ADVANCED ANALYTICS IN
INDUSTRIAL & ENTERPRISE
SYSTEMS ENGINEERING
CONCENTRATION

for the concentration of Advanced Analytics in Industrial & Enterprise Systems Engineering (on campus & online)

The Advanced Analytics in Industrial & Enterprise Systems Engineering Concentration prepares students to relate the application of engineering approaches and methods to the analysis and management of engineering and business processes which are data-oriented. Students will be able to provide companies and organizations with the ability to convert the massive amounts of data received into useful information that can help shape the decisions companies and organizations make.

Students must be enrolled in the Industrial Engineering MS (http://catalog.illinois.edu/graduate/engineering/industrial-engineering-ms/) (thesis or non-thesis) or Financial Engineering MS (http://catalog.illinois.edu/graduate/bus_engineering/financial-engineering-ms/) degree programs. After the first enrolled semester the student notifies the ISE Graduate Programs Office of their intention to enroll in the concentration and file a petition to add the Advanced Analytics Concentration with the Graduate College.

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The Advanced Analytics in Industrial & Enterprise Engineering Concentration is available and all 12 hours count towards completion of:

Industrial Engineering MS (http://catalog.illinois.edu/graduate/engineering/industrial-engineering-ms/)

Financial Engineering, MS (http://catalog.illinois.edu/graduate/bus_engineering/financial-engineering-ms/)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE 434</td>
<td>Deep Learning: Mathematics and Applications (Deep Learning: Mathematics and Applications)</td>
<td>8</td>
<td>Advanced Analytics Core:</td>
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<tr>
<td>IE 522</td>
<td>Statistical Methods in Finance</td>
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<td>IE 525</td>
<td>Stochastic Calculus &amp; Numerical Models in Finance</td>
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<td>IE 529</td>
<td>Stats of Big Data &amp; Clustering</td>
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<td>IE 531</td>
<td>Algorithms for Data Analytics</td>
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<td>IE 532</td>
<td>Analysis of Network Data</td>
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<td></td>
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<tr>
<td>IE 533</td>
<td>Big Graphs and Social Networks</td>
<td></td>
<td></td>
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<tr>
<td>IE 534</td>
<td>Deep Learning</td>
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Take an additional core course from above, or select one from list below

IE 400 | Design & Anlys of Experiments | |

Total Hours 12

Other Requirements

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<th>Requirement</th>
<th>Description</th>
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<td>Students to earn a B or better in each concentration course.</td>
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Department of Industrial & Enterprise Systems Engineering

Department Head: Jeff Shamma (jshamma@illinois.edu)

Associate Head of Graduate Studies: Ramavarapu S Sreenivas (rsree@illinois.edu)

Department of Industrial & Enterprise Systems Engineering website (https://ise.illinois.edu/)

Department of Industrial & Enterprise Systems Engineering faculty (https://ise.illinois.edu/directory/faculty.html)

Program website (https://ise.illinois.edu/graduate/degrees-and-programs/advanced-analytics-concentration.html)

117 Transportation Building, 104 S Mathews Ave, Urbana, IL 61801

(217) 333-2730

Department of Industrial & Enterprise Systems Engineering email (ise-grad@illinois.edu)

Grainger College of Engineering

Grainger College of Engineering website (https://grainger.illinois.edu/)

Admissions

Department of Industrial & Enterprise Systems Engineering Overview of Admissions & Requirements (https://ise.illinois.edu/graduate/admissions/)

Graduate College Admissions & Requirements (https://grad.illinois.edu/admissions/apply/)

Information listed in this catalog is current as of 05/2024