# Statistics

**STAT 430  Topics in Applied Statistics**  credit: 3 OR 4 hours.

Formulation and analysis of mathematical models for random phenomena; extensive involvement with the analysis of real data; and instruction in statistical and computing techniques as needed. 3 undergraduate hours. 4 graduate hours. May be repeated with approval. Prerequisite: STAT 410 or STAT 420; or consent of instructor.

<table>
<thead>
<tr>
<th>CRN</th>
<th>Type</th>
<th>Section</th>
<th>Time</th>
<th>Days</th>
<th>Location</th>
<th>Instructor</th>
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</thead>
<tbody>
<tr>
<td>60255</td>
<td>Lecture-Discussion</td>
<td>1GR</td>
<td>08:00 AM - 09:20 AM</td>
<td>TR</td>
<td>103 - Transportation Building</td>
<td>Hua, L</td>
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</tbody>
</table>

Credit Hours: 4 hours  
Machine Learning Financial Data  
Restricted to Graduate - Urbana-Champaign.  
For up-to-date information about statistics course registration, please see our registration update pages: go.illinois.edu/StatisticsRegistration  
TOPIC: Machine Learning for Financial Data  
PREREQS: A course in linear regression, such as STAT 420 or STAT 425; and basic knowledge about classical machine learning techniques at the level of the book "An Introduction to Statistical Learning"; and basic skills in using R to implement machine learning algorithms and conduct data analysis; DESCRIPTION: This course introduces modern machine learning techniques that are tailored for analyzing financial data. Topics include Financial Data Preprocessing, Ensemble Methods, Cross Validation, Convolutional Neural Networks, Recurrent Neural Networks with Long Short-Term Memory / Gated Recurrent Units, Generative Adversarial Networks. The emphasis is on the basics of these methods and their relevant applications with financial data.

| 60257  | Lecture-Discussion    | 1UG     | 08:00 AM - 09:20 AM | TR   | 103 - Transportation Building | Hua, L     |

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| 55664  | Lecture-Discussion    | 2GR     | 10:00 AM - 10:50 AM | MWF  | 144 - Loomis Laboratory |            |

Credit Hours: 4 hours  
Section Pending  
Restricted to Graduate - Urbana-Champaign.  
PENDING section may or may not be offered. Please plan your schedule as if this will NOT be offered. For up-to-date information about statistics course registration, please see our registration update pages: go.illinois.edu/StatisticsRegistration  
TOPIC: TBD

| 55666  | Lecture-Discussion    | 2UG     | 10:00 AM - 10:50 AM | MWF  | 144 - Loomis Laboratory |            |

Credit Hours: 3 hours  
Section Pending  
Restricted to Undergrad - Urbana-Champaign.
| PENDING section may or may not be offered. Please plan your schedule as if this will NOT be offered. For up-to-date information about statistics course registration, please see our registration update pages: go.illinois.edu/StatisticsRegistration | TOPIC: TBD |