# Operations Research (PhD)

## Degree Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR 801</td>
<td>Seminar in Operations Research</td>
<td>1</td>
<td>Required Courses 17</td>
</tr>
</tbody>
</table>

### Requirement A Course

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR 801</td>
<td>Seminar in Operations Research</td>
<td>1</td>
<td>Requirement A Course</td>
</tr>
</tbody>
</table>

### Requirement B Course

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR 505</td>
<td>Linear Programming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 506</td>
<td>Algorithmic Methods in Nonlinear Programming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 709</td>
<td>Dynamic Programming</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Requirement C Courses

Select four of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR 501</td>
<td>Introduction to Operations Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 504</td>
<td>Introduction to Mathematical Programming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 505</td>
<td>Linear Programming</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CSC 505</td>
<td>Design and Analysis Of Algorithms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 506</td>
<td>Algorithmic Methods in Nonlinear Programming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST 516</td>
<td>Experimental Statistics For Engineers II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 531</td>
<td>Dynamic Systems and Multivariable Control I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 537</td>
<td>Computer Methods and Applications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MA/ST 546</td>
<td>Probability and Stochastic Processes I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 560</td>
<td>Stochastic Models in Industrial Engineering</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Elective Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA/ST 747</td>
<td>Probability and Stochastic Processes II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 760</td>
<td>Applied Stochastic Models in Industrial Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 761</td>
<td>Queues and Stochastic Service Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 762</td>
<td>Stochastic Simulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR 772</td>
<td>Advanced Stochastic Simulation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Hours**: 23-72

**Elective Courses**: 6-55

1. OR 505, OR 506, and OR 709 cannot be double counted toward “Requirement C” courses if already used toward “Requirement B” courses.

2. “Elective Courses” cannot be double counted if already used to fulfill requirements “A-C” courses.

## Professors

- Kristin A. Barletta
- John W. Baugh
- Rada Yuryevna Chirkova
- Huaiyu Dai
- Joseph DeCarolis
- Umut Dur
- Shu-Cherng Fang
- Yahya Fathi
- Subhashis Ghosal
- Robert B. Handfield
- Christopher Graham Healey
- Hans Sebastian Heese
Ilse Ipsen
Jeffrey A. Joines
Russell E. King
Zhilin Li
George F. List
Edgar Lobaton
Ning Lu
Louis A. Martin-Vega
Maria A. Mayorga, Director & Goodnight Distinguished Chair in Operations Research
Negash G. Medhin
Rainer Mueller
Tao Pang
Ranji S. Ranjithan
Michael A. Rappa
Joseph P. Roise
George N. Rouskas
Munindar P. Singh
Ralph C. Smith
Matthias F.M. Stallmann
Julie LeAnne Swann
Hien T. Tran
Yannis Viniotis
Mladen Alan Vouk
Wenyue Wang
Fen Wu
Zhaobang Zeng
Dmitry V. Zenkov

Operations Research (PhD)

Eda Kemahliglu-Ziya
Min J. King
Timothy C. Kraft
Yunan Liu
Osman Ozaltin
Andrew Papanicolaou
David Papp
Anderson de Queiroz
Thomas W. Reiland
Charles E. Smith
Hong Wan
Donald P. Warsing

Assistant Professors
Chao Chen
Leila Hajibabai Dizaji
Xiaolei Fang
Seyedmohammadhossein Hosseinian
Daniela S. Jones
Jordan Kern
S. Sebnem Ahiska King
Shawn Mankad
Benjamin Rachunok
Sara Shashaani
Wentao Tang
Zhuoting Yu
Mengmeng Zhu

Associate Professors
Jacob J. Adams
Adolfo Raphael Escobedo
Zhishan Guo
Ali Hajibabaie
Arnav Jhala
Michael G. Kay

Research Assistant Professor
Brandon M. McConnell

Emeritus Faculty
Peter Bloomfield
Julie S. Ivy
Carl Timothy Kelley