

IE 332: Computing in Industrial Engineering

Syllabus for Spring 2015

Course Overview

Computing is fundamental to all engineering endeavors. This course introduces fundamental computing concepts and real-world applications of importance to IE. Students will continue to develop critical thinking, problem solving and engineering skills. Upon completing the course students will acquire key computing skills that are also applicable to other IE courses, in addition to an understanding of information systems technologies and their roles in business and society. **Prerequisites:** One of CS 156/158/159/180/220 and IE 330.

Instructor Mario Ventresca
Office hours: Open door or appointment (mventresca@purdue.edu)

Lectures MWF 10:30-11:20am in Mechanical Engineering Building 1130

**Lab
Instructors**

- Dawei Wang (wang337@purdue.edu)
- Hao Zong (zhong11@purdue.edu)

Office hours: T 10:00-11:45am in MGL 1307C

Labs All labs are held in Beering Hall of Lib Arts & Ed B286.

- R 9:30-11:20 (Dawei)
- R 11:30-1:20 (Dawei)
- R 1:30-3:20 (Hao)
- R 3:30-5:20 (Hao)

Textbook *Introduction to Information Systems* 5th Ed., R. Kelly Rainer, Brad Prince, Casey G. Cegielski.

Website <https://mycourses.purdue.edu/>

Important: Emails must be sent to ALL instructors, or you are unlikely to receive a response. To prevent delay or loss by spam blockers, use the subject line (without quotes and appropriate course component):
“IE332: lecture/lab/exam/quiz/other”

Learning Outcomes

Students will be able to:

1. Characterize the structure, design, and value of modern information and telecommunication systems.
2. Design basic models using Computer Aided Design functions (using AutoCAD).
3. Characterize and design Entity Relations Diagrams to express database models (using MS Access and MySQL).
4. Compute and interpret query systems for databases using SQL.
5. Build simple discrete event simulation models (with Arena).
6. Conduct real-time simulations with models for Enterprise Resource Planning (ERP), Customer Relationship Management (CRM) and Supply Chain Management (SCM).

Grading

Learning Item	Per Item	Total Percentage
Homework (3)	8%	24%
Labs (8)	2%	16%
Group project	25%	25%**
Exam 1	15%	15%
Exam 2	20%	20%

** potential maximum 5% course bonus for exceptional work.

Grade assignment: Your letter grade will be determined as follows, where X is your final percent grade:

Letter Grade	Percentage
A	$90 \leq X$
B	$80 \leq X < 90$
C	$70 \leq X < 80$
D	$60 \leq X < 70$
F	$X < 60$

Within each letter grade your mark will be further indicated by a '+' if your grade is in the upper half of the interval. For example, if your final percentage is 85-89 (inclusive) then you will receive a 'B+'. No '-' grades will be given. No grade curving will be conducted.

Class Policies

Attendance: The university class attendance policy is available at

http://www.purdue.edu/studentregulations/regulations_procedures/classes.html

- 90% of lectures (including lab preparation lectures) is mandatory. Attendance is your responsibility, and will be assessed by active class participation. Failure to attend lectures WILL result in a significant decrease in your grade (historically one letter downgrade for each missed class after four missed lectures).
- 100% attendance of labs is mandatory. Each missed lab will result in -2% of your course grade. If a special circumstance arises (e.g., a job interview) then you may attend a different lab for that week. To do so, FIRST contact the TA responsible for the lab and determine if a reschedule is possible. DO NOT attend a different lab without first contacting the TA. You must contact the TA in a timely manner (at least a few days in advance) as space is limited - do not assume you will be able to switch labs.
- Be on time for lectures, lab preparation lectures and labs. Late attendance (more than 10 minutes) will be considered as absence. If you are late for class please enter and seat yourself in a fashion that does not disturb the class.

Reading assignments: Students are expected to complete the assigned reading assignments before coming to class. Reading assignments are listed in the syllabus.

Homework: Three homework assignments; must be submitted with a SIGNED cover sheet in lectures before the due-date.

- MUST be done individually, and include any references (not including course notes or the textbook).
- You are encouraged to discuss with other students, but handing in highly similar work is plagiarism (see below) and will be punished accordingly.
- Assignments will be scanned and examined by SafeAssign, a plagiarism detection service available in Blackboard.
- Homework will NEVER be accepted past the due date.

Lab quizzes: One per lab.

- Eight lab quizzes will be posted on Blackboard on the day of the associated lab preparation lecture. The quiz must be uploaded to Blackboard before you can start the lab. Failure to do so will result in an ungraded lab and you will be considered absent from the lab (resulting in a lowered final grade, as indicated above in the Attendance section).

Examinations: There will be two comprehensive exams. Both will be held during the indicated lecture time.

- All examinations are closed book and no notes or electronic aides of any kind will be permitted.
- You must show your student ID during the examination or the exam will not be graded.
- All examinations must be written with blue or black pen. Examinations written with pencils or other erasable methods will not be permitted for regrade under any circumstance.
- Make-up examinations are permitted only for documented severe medical reasons. No make-up will be allowed for other reasons, including job interviews.

Group project: The group project will be done in teams of 4-6. Your team members must be indicated by the appropriate due date, as indicated in the group project description. After the project is complete each student may fill out a survey indicating workload distribution which will be used when decided individual grades.

Re-grading: Request for re-grading an examination or assignment will be considered only with a clearly written explanation, submitted in class only to the instructor and only AFTER at least 24 hours self-evaluation and within SEVEN days from the time the graded work is returned. The group project is not subject to regrading.

Class conduct: In order to ensure the best learning environment for yourself and your peers please:

- be courteous to your fellow students and instructors.
- turned off or put your cellular phones on silent mode. If you must answer the phone, please quietly leave the classroom.
- do not use laptops or tablets during class if you intend to play movies, video games, etc on them during the lecture or lab preparation lecture. This disrupts nearby students and negatively affects their learning experience and thus is not permitted. Failure to adhere to this request may result in loss of the privilege.
- raise your hand if you have any questions or comments during the lecture and wait until the instructor calls on you.
- do not chatter with friends or purposely disturb other students.
- leave and re-enter the classroom quietly if you must use the restroom. You do not need to ask permission to leave unless during an examination.

Misconduct: Any type of misconduct as defined in Student Conduct (Part 5) of the University Regulations will not be tolerated: <http://www.purdue.edu/studentregulations/>. The instructors will follow the regulations strictly. The following are a few examples of academic dishonesty:

- substituting on an exam for another student
- substituting in a course for another student
- paying someone else to write a paper and submitting it as one's own work
- giving or receiving answers by use of signals during an exam
- copying with or without the other person's knowledge during an exam
- doing class assignments for someone else
- turning in a paper that has been purchased from a commercial research firm or obtained from the internet
- padding items of a bibliography
- obtaining an unauthorized copy of a test in advance of its scheduled administration
- using unauthorized notes during an exam
- collaborating with other students on assignments when it is not allowed
- obtaining a test from the exam site, completing and submitting it later
- altering answers on a scored test and submitting it for a regrade
- stealing class assignments from other students and submitting them as one's own
- fabricating data
- destroying or stealing the work of other students
- using the exact language of someone else without the use of quotation marks and without giving proper credit to the author
- plagiarizing published material, class assignments, or lab reports
 - presenting the sequence of ideas or arranging someone else's material (even if expressed in one's own words) without giving appropriate acknowledgment
 - submitting work (in whole or part) written by someone else but representing it as your own

Emergency Procedures

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.

In case of emergency:

- To report an emergency, call 911.
- To obtain updates regarding an ongoing emergency, and to sign up for Purdue Alert text messages, view <http://www.purdue.edu/emergency/>
- There are nearly 300 Emergency Telephones outdoors across campus and in parking garages that connect directly to the Purdue Police Department (PUPD). If you feel threatened or need help, push the button and you will be connected immediately.
- If we hear a **fire alarm**, we will immediately suspend class, **evacuate the building**, and proceed outdoors, and away from the building. **Do not use the elevator.**
- If we are notified of a Shelter in Place requirement for a tornado warning, we will suspend class and shelter in the lowest level of this building away from windows and doors.
- If we are notified of a Shelter in Place requirement for a hazardous materials release, or a civil disturbance, including a shooting or other use of weapons, we will suspend class and shelter in our classroom, shutting any open doors or windows, locking or securing the door, and turning off the lights.
- Your course syllabus includes additional preparedness information as it might impact this class, including classroom suspension for severe weather or other emergencies. Please review the syllabus and the Emergency Preparedness website for additional information.
http://www.purdue.edu/ehps/emergency_preparedness/index.html

Tentative Schedule

Week/ Lab?	Date	Topic	Remark	Reading
1	Jan 12	Course Introduction		CH 1
	Jan 14	Computing Machines		CH 2
	Jan 16	Hardware: CPU		TG 1
2	Jan 19	Martin Luther King Jr Day (no class)		
	Jan 21	Hardware: Storage	HW 1 Posted	TG 1
	Jan 23	Lab 1 Prep: AutoCAD		
3 ✓	Jan 26	Hardware: Storage & Operating Systems		TG 2
	Jan 28	Operating Systems & Programming Languages		TG 2
	Jan 30	Programming Languages & Software	Submit Group	
4	Feb 2	Networks & WWW	Project Posted	TG 2
	Feb 4	Networks & WWW		CH 6,9
	Feb 6	Lab 2 Prep: Web Development		CH 6,9
5 ✓	Feb 9	Networks & WWW		CH 6,9
	Feb 11	Wireless and Mobile Computing		CH 8
	Feb 13	Cloud Computing		TG 3
6	Feb 16	Security, Privacy & Ethics		CH 3,4
	Feb 18	Security, Privacy & Ethics	HW 1 Due	CH 3,4
	Feb 20	Security, Privacy & Ethics	HW 2 Posted	CH 3,4
7	Feb 23	EXAM 1		
	Feb 25	Databases & Knowledge Management	R Tutorial Posted	CH 5
	Feb 27	Lab 3 Prep: MS Access		
8 ✓	Mar 2	Databases & Knowledge Management		CH 5
	Mar 4	Databases & Knowledge Management		CH 5
	Mar 6	Lab 4 Prep: Analytics with MS Access		
9 ✓	Mar 9	Databases & Knowledge Management		CH 5
	Mar 11	e-business/commerce		CH 7
	Mar 13	e-business/commerce & big data		CH 7,10
10	Mar 16	Spring Vacation		
	Mar 18	Spring Vacation		
	Mar 20	Spring Vacation		
11	Mar 23	Decision Support Systems	HW 2 Due	CH 12, TG 4
	Mar 25	Decision Support Systems	HW 3 Posted	CH 12, TG 4
	Mar 27	Decision Support Systems	Lab 5 Quiz Posted	CH 12, TG 4
12 ✓	Mar 30	Simulation		
	Apr 1	Simulation	** Lab 5: R	
	Apr 3	Lab 6 Prep: Arena		
13 ✓	Apr 6	ERP and CRM		CH 10, 11
	Apr 8	SCM		CH 10, 11
	Apr 10	Lab 7 Prep: Arena		
14 ✓	Apr 13	Acquiring IS		CH 13
	Apr 15	Acquiring IS		CH 13
	Apr 17	Lab 8 Prep: Arena	HW 3 Due	
15 ✓	Apr 20	EXAM 2		
	Apr 22	Future trends		
	Apr 24	Future trends		
16	Apr 27	Group Presentations		
	Apr 29	Group Presentations		
	May 1	Group Presentations	Project Due	