

Course Objective:

This course aims to develop in the student of any course an appreciation of Operations Research and its benefits. The student is expected to recognize situations in which Operations Research is useful. The student will be exposed to the more commonly used models/techniques to serve as a guideline in the application of OR in actual practice.

Main Reference


References:


Course outline

<table>
<thead>
<tr>
<th>Topic</th>
<th>Long Test</th>
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</thead>
</table>
| 1. Introduction to Operations Research  
   A. Definition and History  
   B. The OR Process  
   C. Introduction to Mathematical Programming |  |
| 2. Linear Programming Basics  
   A. Introduction  
   B. Standard Linear Programs  
   B. Linear Programming Formulation  
   D. Graphical Solution | Long Test 1 |
| 3. Linear Programming: The Simplex Method  
   A. Solver  
   B. Computer Software (Microsoft Excel Solver Plug-in) |  |
| 4. Network Models  
   A. Minimum Spanning Tree  
   B. Shortest Path Problems  
   C. Project Evaluation and Review Technique and the Critical Path Method | Long Test 2 |
| 5. Queueing Theory (Waiting Lines)  
   A. Definitions and Terminologies  
   B. The M/M/1 and M/M/s model  
   C. The M/M/1/k and M/M/s/k model  
   D. Finite-Calling Population Variation models | Long Test 3 |
Course Requirements and Grade Equivalents

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight (%)</th>
<th>Score Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Tests (4 long tests)</td>
<td>70%</td>
<td>93.00 – 100.00</td>
<td>A</td>
</tr>
<tr>
<td>Homework/Quizzes</td>
<td>15%</td>
<td>88.00 – 92.99</td>
<td>B+</td>
</tr>
<tr>
<td>Recitation</td>
<td>15%</td>
<td>83.00 – 87.99</td>
<td>B</td>
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<tr>
<td></td>
<td></td>
<td>77.00 – 82.99</td>
<td>C+</td>
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<td></td>
<td></td>
<td>69.00 – 76.99</td>
<td>C</td>
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<tr>
<td></td>
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<td>60.00 – 68.99</td>
<td>D</td>
</tr>
</tbody>
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Consultation hours:

MWF 2:30 to 4:30 pm

Classroom Policies

1. **Dress Code will be followed.**
2. Attendance will be checked at the start of each class. He/She who arrives after the start of class but within fifteen (15) minutes is considered late. After fifteen (15) minutes, a student is allowed to attend the class but is considered absent. An absence is equivalent to one (1) cut while a late is one-half (½) cut. A student is entitled to nine (9) cuts, beyond which he/she will get a grade of W.
3. If a teacher is late, students are expected to wait until he arrives unless the teacher has other instructions to the department secretary, or the class beadle.
4. Eating is not allowed during class.
5. Cellphones should, at least be put in silent mode during class hours. During exams, they should be turned off.
6. If a letter of “F” is given for any reason, its numerical equivalent will be zero.
7. After an exam is checked and returned, students are given two (2) weeks, after which appeals for change of grade will not be entertained.
8. **There will be no make-up exams.** Therefore, students who will be absent for certain dates representing the school in competitions or conferences are required to inform the teacher at least two weeks before.
9. There will be no rounding off before the conversion of the final marks to letter grades.
10. Refer to student handbook for other policies.