

**Course Syllabus**

**Course Title: Managing Information Technology Resources**

**Course number: ITWS 4310-01**

**Credit hours: 4 Credits**

**Semester/ year: Fall 2018**

**Meeting days: Mondays and Thursdays 10:00 AM to 11:50 AM**

**Room location: Russell Sage Room 2112**

**Webpage:** <http://lms.rpi.edu> **1809\_Managing IT Resources [1809\_ITWS\_4310\_01]**

**Prerequisites or other requirements:**

**BS in Information Technology & Web Science Core Required Course**

**Instructor**: **Matthew Grill**

**Office location: Lally Hall Room 315**

**E-mail address:** [**mgrill.rpi@gmail.com**](mailto:mgrill.rpi@gmail.com)

**Office hours: Tuesday from 11:00 AM – 12:00 PM or by appointment**

**Co-Instructor**: **Jeff Miner**

**Office location: Folsom Library Room 233A**

**Office telephone: (518) 276-8523**

**E-mail address:** [**minerj@rpi.edu**](mailto:minerj@rpi.edu)

**Office hours: By appointment**

**Teaching Assistant: Gaurang Prasad**

**TA office hours: Wednesday from 10:00 AM – 12:00 PM in ITWS Lounge (Lally 205)**

**TA e-mail:** [**prasag@rpi.edu**](mailto:prasag@rpi.edu)

**Course Description:**

**Managing Information Technology Resources provides the undergraduate Information Technology (IT) student with an introduction to the fundamental concepts of management and applies them to IT. The focus of the course is on the management issues of applying this critical (“enabling”) technology in achieving and maintaining effective, competitive organizations. The course examines the use of IT in business processes, sometimes referred to as “management information systems” (MIS), and the management issues of integrating IT into organizational processes to gain competitive advantage. In the course, we will examine management approaches for developing and using information systems in support of business processes. In Managing IT Resources, we will examine a wide array of interrelated topics, including: management, organizations and information systems; development life cycle; project management and systems engineering; process reengineering; and organizational learning.**

**Managing IT Resources runs along three parallel tracks. One track follows a textbook on Information Systems and covers the key conceptual material of the course. The second track is a set of “Business Cases” that explore applications of Information Systems and Information Technology in a variety of organizations. The third track is a “Term Project” with a real client organization in need of an Information Technology/Information System Solution. The “Term Project” includes client identification, systems requirements, cost-benefit analysis, project schedule, systems development, project management, customer acceptance, training, maintenance, and presentation. These three tracks are complimentary and reinforcing throughout the course.**

**Learning Outcomes:**

**After completing this course, the student will have:**

1. **Demonstrated knowledge of key management principles of the information-age organization.**
2. **Demonstrated knowledge of the planning, controlling, and organizing of IT resources.**
3. **Demonstrated knowledge of how information systems can be used to address and support a range of managerial functions and business processes.**
4. **Planned, designed, developed, and documented an Information Technology System for a real company or organization.**
5. **Planned, designed, developed, and written a professional Information Technology Project Report.**
6. **Delivered a professional presentation of their Project.**
7. **Participated in active oral and written discussions of IT Business Cases.**

**Required Textbook:**

**John Gallaugher. Information Systems: A Manager's Guide to Harnessing Technology, v. 7.0, Flat World Knowledge. E-ISBN: 978-1-4533-9404-5. Textbook is available in both electronic and print versions at** <https://students.flatworldknowledge.com/course/2586758> **.**

**The business cases required for the course are available from Harvard Business Press via credit card purchase at (to be provided).**

**Weekly case and journal article readings are assigned and listed in the Course Calendar below. Current event articles related to the weekly topics may be assigned prior to the week of classes. These readings will be accessible via the Internet and will be posted on the course LMS site weekly.**

**Assignments:**

1. **Term Project**
   1. **Several Project Milestones are scheduled in the Course Calendar below. These milestones are draft sections of the final report and are graded as part of the Homework, Business Case, and Other Weekly assignments.**
   2. **Final Project Presentations due on December 6 and 10, 2018**
   3. **Final Project Report due on December 10, 2018**
   4. **Project Peer Review of members of Project Team due on December 11, 2018**
2. **Business Case write-ups due on dates specified in the Course Calendar below.**
3. **Mid-Term Exam on Monday, October 15, 2018**
4. **Final Exam during finals week on a date to be determined**

**Grading criteria**

**To successfully complete this course, the student must submit all assignments and project deliverables, attend and participate in class, and perform satisfactorily on the mid-term and final examinations.**

**Assignments from the Cases, Readings and Project milestones are stated in the Course Calendar. Specific questions will be posted on LMS. Each student must post their answers to the questions prior to the assigned class. Each assignment posted on LMS will be given a grade. The grades for the accumulated class participation, weekly assignments, and project milestones will be posted on LMS.**

**The objective of the Term Project is to apply the concepts studied in the course to a real situation concerning information systems in a management (or business) context. Projects will be completed in teams of 3 to 5 students assigned by the instructor.**

**The exams will cover material in the text, readings, lectures, class discussions, cases, and projects. There will be a mid-term exam and a final exam in the course.**

**Quizzes will be given at the discretion of the instructor, in various formats, both announced and unannounced. Quiz material is open to anything covered in class (text, readings, lectures, discussion boards, cases, projects, etc.) up to and including the class in which the quiz is given.**

**The mid-term assessment process will provide each student with feedback on their performance in the class based on graded homework, project assignments, participation, and mid-term exam. The Electronic Warning System (EWS) function in the Student Information System will be used to further notify students who are experiencing academic difficulty after the mid-term exam.**

**The student’s final grade will be determined based on the following weighting:**

**Quizzes 10%**

**Homework, Business Case, and other Class Assignments 15%**

**Class Participation 15%**

## Term Project 25%

**Mid-Term Exam 15%**

**Final Exam 20%**

**Course Grade Determination: Letter Grade Numerical Average**

**A-, A 90-100 %**

**B-, B, B+ 80-89 %**

## C-, C, C+ 70-79 %

**D, D+ 60-69 %**

**F <60 %**

**Attendance Policy and Participation Grading:**

**A significant portion of your grade will be received through classroom participation (15%) and the Term Project (25%). Therefore, it is expected that you attend every class and participate in Team meetings associated with the Term Project. A participation grade will be given for each individual for each class. A student may request an excused absence for health or career (job interviews) reasons by emailing the instructor prior to the beginning of that particular class.**

**Participation Grading on a 5 Point Scale: Quality is more important than quantity**

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| --- | --- |
| **0** | **Absence without an excuse** |
| **1-2** | **In attendance, but not paying attention, e.g. sleeping, or doing email or Internet unrelated to class, with little to no participation, and not apparently having done pre-class reading.** |
| **3** | **In attendance, paying attention, appear to have done the pre-class reading, but contributing very little to the class.** |
| **4-5** | **In attendance, paying attention, having done the pre-class reading, and contributing in a very significant manner with especially insightful comments and questions that inter-connect readings, case, and personal experience to enrich the class.** |

**In addition to classroom participation, this course will use Slack to foster continued participation and collaboration outside of the classroom. Each student must create an account and be part of the group discussion channels at a minimum (to be sure they are not missing any announcements, etc. that may be posted through these channels). While further, active use of the channels is not mandatory, it is recommended. Each team will also be provided with a private channel for their use related to their term project. Again, active use and participation in the private team channel is not mandatory but it is recommended.**

**Notes on Slack:**

**Channel name: itws-mitr.slack.com**

**Please use your full name (First & Last) as it appears in SIS when signing up.**

**Please use your RPI e-mail address when signing up.**

**Please use the following link to join:** [**https://join.slack.com/t/itws-mitr/shared\_invite/enQtNDI1ODU5NjI2MTE3LWU4M2IzNTEzMTIyMTczYTgwOGFmMWEzYTM4OTNiMTMyY2NiMGFiZTA2N2I3Nzc0YjBiOWM4ZDY3MzVkMGVlMzM**](https://join.slack.com/t/itws-mitr/shared_invite/enQtNDI1ODU5NjI2MTE3LWU4M2IzNTEzMTIyMTczYTgwOGFmMWEzYTM4OTNiMTMyY2NiMGFiZTA2N2I3Nzc0YjBiOWM4ZDY3MzVkMGVlMzM)

**Academic dishonesty**

**Integrity is an extremely important part of any person’s character and behavior. Note the importance of ethics and the positive perception of IT professionals in this article:** <http://www.informationweek.com/story/showArticle.jhtml?articleID=15300201> **. This course expects the highest level of personal and academic integrity. Students may discuss Business Case assignments with other students in the class, but each individual must write and submit their Case assignments individually. Term Project assignments are done collectively by the Project Team and one submittal is made for the entire Team. In all Case and Project assignments, citations must be done for all references including websites. Any breach of the academic integrity code listed in the Rensselaer Handbook will be considered grounds for failure in the course.**

**Fall 2018 Course Calendar – ITWS-4310-01\***

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| **Date** | **Topics** | **Preparation** | **Deliverables** |
| **Thurs**  **Aug 30** | **Introductions**  **Course Overview**  **IS/IT Term Project**  **Ethics of Technology** | **Review Syllabus** | **None**  **Submit your “Resume” on LMS before Noon on Sat Sept 1** |
| **Mon**  **Sept 3** | **Labor Day Holiday**  **No Class** |  | **None** |
| **Thu**  **Sep 6** | **Technology and the Modern Enterprise.**  **Strategy and Technology.**  **Term project criteria.** | **Read Chapter 1 and Chapter 2 in the Gallaugher Text plus other assigned readings.** |  |
| **Mon**  **Sept 10** | **Moore’s Law and More: Fast Cheap Computing.**  **Disruptive Technology.**  **Discuss IT Term Project** | **Read Chapter 5 and Chapter 6 in the Gallaugher Text plus other assigned readings.**  **Review CBA examples on LMS** | **Preliminary selection of Term Project and Client** |
| **Thurs**  **Sep 13** | **IT Economics**  **Cost-Benefit Analysis** | **In Class Exercise related to Cost-Benefit Analysis** | **Submit Term Project Proposal on LMS.**  **Each student, submit In-Class Cost-Benefit Exercise.** |
| **Mon**  **Sep 17** | **Project Management**  **Agile Development**  **Strategic Planning. Portfolio Management** | **Readings on Project Management, Agile, and other assigned materials.** | **Team submit Term Project Cost-Benefit Analysis.** |
| **Thu**  **Sep 20** | **Project Management** | **In-Class Exercise related to Project Management.** | **Each student, submit In-Class Project Plan Exercise.**  **Team submit Term Project Plan.** |
| **Mon**  **Sep 24** | **Probability and Statistics**  **Risk and Risk Analysis** | **Readings from “The Signal and The Noise” plus other readings** |  |
| **Thu**  **Sep 27** | **Probability and Statistics**  **Risk and Risk Analysis** | **In Class Exercise related to Risk Analysis** | **Each student, submit In-Class Risk Analysis Exercise.**  **Team submit Term Project Risk Analysis.** |
| **Mon**  **Oct 1** | **Understanding Software.**  **Software in Flux.** | **Read Chapter 13 and Chapter 14 in the Gallaugher Text plus other assigned readings.** |  |
| **Thu**  **Oct 4** | **Network Effects**  **The Internet and Telecommunications** | **Read Chapter 8 and Chapter 16 in the Gallaugher Text plus other assigned readings.** |  |
| **Tues**  **Oct 9**  **Mon schedule** | **Business Case:**  **TBD** | **Read Chapter 4 in Gallaugher Text.**  **Read and Prepare Netflix Case** | **Submit Case Answer on LMS before 10AM**  **Submit Draft of Initial Sections of IT Term Project on LMS.** |
| **Thu**  **Oct 11** | **E-Commerce and Network Effects Business Case: TBD** | **Read Chapter 7 in Gallaugher Text.**  **Read and Prepare Amazon Case** | **Submit Case Answer on LMS before 10AM** |

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| **Date** | **Topics** | **Preparation** | **Deliverables** |
| **Mon**  **Oct 15** | **Mid-Term Exam: During class (10 AM – 12PM)** | **Study Chapters 1, 2, 5, 6, 8, 13, 14, and 16, Articles and Cases to-date, Term Project to-date, supplemental materials** | **Take Mid-Term Exam** |
| **Thu**  **Oct 18** | **The Data Asset: DB, DW, BI, the Web of Data.** | **Read Chapter 15 and other assigned readings** | **Work on Term Project** |
| **Mon**  **Oct 22** | **Data, Big Data Lab Exercise** | **Data, Big Data In-Class Exercise** | **Submit In-Class Exercise** |
| **Thu**  **Oct 25** | **Data Analytics** | **Readings** | **Work on Term Project** |
| **Mon**  **Oct 29** | **RPI Infrastructure Tour** |  |  |
| **Thu**  **Nov 1** | **Data Analytics & Using Data** | **Assigned Readings** | **Submit In-Class Exercise** |
| **Mon**  **Nov 5** | **Knowledge Management,**  **AI, Machine Learning Expert Systems** | **Assigned Readings** |  |
| **Thu**  **Nov 8** | **Business Case:**  **Google** | **Read Chapter 18 in Gallaugher Text.**  **Read and Prepare Google Case** | **Submit Case Answer on LMS before 10AM** |
| **Mon**  **Nov 12** | **Social Networks and Web** | **Read Chapter 9, Chapter 10 and other assigned readings** | **Work on Term Project** |
| **Thu**  **Nov 15** | **Social Networking Business Case:**  **Facebook** | **Read Chapter 11 in Gallaugher Text.**  **Read and Prepare Facebook Case** | **Submit Case Answer on LMS before 10AM** |
| **Mon Nov 19** | **Cyber-Security**  **make your Project Secure** | **Read Chapter 17 and other assigned readings** | **Work on Term Project**  **Submit Draft Final Reports on LMS** |
| **Thu**  **Nov 22** | **Thanksgiving**  **No class** |  |  |
| **Mon Nov 26** | **Cyber-Security Case TBD** | **Read case.**  **Prepare for discussion on Case Questions.** | **Submit Case Answer on LMS before 10AM** |
| **Mon**  **Nov 29** | **Ethics of IT, MIS, Social Informatics and AI** | **Read case.**  **Prepare for discussion on Case Questions.** | **Work on Term Project** |
| **Thu**  **Dec 3** | **Ethics of Technology Case TBD** | **Read Case.**  **Prepare for discussion of Case Questions** | **Submit Case Answer on LMS before 10AM** |
| **Mon**  **Dec 6** | **Final Project Presentations** | **Prepare Project Team presentations.** | **Final Term Project Presentations during class.** |
| **Thu**  **Dec 10** | **Final Project Presentations** | **Prepare Project Team presentations.** | **Final Term Project Presentations during class. All Teams' Final Projects, Final Project Presentations, and Project Peer Evaluations submitted on LMS** |
| **TBD** | **Final Examination – 3 hrs** | **Study Chapters 1-10, 13-18, all articles, all Cases, all Term Projects, supplemental materials** | **Take Final Exam** |

**\*Initial version. Subject to change throughout the semester. All changes will be published.**