ITMT 430 Syllabus
Systems Integration

Spring 2017

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Course Catalog Description: In this capstone course, students will identify, gather, analyze, and write requirements based on user needs and will then design, construct, integrate, and implement an information system as a solution to a business problem. Students will document integration architecture, methodologies, and technologies using industry best practices. User needs and user centered design will be applied in the selection, creation, evaluation, and administration of the resulting system. The system design process will take into account professional, ethical, legal, security, and social issues and responsibilities and stress the local and global impact of computing on individuals, organizations, and society. Discussion will also cover the need to engage in continuing professional development.

Prerequisites: ITMD 421, ITMD 411, ITMD 361, ITMD 362, ITMM 471, ITMO 440, and ITMO 456

Credit: 3-0-3 *(lecture courses)* Semester Hours

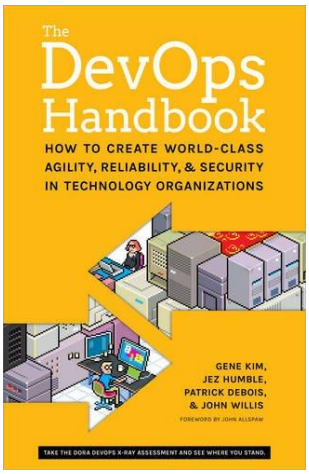
Course Outcome: Description of course outcome, generally broad in nature and not necessarily measurable.

Lecture Days, Time & Place: Monday & Wednesday 10:00am to 11:15am, Tech South 2030 Smart Lab, 10 W. 33rd Street on IIT's Main Campus.

Schedule of Topics/Readings: ***You should do all readings prior to class.***

Session	Date	Topic	HW Reading
1	January 9 & 11	Introduction to High Performance Organizations	1-2
2	January 16 & 18	Principles of Feedback and Continuous Learning	3-4
3	January 23 & 25	Understanding the Work in our Value Stream	5-6, 9
4	Jan 30 & Feb 1	Enable Fast and Reliable Automated Testing	10-11
5	February 6 & 8	Create Telemetry to solve problems	14
6	February 13 & 15	Professional, Ethical, and Legal Issues	NA
7	February 20 & 22	Local and Global Impact of Computing	NA
8	Feb 27 & Mar 1st	Midterm live demo presentation and 1st paper submission	NA
9	March 6 & 8	In class standup meeting & project development	NA
	March 13 & 15	**NO CLASS: Spring Break**	
10	March 20 & 22	In class standup meeting & project development	NA
11	March 27 & 29	In class standup meeting & project development	NA
12	April 3 & 5	In class standup meeting & project development	NA
13	April 10 & 12	In class standup meeting & project development	NA
14	April 17 & 19	In class standup meeting & project development	NA
15	April 24 & 26	In class standup meeting & project development	NA
16	Week of May 2	Final presentation will be given during finals time	

Textbook:
DevOps Handbook - How to Create World-Class Agility, Reliability, & Security in Technology Organizations
Gene Kim, Patrick Debois, John Willis, Jez Humble, John Allspaw (Foreword by)
http://www.barnesandnoble.com/w/the-devops-handbook-gene-kim/1121371901?ean=9781942788003



Free e-pub book

The Twelve Factor App

https://12factor.net/12factor.epub

Readings/Videos: Readings for the class will be assigned from the textbook as well as in the form of online reading. Online resources and videos will be linked from or embedded in a Blackboard page. It is essential that you do all readings and/or view the videos before coming to class on the assigned date. These materials are a necessary and integral part of the class and will form the basis for any class discussions on the topic. Specific readings are assigned by topic above.

Course Objectives: At the conclusion of this course, each successful student will able to:

- Identify, gather, analyze, and write information system requirements based on user needs
- Document integration requirements using business process models.
- Design, construct, integrate, and implement an information system as a solution to a business problem.
- Apply key systems integration architecture, methodologies, and technologies in the construction of an information system using industry best practices.
- Based on identified user needs, demonstrate the use of user centered design in the selection, creation, evaluation, and administration of an information system.
- Recall and explain professional, ethical, legal, security, and social issues and responsibilities in information systems.
- Describe the local and global impact of computing on individuals, organizations, and society
- Describe the need to engage in continuing professional development and explain how this may be achieved.

Course Outcomes: Students completing this course will be able to:

- Integrate hardware and software into a complete information system to meet identified user needs as a solution to a defined business problem.
- Demonstrate ethics, and an understanding of legal, security, and social issues and responsibilities of information systems.
- Demonstrate building world class reliable, agile, and secure cloud native applications.

Course Notes: Copies of the course lecture notes in the form of a PDF of the PowerPoint presentation accompanying each lecture will be provided for each student on Blackboard. This should be useful if you must miss a class. You should be aware that note taking is encouraged and should help your understanding of the material.

Course Web Site: http://blackboard.iit.edu/

Blackboard: The course will make intensive use of Blackboard (http://blackboard.iit.edu/) for communications, assignment submissions, group project coordination, providing online resources and administering examinations. All remote students will view the course lectures online via Blackboard, and online readings will be found on Blackboard.

Guest Lectures: Guest lecturers may be featured as part of course topics. When a guest speaker is expected you should make an extra effort to be seated and ready prior to class time. Guest lectures may be in the evening in which case class will not be held during a scheduled morning period. A question & answer/ discussion period will be held at the end of each lecturer's presentation.

Attendance: If you will not be able to attend class, please notify me via email prior to class time or after.

Assignments: There will be one main deliverable for this class:

Final Project - This project will incorporate all of the tools, technologies, and methodologies taught during the class. You will deploy and release an enterprise capable product from scratch to production. Various students will be assigned into specific roles and tasked to execute the support of this application. The project will culminate with a paper report detailing the productivity gains and the reason behind the groups choice of application methodologies and a presentation demonstrating the application.

Mini-Assignments – (Qty 5) There will be 5 mini-assignments which involve researching a topic and reporting your findings based on a technology studied in the previous week's course (no more than 3 pages) and include a short oral report. (Teacher's discretion to make these group work) Mini-assignments will be viewing of online material and short Q&A.

Examinations: The course will not have any examinations – the final project will serve as the final exam.

Final Deliverable:
Will be a group presentation outlining your initial goals, what you learned, and what you accomplished. Presentation will be given in front of live audience with a live deploy of software.

In addition you will provide a group paper with each person outlining their primary and any secondary roles, citing sources from the textbook, of what you accomplished and why you were able to accomplish that and what you learned from this endeavor (self-reflection).

This paper, if done well, can be used by you to take directly to interviews at tech companies.

Code Samples: You need to cite any code samples you find and use via inserting a comment with the URL in your code.

Academic Honesty:

Plagiarism: All work you submit in this course **must be your own**. You must fully attribute **all** material directly quoted in papers and you must document all sources used in the preparation of the paper using complete, APA-style bibliographic entries. Including directly quoted material in an assignment without attribution is always plagiarism and will always be treated as such by me. No more than thirty-three percent of material included in any paper may be direct quotes. Students have submitted plagiarized material the last six times I have taught this course and **I will not tolerate it**. If you submit plagiarized material you **WILL** receive a grade of **ZERO** for the assignment, an Academic Honesty Violation Report will be filed, and it may result in your expulsion from the course with a failing grade as per the IIT and ITM academic honesty policies. **There is no excuse for not understanding this policy** and if you do not understand it please let me know and I will be happy to discuss it with you until you do.

Grading: Grading criteria for ITMT-430 students will be as follows:

A	*Outstanding work reflecting substantial effort*	90-100%
B	*Excellent work reflecting good effort*	80-89.99%
C	*Satisfactory work meeting minimum expectations*	70-79.99%
D	*Substandard work not meeting expectations*	60-69.99%
E	*Unsatisfactory work*	0-59.99%

The final grade for the class will be calculated as follows:

Mini-Assignments (5)	**25%**
Final Project	**50%**
Class Attendance	**25%**

Other Class Resources: Online readings and other class resources may be found at on Blackboard.

Our Contract: This syllabus is my contract with you as to what I will deliver and what I expect from you. If I change the syllabus, I will issue a revised version of the syllabus; the latest version will always be available on Blackboard. Revisions to readings and assignments will be communicated via Blackboard.

Disabilities: Reasonable accommodations will be made for students with documented disabilities. In order to receive accommodations, students must obtain a letter of accommodation from the Center for Disability Resources and make an appointment to speak with me as soon as possible. My office hours are listed on the first page of the syllabus. The Center for Disability Resources (CDR) is located in 3424 S. State St., room 1C3-2 (on the first floor), telephone 312.567.5744 or disabilities@iit.edu.