriptions will be available from Brightspace.

The project teams will be formed the second week of the semester and a team charter will be required that will lay out the norms for operating the team and an initial schedule for how the team will complete the three exercises and the three projects activities. It is advisable to do some of the activities toward completing the exercises and projects in parallel. ***Project teams have found that they need to meet at least twice per week to be successful.***

The first project activity will be based on organizational system and problematic situation of a community partner / sponsor and will apply the Viable System Model to the understand the context of the community partner / sponsor viewed as a complex organizational system that meets multiple needs in a manner that is equitable for the principal stakeholders.

The second project activity will apply Soft Systems Methodology and Critical Systems Heuristics to the problematic situation identified jointly by the team and the community partner / sponsor informed by results of applying the Viable System Model. The project activity will identify a set of feasible and locally (culturally) acceptable actions to address the problematic situation. The situation should include multiple participants who have different needs that must be accommodated to meet a need in a manner that is equitable for the principal stakeholders.

The third project activity will select identify a subset of the recommended actions from the second project activity and define a system concept that will practice applying functionalist systems methods to the

situation of a single provider of a single-system product or service that meets the needs of a segment of society in a manner that is equitable for the principal stakeholders. Example categories of system concepts that might be considered are information technology systems, production systems, and business processes.

Course Materials
The is no required book for this course. There will be readings from journal articles, online texts, and other sources. These readings can be accessed either as files posted on the Brightspace site or via the links provided.

Guidelines for Readings
During each class period, the instructor will lecture on the assigned reading material. The timing of these readings appears in the Excel file on Brightspace. Students are expected to read the assigned material using the Perusall application, take notes in the Perusall application, and submit any artifacts requested.

Most of the lectures should focus on assisting the entire class to bring themselves to a level at which they can evaluate the topics. This evaluation may include how the topics relate to previous class lectures, how and where they fit into the universe of systems concepts and methods, how the topics may improve systems thinking, and the practicality of the topics. Keep in mind that not everyone will share the same point of view.

How Perusall Works
Perusall helps you master readings faster, understand the material better, and get more out of your classes. To achieve this goal, you will be collaboratively annotating the readings with others in your class. The help you will get and provide your classmates (even if you do not know anyone personally) will get you past confusions quickly and will make the process more rewarding. While you read, you will receive answers to your questions, help others resolve their questions (which also helps you learn), and advise the instructor how to make class time most productive. You can start a new annotation thread in *Perusall* by highlighting text, asking a question, or posting a comment; you can also add a reply or comment to an existing thread. Each thread is like a chat with one or more members of your class, and it happens in real time. Your goals in annotating each reading assignment are *to stimulate discussion by posting good questions or comments* and *to help others by answering their questions*.

Research shows that by annotating thoughtfully, you will learn more and get better grades, so here is what "annotating thoughtfully" means: Effective annotations *deeply engage points in the readings, stimulate discussion, offer informative questions or comments, and help others by addressing their questions or confusions*. To help you connect with classmates, you can "mention" a classmate in a comment or question to have them notified by email (they will also see a notification immediately if online), and you will receive a notification when your classmates respond to your questions.

For each assignment *Perusall* will evaluate the annotations you submit prior to the due date. Based on the overall body of your annotations, you will receive a score on a continuous scale from 0 to 100 for each assignment as follows

- 90 - 100 = demonstrates exceptionally thoughtful and thorough reading of the entire assignment
- 70 - 90 = demonstrates thoughtful and thorough reading of the entire assignment
- 60 - 70 = demonstrates superficial reading of the entire assignment OR thoughtful reading of only part of the assignment
- 0 - 60 = demonstrates superficial reading of only part of the assignment

When *Perusall* looks at your annotations, it is attempting to measure the effort you put in your study of the text. Superficial or short comments or questions can serve to initiate interaction with your peers, but do not reflect the effort that the *Perusall* looking for. Is it looking for thoughtful questions or comments that stimulate discussion or thoughtful and helpful answers to other students' questions. The number of thoughtful annotations for each reading assignment varies according to the length of the assignment. Note, also, that to lay the foundation for understanding the in-class activities, you must familiarize yourself with each assignment *in its entirety*. Failing to annotate the entire assignment will result in a lower score.

Missed or Late Work
__The instructor will not accept late work.__
The official due dates for all work are those listed on the Calendar of the course home page on Brightspace. In extraordinary circumstances such as natural disasters, grief/bereavement, military service, jury duty, parenting leave, and debilitating illness, the instructor will accept late work. For late homework to be considered for grading, the student must provide the instructor a written request with justification as to why the circumstance is extreme. The request must be consistent with a notification issued by the Dean of Students (https://www.purdue.edu/advocacy/students/absences.html).

Course Grades
Because this course will be a reading / lecture / project class, grades will be based on your ability to critically read and understand the readings, and to complete artifacts, exercises, and projects during the semester that make use of the topics and methods presented in the course.

There will be a numerical score for each assignment. The exercises and projects involve groups using the concepts and methods with no single correct answer, so the grading of the course will account for this. If students have a concern about a grade on their work, they should bring it to the attention of the teaching assistant or instructor. Requests for reconsideration / regrading must be made within one week of when the work is returned to students.

Computation of final course grades will use the following distribution of weights:

Assignment	Weight	Scoring Basis	Evaluators
Module 1 Reading (48 Pages)	3%	Individual	Perusall
Peer Rating Reading	1%	Individual	Perusall
Module 2 Artifacts	1%	Individual	Peers
Module 2 Reading (22 Pages)	2%	Individual	Perusall
CATME Team Maker Survey	3%	Individual	Instructor
Module 3 Reading (60 Pages)	4%	Individual	Perusall
Module 4 Reading (71 Pages)	4%	Individual	Perusall
Module 5 Artifacts	1%	Individual	Peers
Module 5 Readings (47 Pages)	3%	Individual	Perusall
Team Charter	4%	Team	TAs
Team Exercise 1	2%	Team	TAs
Module 6 Reading (48 Pages)	3%	Individual	Perusall
Team Exercise 2	2%	Team	TAs

Assignment	Weight	Scoring Basis	Evaluators
Team Exercise 3	2%	Team	TAs
Viable Systems Model Presentation	4%	Team	TAs
Viable Systems Model Report	8%	Team	TAs
1st Peer Evaluation Inputs on Rest of Team	3%	Individual	Instructor
1st Peer Evaluation Result	5%	Individual	Peers
Soft Systems Presentation	7%	Team	TAs
Soft Systems Report	13%	Team	TAs
System Concept Presentation	4%	Team	TAs
System Concept Report	8%	Team	TAs
2nd Peer Evaluation Inputs	3%	Individual	Instructor
2nd Peer Evaluation Result	10%	Individual	Peers
	100%		

54% of the weighting is allocated to team results.
17% of the weighting is allocated to peer evaluation of individuals.
29% of the weighting is allocated to individual results.

Final letter grades for the course will use the table below. The total numerical score will be rounded to the nearest integer percent.

Numerical to letter conversion for final grades							
Score	Grade	Score	Grade	Score	Grade	Score	Grade
98 to 100%	A+	88 to 89%	B+	78 to 79%	C+	68 to 69%	D+
93 to 97%	A	83 to 87%	B	73 to 77%	C	63 to 67%	D
90 to 92%	A-	80 to 82%	B-	70 to 72%	C-	60 to 62%	D-

A total score of 59% or lower will always fail.

Attendance
The University Regulations Handbook reads: "Students are expected to be present for every meeting of the classes in which they are enrolled." If you must miss a class, you are responsible for the reading material, lecture, assignments, and/or announcements made.

Campus Emergencies
In the event of a major campus emergency, course requirements, deadlines, and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. Information about these changes will be available from the public website for this course, Brightspace, or via e-mail.