The Minor in Systems Science & Engineering

This minor consists of fundamental courses in control systems and operations research. In the area of control systems, students will be introduced to design techniques for controlling engineering and socioeconomic systems such as airplanes, automobiles, nuclear reactors, ecological systems, communication networks, the nation's economy and biological systems. In the area of operations research, students are introduced to techniques for optimally managing business resources and controlling business networks such as supply chains.

Requirements:

Students who complete 15 units of course work in Systems Science & Engineering at Washington University as specified below may be awarded a minor in systems science & engineering.

The required courses for the minor are as follows:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESE 351</td>
<td>Signals and Systems</td>
<td>3</td>
</tr>
<tr>
<td>ESE 4031</td>
<td>Optimization for Engineered Planning, Decisions and Operations</td>
<td>3</td>
</tr>
<tr>
<td>or ESE 415</td>
<td>Optimization</td>
<td></td>
</tr>
<tr>
<td>ESE 441</td>
<td>Control Systems</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total Units</td>
<td>9</td>
</tr>
</tbody>
</table>

Students must also select 6 units of Systems Science & Engineering electives from the following list:

- ESE 400 through 425
- ESE 440 through 459 (except 449)
- ESE 470 through 499

For more information, contact the director for the minor, Shen Zeng (https://engineering.wustl.edu/faculty/Shen-Zeng.html).