HUMAN SYSTEMS ENGINEERING GRADUATE OPTION

This option is offered within the following major(s):

- Industrial Engineering - College of Engineering (http://catalog.oregonstate.edu/college-departments/engineering/school-mechanical-industrial-manufacturing-engineering/industrial-engineering-meng-ms-phd/)

This graduate option within the Industrial Engineering major distinguishes an area of specialization, human systems engineering, within the broader discipline of industrial engineering. Human Systems Engineering (HSE) uses engineering methods and knowledge from the physical, biological, information, social, and management sciences to develop, implement, operate, evaluate, and improve human-machine, human-human, and human-organization systems. Topical areas include management systems engineering and human factors and ergonomics.

Option Code: 3192

The following set of specific courses will be required of students wishing to declare the IE Human Systems Engineering (HSE) graduate option:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE 545</td>
<td>HUMAN FACTORS ENGINEERING</td>
<td>4</td>
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<tr>
<td>or IE 570</td>
<td>MANAGEMENT SYSTEMS ENGINEERING</td>
<td></td>
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<tr>
<td>IE 546</td>
<td>HUMAN-MACHINE SYSTEMS ENGINEERING</td>
<td>3-4</td>
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<tr>
<td>or MFGE 536</td>
<td>LEAN MANUFACTURING SYSTEMS ENGINEERING</td>
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<tr>
<td>IE 548</td>
<td>COGNITIVE ENGINEERING</td>
<td>3</td>
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<tr>
<td>or IE 571</td>
<td>PROJECT MANAGEMENT IN ENGINEERING</td>
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</table>

Select one of the following: 3-4

- H 594 APPLIED ERGONOMICS
- IE 515 SIMULATION AND DECISION SUPPORT SYSTEMS
- ME 515 RISK AND RELIABILITY ANALYSIS IN ENGINEERING DESIGN
- MFGE 535 INDUSTRIAL SUSTAINABILITY ANALYSIS
- PSY 537 MOTIVATION
- PSY 540
- PSY 544 LEARNING AND MEMORY
- PSY 596 INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY
- SDC 518 QUALITATIVE RESEARCH METHODS
- ST 531 SAMPLING METHODS
- ST 539 SURVEY METHODS
- ST 559 BAYESIAN STATISTICS

Total Hours 13-15

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