

IE 332: COMPUTING IN INDUSTRIAL ENGINEERING

Prerequisites	(CS156 / CS158 / CS159 / CS180 / CS220) and IE330
Instructor	Shimon Y. Nof Office hours: Any time by email, or open door at 255 GRIS nof@purdue.edu
Teaching Assistants	Narayanan P. Ramanarayanan Office hours: TBD nperuvam@purdue.edu Hao Zhong Office hours: TBD zhong11@purdue.edu
Lectures	MWF 12:30 pm- 1:20 pm (Lecture / Lab Lecture, WTHR 172)
Lab	W 1:30 pm- 3:20 pm (Lab Session A, PHYS 026) W 3:30 pm- 5:20 pm (Lab Session B, PHYS 026) Th 9:30 am - 11:20 am (Lab Session C, PHYS 026) Th 11:30 am - 1:20 pm (Lab Session D, PHYS 026) Th 3:30 pm - 5:20 pm (Lab Session E, PHYS 026)
Textbook	Rainer, R. K., & Cegielski, C. G. (2012). <i>Introduction to Information Systems: Supporting and Transforming Business</i> (4 th ed.). Wiley.
Website	Blackboard: https://mycourses.purdue.edu/
Email:	All class-related emails should be sent to <i>All Instructors and All TAs</i> . To prevent delay or loss by spam blockers, start the subject line with [IE332]

COURSE OBJECTIVES

Computing is fundamental to all engineers and also widely used in industrial engineering (IE). This course introduces the principles of core ideas and application areas in IE computing and continues the development of your critical thinking, problem solving, and engineering skills. Students completing the requirements of this course will acquire:

- Key useful computing skills in IE, which are also applicable in other IE courses; and
- Understanding of information technologies and systems, and their roles in business and service organization, global enterprises, and society.

COURSE PHILOSOPHY

Due to rapid innovations of information and computing technologies, a single textbook or an instructor cannot provide sufficient depth and breadth of the topics of this class. Thus, every participant, i.e., students, instructors, and TAs of this class is highly encouraged and expected to bring in new ideas and knowledge to class. Any constructive feedback to make this class more educational and inspirational is highly welcome. To make our evolutionary course sustainable, however, certain class policies will be strictly applied.

COURSE TOPICS

Students will accomplish the following learning throughout this course:

- a. Learn the structure, design, and value of modern information and telecommunication systems, including databases, knowledge management systems, wireless

- communication, and the Internet; their impacts on organizations from the perspective of workers, industrial engineers, and managers.
- b. Learn and use Computer Aided Design (CAD) functions and packages for simple product design and facility design, illustrated by AutoCAD[®].
 - c. Learn the logic of information relations, data quality, database models, query and search systems, and data mining; build and process a prototype database, illustrated by Microsoft Office Access[®].
 - d. Build simple discrete event simulation models, illustrated by Arena[®] and analyze them to support decisions about system design, planning, and control problems.
 - e. Learn introductory Enterprise Resource Planning (ERP) / Customer relationship management (CRM) / Supply Chain Management (SCM), illustrated by MERP[®].
 - f. Understand collaboration support systems and interactions among supply chain/network managers, e-Work, e-Business, and e-Commerce, illustrated by MERP[®] and HUB-CI.

GRADING

Learning Items	Dates	Percentages
Class participation	Every class	10 %
Homework and lab assignments	See Class Schedule	15 %
Group Project	See Class Schedule	15 %
Exam 1	F 9/27/13 (in class)	20 %
Exam 2 (non-comprehensive)	F 11/01/13 (in class)	20 %
Exam 3 (non-comprehensive)	Finals week	20 %
Total		100 %
Extra Credits		5 %

CLASS POLICY

- **Attendance**
 - 90% attendance of lectures (including lab preparation lectures) is mandatory.
 - No penalty if you miss four or less classes throughout the semester.
 - If you miss five or more lectures, you will get one letter grade down for each additional class you miss. For example, if you miss six classes, and if your original grade is “A+,” you will get “C+.”
 - Attendance is your responsibility, and will be assessed by active class participation and quizzes, and recorded on BlackBoard. Each student is responsible for checking out his/her attendance status.
 - 100% attendance of labs is mandatory.
 - If you miss one or more labs, you will get one letter grade down for each lab you miss. For example, if you miss two lab sessions, and if your original course grade is “A+,” you will get “C+.”
 - If you wish to attend another lab session instead of your designated one due to a schedule conflict (e.g., job interview), you should email the TAs and instructors in advance in order for the TA to help you reschedule, if feasible.
 - Follow the university class attendance policy at http://www.purdue.edu/studentregulations/regulations_procedures/classes.html

CAMPUS EMERGENCY

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. Changes about the course will be announced through the BlackBoard and/or class mailing list.

Follow the Emergency Plan for Grissom Hall below, similarly useful for other campus buildings.

Follow Purdue University Emergency Procedures:

<https://engineering.purdue.edu/IE/AboutUs/GrisSafety/QuickRef.pdf>

http://www.purdue.edu/emergency_preparedness/

Emergency Plan for Grissom Hall Personnel and Students

1. If building evacuation is necessary (e.g., a fire alarm), follow the exit signs and proceed to the Emergency Assembly Area. The Emergency Assembly Area for Industrial Engineering personnel is the East end of the Main Aisle of Stewart Center on the First Floor (Near the doors that go outside to the Memorial Union).
2. In the event of a tornado warning, members of Grissom Hall should proceed down the center staircase to the basement hall area. Try to stay away from the removable roof area. Anyone with a key should open Room B5 and all should take shelter in Room B5.
3. If you are directed to shelter in place, but you are unaware of the specific reason, proceed to the lowest level of the building (again Room B5 is an excellent choice) but continue to seek additional information by all possible means to determine the type of incident. Once you have determined the type of emergency, follow the below chart:
 - a) Weather-Related—Tornado Warning: Basement corridors, basement offices, basement restrooms Or the lowest level of the building (stay away from windows and doors)
 - b) Hazardous Materials (HAZMAT) Release: Remain or find an unaffected office or work area and close windows and doors.
 - c) Civil Disturbance—active shooter: Seek a safe location, preferable a room without windows that can be locked or secured by barriers.

The full building emergency plan can be found at

<https://engineering.purdue.edu/IE/AboutUs/GrisSafety>