Syllabus – Summer Session II 2018

Excluding materials for purchase, syllabus information may be subject to change. The most up-to-date syllabus is located within the course in HuskyCT.

Course and Instructor Information

Course Title: Operations Research
Credits: 3
Format: Online
Prerequisites: ECON 1200 or both ECON 1201 and 1202.
Professor: Subhash Ray

Email: subhash.ray@uconn.edu
Telephone: 860 486 3967
Other: (If applicable)
Office Hours/Availability: By appointment (will respond to emails within 48 hours)

Course Materials

Required course materials should be obtained before the first day of class.

Texts are available through a local or online bookstore of your choice. The UConn Bookstore carries the required text(s), which can be shipped (fees apply).

Required Materials:


Note: Access to Mindtap can include the textbook in an e-text format. This is a lower cost option to acquire both items which are required.

Item 3. This course requires you to submit scans or photos of your homework, as well as quizzes and exams, so you will need either a working scanner or camera capable of uploading photos to HuskyCT.

Item 4. Excel with the Solver Add-in (this is available for free to UConn students)

Additional course readings and media are available within HuskyCT, through either an Internet link or Library Resources

Course Description

Course Description from Course Catalog:
Extensive use of computer spreadsheets to find efficient solutions to problems faced by managers in both the public and private sectors. Optimization of input and output mixes, of delivery routes, and communication networks.

Course Objectives

By the end of the semester, students should be able to:

Upon completion of this course the student will be able to
1. Identify the choice variables (the values of which a decision maker can select), the constraints on these choices, and the objective function that is to be maximized (like profit) or minimized (like cost).
2. Set up the decision making problem mathematically.
3. Solve simple decision making problems geometrically.
4. Program and solve the algebraic problem on Excel Solver.
5. Interpret the results obtained from the optimal solution of the problem on Excel.
6. Analyze how changes in parameters affect the optimal solution.

**Course Outline**

Module 1: Course Orientation  
Module 2: Introduction to Optimization and Linear Programming  
Module 3: Modeling and Solving LP Problems in a Spreadsheet  
Module 4: Sensitivity Analysis and the Simplex Method  
Module 5: Network Modeling  
Module 6: Integer Linear Programming  
Module 7: Goal Programming and Multiple Objective Optimization

**Course Requirements and Grading**

**Summary of Course Grading:**

<table>
<thead>
<tr>
<th>Course Components</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>15%</td>
</tr>
<tr>
<td>End of Chapter Homework Problems</td>
<td>15%</td>
</tr>
<tr>
<td>Discussions</td>
<td>10%</td>
</tr>
<tr>
<td>Mid-Term Exam</td>
<td>30%</td>
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<tr>
<td>Final Exam</td>
<td>30%</td>
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</tbody>
</table>

**Quizzes**  
Six chapter quizzes containing a mix of multiple choice and work out problems. You will complete the multiple choice section of the quiz separately from the work out problem portion. You will be required to upload digital images of their hand-written work, as well as your Excel spreadsheet showing your work.

**End of Chapter Homework Problems**  
You will be assigned a number of homework problems for each chapter. You will be required to upload digital images of their hand-written work, as well as your Excel spreadsheet showing your work.

**Discussions**  
There will be five discussion forums where you will be required to make an initial post and follow-up response posts to your peers.

**Mid-Term Exam**  
2-hour proctored exam with 15 multiple choice and 3 workout problems where you will be required to upload digital images of their hand-written work, as well as your Excel spreadsheet showing your work.

**Final Exam**  
2-hour proctored exam with 15 multiple choice and 3 workout problems where you will be required to upload digital images of their hand-written work, as well as your Excel spreadsheet showing your work. The final exam consists of the material after the mid-term exam.

**MindTap**  
Is a study aid with narrated PowerPoints from the author and additional information from what is in the modules. There are also practice quizzes.

**Grading Scale:**
<table>
<thead>
<tr>
<th>Grade</th>
<th>Letter Grade</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>93-100</td>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>90-92</td>
<td>A-</td>
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<tr>
<td>87-89</td>
<td>B+</td>
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<tr>
<td>83-86</td>
<td>B</td>
<td>3.0</td>
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<tr>
<td>80-82</td>
<td>B-</td>
<td>2.7</td>
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<tr>
<td>77-79</td>
<td>C+</td>
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<tr>
<td>70-72</td>
<td>C-</td>
<td>1.7</td>
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<tr>
<td>67-69</td>
<td>D+</td>
<td>1.3</td>
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<tr>
<td>63-66</td>
<td>D</td>
<td>1.0</td>
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<tr>
<td>60-62</td>
<td>D-</td>
<td>0.7</td>
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<tr>
<td>&lt;60</td>
<td>F</td>
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</table>

**Due Dates and Late Policy**

All course due dates are identified in the Course Schedule located in HuskyCT. Deadlines are based on Eastern Standard Time; if you are in a different time zone, please adjust your submittal times accordingly. The instructor reserves the right to change dates accordingly as the semester progresses. All changes will be communicated in an appropriate manner.

Late work may be accepted at the discretion of the professor on a case-by-case basis for partial credit.

**Feedback and Grades**

I will make every effort to provide feedback and grades in 48 hours. To keep track of your performance in the course, refer to My Grades in HuskyCT.

**Exam Proctoring**

**IMPORTANT:** This course requires students to use the online service ProctorU for the real time proctoring of exams. In order to use ProctorU, you must meet certain technical, software, location, and identity verification requirements.

It is critical that you review these requirements and fully test the computer on which you will take your exam prior to the official start of classes and no later than the second day of the course. Please complete the following:

- Follow the steps at ProctorU’s Get Started web page
- Review the ProctorU FAQ’s
- Sign up for your exam time slot at least 72 hours (3 days) prior to your exam’s scheduled time or you will be charged a late fee. The University of Connecticut will not pay for student late fees incurred as a result of your failure to meet this deadline.

**Student Responsibilities and Resources**

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important standards, policies and resources, which include:
- The Student Code
  - Academic Integrity
  - Resources on Avoiding Cheating and Plagiarism
- Copyrighted Materials
- Netiquette and Communication
- Adding or Dropping a Course
- Academic Calendar
- Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships
- Sexual Assault Reporting Policy

### Students with Disabilities

The University of Connecticut is committed to protecting the rights of individuals with disabilities and assuring that the learning environment is accessible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately so that we can discuss options. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Building Room 204, (860) 486-2020 or [http://csd.uconn.edu/](http://csd.uconn.edu/).

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued in the United States federal government." (Retrieved March 24, 2013 from Blackboard’s website)

### Software/Technical Requirements (with Accessibility and Privacy Information)

The software/technical requirements for this course include:

- **HuskyCT/Blackboard** ([HuskyCT/ Blackboard Accessibility Statement](http://csd.uconn.edu/), [HuskyCT/ Blackboard Privacy Policy](http://csd.uconn.edu/))
- **Adobe Acrobat Reader** ([Adobe Reader Accessibility Statement](http://csd.uconn.edu/), [Adobe Reader Privacy Policy](http://csd.uconn.edu/))
- **Google Apps** ([Google Apps @ UConn Accessibility](http://csd.uconn.edu/), [Google for Education Privacy Policy](http://csd.uconn.edu/))
- **Microsoft Excel** (free to UConn students through [uconn.onthehub.com](http://csd.uconn.edu/)) ([Microsoft Accessibility Statement](http://csd.uconn.edu/), [Microsoft Privacy Statement](http://csd.uconn.edu/)) with the Solver Add-in
- Dedicated access to high-speed internet with a minimum speed of 1.5 Mbps (4 Mbps or higher is recommended).
- Webcam and microphone for remote proctoring.
- Scanner or Camera with the capability to upload digital images of hand-written work.

**NOTE:** This course has NOT been designed for use with mobile devices.

### Help

**Technical and Academic Help** provides a guide to technical and academic assistance.

This course is completely facilitated online using the learning management platform, **HuskyCT**. If you have difficulty accessing HuskyCT, you have access to the in person/live person support options available during regular business hours through the **Help Center**. You also have **24x7 Course Support** including access to live chat, phone, and support documents.

### Minimum Technical Skills

To be successful in this course, you will need the following technical skills:

- Use electronic mail with attachments.
- Save files in commonly used word processing program formats.
- Copy and paste text, graphics or hyperlinks.
- Work within two or more browser windows simultaneously.
- Open and access PDF files.
- Microphone and Webcam for use with ProctorU
- Scanner or a camera to submit digital images of your work.
University students are expected to demonstrate competency in Computer Technology. Explore the [Computer Technology Competencies](#) page for more information.

**Evaluation of the Course**

Students will be provided an opportunity to evaluate instruction in this course using the University's standard procedures, which are administered by the [Office of Institutional Research and Effectiveness](#) (OIRE).

Additional informal formative surveys may also be administered within the course as an optional evaluation tool.