

USC Viterbi

School of Engineering
*Industrial Systems
Engineering*

ISE 583
Enterprise Wide Information System
Spring 2024
M/W 2:00 – 3:50 pm
OHE 100D

Instructor: Richard W. Vawter

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Office: Rapp Engineering Bldg (RRB), Suite #241

Zoom Office: <https://usc.zoom.us/j/92533897852>

Office Hours: Tu/Th 11:00 am - 1:45 pm Wed 10:00 am – 11:45 am

Class Web Page: <http://courses.uscden.net/>

Grader/Course Producer: Manmeeth Nagesh, mnagesh@usc.edu

Course Description:

This course is designed to provide the student with a thorough understanding of both the role that Enterprise Resource Planning Systems (ERPs) play in an organization. During the semester, lab assignments and case studies will be assigned that afford the student the opportunity to work through many real-life business situations using the SAP ECC system and explore the interaction among the different business processes. SAP is the world's leading provider of Enterprise software designed to integrate every aspect of a company's operation. The hands-on exercises, coupled with the in-class discussions of ERPs, will prepare the student with the knowledge sought by businesses looking to use technology to maintain their competitive edge in the market place.

Objective:

At the completion of the course, students will be able to...

- Explain how 'best business practices' are incorporated in an ERP
- Execute an entire business process chain in the following areas:
 - Sales
 - Production
 - Accounting
 - Procurement
- Strategize pricing, production and sales in a competitive commodity market
- Analyze sales data in an ERP to dynamically respond to changing market conditions to maximize profits

Required Textbooks:

1. [Integrated Business Processes with ERP Systems](#), by Simha R. Magal & Jeffrey Word, Wiley & Sons, Inc., ©2011, ISBN: 978-0-470-47844-8
2. [ERP Simulation Game ebooks](#) and account will be available for purchase online a week prior to the start of the semester. Cost \$50 CAD payable online by credit card. You will receive an e-mail from HEC inviting you to set up your account for the simulation games. The first game will be played during the second week of the semester. If you wish to participate, you will have to have purchased your account by then. Participation in the second game at the end of the semester is required however.

Required Software:

- SAP is the leading vendor of Enterprise Resource Planning Systems in the world. USC Viterbi has had an Academic Alliance with SAP University Alliances Program for the past 25 years. Several Viterbi ISE and ITP courses utilize the SAP system as a tool and platform for class Homework.
- You will receive instructions via the class web site on downloading and configuring the software (**SAP GUI** for both Windows and MAC) to connect to the SAP S/4 HANA system so you can work from your personal computer.
- You will also need Microsoft Excel for analyzing the data from the ERP Simulation Game later in the semester.

Assignment Policies

- The Assignments dropbox in the class web site “closes” after the due date and time and is replaced by the answer key. You will no longer be able to submit your assignment and your assignment will be considered late.
- ! • **No late assignments will be accepted for credit. No excuses!** So, please turn in your assignments at the beginning of lecture on the dates indicated in the syllabus!
- **No late Midterm Project will be accepted for credit either.**
- **The self and team evaluations must be submitted before midnight Friday evening, Dec. 6th** in order to receive credit. Again, no excuses!

Discussion Board: To aid in completing the homework assignments, follow these steps:

1. Re-read the instructions carefully and re-view WebEx recording of the demonstration performed that week in class.
2. Refer to the “Discussion Board” section of the class web site’s forum for other students’ questions and comments or post a question yourself to begin the forum. **Students are encouraged to use the Discussion Board to collaborate and help each other solve problems on the homework assignments.**
3. If you cannot solve the problems by performing the first two steps then you’re welcome to contact the TA or see me during my office hours for assistance. Upon finding the solution, you will then be asked to post the problem and solution on the Discussion Board for others to view.

Weekly Reviews

- After each week’s topic, you will be required to take a short multiple-choice *quiz* online reviewing the material just presented.
- You may take the reviews as many times as you wish. Your highest score will be recorded.
- Failure to complete a review before the first class of the following week will result in a score of “0” for that review!
- Points from your weekly reviews will be totaled at the end of the semester and will account for 5% of your class grade.

Simulation Game:

- Student teams will be formed during the semester to play the ERP Simulation Game.
- The ERP Simulation Game (the Manufacturing game) will be played during the last third of the semester.
- The game can be played in real time remotely by off-campus students by using the GUI.
- **Participation in the game is mandatory for all students.** If you have a conflict with other commitments on game days, please reconsider your enrollment in this course.

If you have just one or two conflicts which prevent you from participating that day, simply let your team members know before hand so that they can plan accordingly.

Examinations:

Exams cover material from the reading assignments, lectures, and lab assignments. The questions will be of the form: multiple choice, short answer, and short problem solving. The exams are all closed book and closed notes. The exams are not considered to be cumulative; however, knowledge and understanding of the material presented in the early part of the semester will be expected.

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|-------------|-----------|----------|----------------|-----|
| Midterm: | Tuesday, | Oct. 8, | 2:00-3:50 p.m. | TBD |
| Final Exam: | Thursday, | Dec. 12, | 2:00-4:00 p.m. | TBD |

! Note: No make-up exams will be offered nor will there be any changes made to the Final Exam schedule as established by the University.

Grading: Grading will be on a straight scale (as opposed to a class curve/average).

| | |
|-------------------------------|----|
| 94% and above | A |
| 90% - 94% (not including 94%) | A- |
| 87% - 90% (not including 90%) | B+ |
| 83% - 87% (not including 87%) | B |
| 80% - 83% (not including 83%) | B- |
| 77% - 80% (not including 80%) | C+ |
| etc. | |

The grades will be calculated by weighing the following work as listed below:

| | | |
|------------------------------|------------|-------|
| Weekly Reviews | 5% | |
| Average of Assignment Scores | 20% | |
| Midterm Exam | 15% | |
| Midterm Project | 10% | |
| ERP Sim Game | | |
| Practice Game Performance | 5% | } 30% |
| Practice Game Analysis | 5% | |
| Extended Game Performance | 10% | |
| Sim Game Final Analysis | 5% | |
| Peer Evaluation | 5% | |
| Final Exam | <u>20%</u> | |
| | 100% | |

! The Final letter grade is based strictly on the total percentage earned. NO EXCEPTIONS! In addition, no extra credit assignments will be offered.

Assignments, lectures, grades, discussion and all other course materials will be posted on D2L (<http://courses.uscden.net/>). Please check the class website regularly.

Class Schedule:

| Class | Topic | Reading Assignment | Assignment |
|--|---|---|---|
| Week 1. Aug. 27 Aug. 29 | Overview <ul style="list-style-type: none"> • Course Overview • Business Organizations & Tech Strategy | Magal: Chapters 1 and 2 | No assignment this week. |
| Week 2. Sept. 3 Sept. 5 | ERP Systems & Functionality <ul style="list-style-type: none"> • Overview of ERP Systems & Functionality • Intro to Accounting - Financial Accounting - Managerial Accounting | Magal: Chapters 1 and 2 (cont.) Magal: Chapter 3 | Assignment #1 – The ERP Environment, due next Tues., before class. Review of ERP Environment, due next Tues., before class. |
| Week 3. Sept. 10 Sept. 12 | Intro to Accounting (cont.) <ul style="list-style-type: none"> • Financial Accounting • Managerial Accounting | Magal: Chapter 3 | Assignment #2 – Accounting, due next Tues., before class. Review of Accounting, due next Tues., before class. |
| Week 4. Sept. 17 Sept. 19 | Demand Planning, MRP <ul style="list-style-type: none"> • Master Data & Forecasts • MRP & The Planning Process | Magal: Ch 8 | Assignment #3 – Demand Planning, due next Tues., before class. Review of Planning, due next Tues., before class. |
| Week 5. Sept. 24 Sept. 26 | The Procurement Process <ul style="list-style-type: none"> • Organizational Elements and Master Data • The Procurement Process and Financials | Magal: Ch 7 | Assignment #4 – Procurement, due next Tues, before class. Review of Procurement, due next Tues., before class. |
| Week 6. Oct. 1 Oct. 3 | Production <ul style="list-style-type: none"> • Bill of Materials, Routing Documents & Work Centers • The Production Process | Magal: Ch 6 | Assignment #5 – Production, due next Monday , before 5:00 pm. Review of Production due next Monday , before 5:00 pm. |

| Class | Topic | Reading Assignment | Assignment |
|--|---|--|---|
| Week 7. Oct. 8 Oct. 10 | Midterm Exam <ul style="list-style-type: none"> • Midterm Exam • Fall Recess – no class | Magal: Ch 7 | Midterm Project , due next Tues., before class. |
| Week 8. Oct. 15 Oct. 17 | Materials Mgmt <ul style="list-style-type: none"> • Inventory Management • Warehouse Management | Magal: Ch 7 (cont.) | Assignment #6 – Material Mgmt, due next Tues., before class. Review of Material Mgmt due next Tues., before class. |
| Week 9. Oct. 22 Oct. 24 | The Sales Process <ul style="list-style-type: none"> • Org. Elements & Master Data • The Sales Process | Magal: Ch 5 | Assignment #7 – Sales, due next Tues., before class. Review of Sales due next Tues., before class. |
| Week 10. Oct. 29 Oct. 31 | The ERP Simulation Game <ul style="list-style-type: none"> • Overview of the ERP Sim Game • Continue discussion & preparation | Reference: ERPSim Participant Guide Manufacturing Game | No assignment this week. |
| Week 11. Nov. 5 Nov. 7 | Practice Game <ul style="list-style-type: none"> • Practice Game, Round 1 • Practice Game, Round 2 | Reference: ERPSim Manuals | Live (online or on premise participation is mandatory) |
| Week 12. Nov. 12 Nov. 14 | Practice Game Analysis <ul style="list-style-type: none"> • Practice Game, Rounds 3 & 4 • Discuss game and additional business strategies | Reference: ERPSim Manuals | SIM Analysis 1 – Practice Sim Game Analysis, due next Tues., before class. |
| Week 13. Nov. 19 Nov. 21 | ERP Extended Sim Game <ul style="list-style-type: none"> • Extended Game, R1-R3 • Extended Game, R4-R6 | Reference: ERPSim Manuals | Live (online or on premise participation is mandatory) |
| Week 14. Nov. 26 Nov. 28 | ERP Sim Game (cont.) <ul style="list-style-type: none"> • Extended Game, R7-R9 Thanksgiving Break – no class | Reference: ERPSim Manuals | Live (online or on premise participation is mandatory) |

| Class | Topic | Reading Assignment | Assignment |
|-------------------------------------|---|--------------------|--|
| Week 15. Dec. 3 Dec. 5 | Wrap-up • Extended Game, R10-12 • Discuss game, course & final exam | none | SIM Analysis 2 – due Friday Dec. 6 th before 11:59 pm. Team Evals due Dec. 6 th before 11:59 pm. Game Review due Dec. 6 th before 11:59 pm. |
| Week 16. Dec. 12 | Final Exam – 2:00-4:00 pm | | |

Important University Information

Students with Disabilities - (213) 740-0776

The [Office of Student Accessibility Services](#) (OSAS) ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy. A letter of verification for approved accommodations can be obtained from OSAS. Please be sure the letter is delivered to me as early in the semester as possible.

Incomplete and Missing Grades

A grade of Incomplete (IN) “is assigned when work is no completed because of documented illness or other ‘emergency’ occurring after the twelfth week of the semester (or 12th week equivalency for any course scheduled for less than 15 weeks).”

A grade of Missing Grade (MG) “should only be assigned in unique or unusual situations... for those cases in which a student does not complete work for the course before the semester ends. All missing grades must be resolved by the instructor through the Correction of Grade Process. One calendar year is allowed to resolve a MG. If an MG is not resolved [within] one year the grade is changed to [Unofficial Withdrawal] UW and will be calculated into the grade point average as zero grade points.

Please refer to: <http://www.usc.edu/dept/ARR/grades/gradinghandbook/index.html>

Academic Conduct

Sharing of course materials outside of the learning environment - USC has a policy that prohibits sharing of any synchronous and asynchronous course content outside of the learning environment. SCampus Section 11.12(B):

Distribution or use of notes or recordings based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is a violation of the USC Student Conduct Code. This includes, but is not limited to, providing materials for distribution by services publishing class notes.

Plagiarism – is a serious academic offense with serious consequences

Presenting someone else's ideas as your own, either verbatim or recast in your own words.

Students who plagiarize the work of other students or provide material for another student to copy, will receive zero points and **will be referred to** the Student Judicial Affairs and Community Standards (SJACS) board for further action. If SJACS determines the student violated the ethics codes, **the student will receive an F** in the course as suggested by the University. This is non-negotiable!!

For more information about academic integrity see [the student handbook](#) or the [Office of Academic Integrity's website](#), and university policies on [Research and Scholarship Misconduct](#).

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call

<https://studenthealth.usc.edu/counseling>

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

988 Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call

<http://suicidepreventionlifeline.org>

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press "0" after hours – 24/7 on call

<https://studenthealth.usc.edu/sexual-assault>

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office for Equity, Equal Opportunity, and Title IX (EEO-TIX) - (213) 740-5086

<https://eetix.usc.edu/>

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298

https://usc-advocate.symplicity.com/care_report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

USC Campus Support and Intervention - (213) 740-0411

<https://campussupport.usc.edu>

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity, Equity, and Inclusion - (213) 740-2101

<https://diversity.usc.edu>

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

<http://dps.usc.edu>, <http://emergency.usc.edu>

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-1200 – 24/7 on call

<http://dps.usc.edu>

Non-emergency assistance or information.