Financial Systems Engineering Graduate Certificate

Banner Code: VS-CERG-FNSE

Academic Advising

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Financial systems engineering is a cross-disciplinary field which relies on mathematical finance, numerical methods, and computer simulations to make trading, hedging, and investment decisions, as well as facilitating the risk management of those decisions. The Graduate Certificate in Financial Systems Engineering (FSE) is intended for students who want to advance their knowledge in global financial systems, financial engineering, and financial decision analysis. Students get an understanding of the theory and/or tools of the financial systems, derivatives, investment analysis, and risk management. The certificate may be pursued concurrently with any of the graduate degree programs in the Volgenau School of Engineering (VSE).

This graduate certificate may only be pursued on a part-time basis.

Admissions & Policies

Admissions

The FE certificate will be open to all students who hold a BS degree in scientific and engineering disciplines from an accredited university program, with a GPA minimum established by VSE for all MS programs. Students who are already enrolled in a master's program must submit an application form to enroll in this certificate program; all others must apply for graduate admission to this certificate program.

Policies

For policies governing all graduate certificates, see AP.6.8 Requirements for Graduate Certificates.

Requirements

Certificate Requirements

Total credits: 12

To be eligible for a certificate in Financial Systems Engineering, students must complete three required courses (9 credits) plus one elective course (3 credits) with an average grade of B or better.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYST/OR 538</td>
<td>Analytics for Financial Engineering and Econometrics</td>
<td>3</td>
</tr>
<tr>
<td>SYST/OR 588</td>
<td>Financial Systems Engineering I: Introduction to Options, Futures, and Derivatives</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective

Select one from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR 654</td>
<td>Stochastic Processes</td>
<td>3</td>
</tr>
<tr>
<td>OR 682</td>
<td>Computational Methods in Engineering and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>SYST 584</td>
<td>Heterogeneous Data Fusion</td>
<td>3</td>
</tr>
<tr>
<td>SYST 671</td>
<td>Judgment and Choice Processing and Decision Making</td>
<td>3</td>
</tr>
</tbody>
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Total Credits 9

Courses designated as basic methods courses may also be used as the elective.