Applied Statistical Methods

The Applied Statistical Methods Graduate Certificate provides professionals with advanced skills and tools to collect data, analyze it, and interpret results across a wide variety of high tech companies.

Who should enroll in this program?

This program is designed for data analysts, production engineers, financial analysts, information specialists, and technical supervisors.

What are the Required Courses?

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>MATH 661</td>
<td>Applied Statistics</td>
<td>3</td>
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<tr>
<td>MATH 644</td>
<td>Regression Analysis Methods *</td>
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Electives

Select two of the following:

<table>
<thead>
<tr>
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<tr>
<td>MATH 698</td>
<td>Sampling Theory</td>
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<td>MATH 699</td>
<td>Design and Analysis of Experiments</td>
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<td>MATH 664</td>
<td>Methods for Statistical Consulting</td>
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<td>MATH 646</td>
<td>Time Series Analysis</td>
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* indicates as available online

What will I learn?

How to collect data, how to analyze and summarize data and how to interpret the results. The techniques learned in this certificate can be applied to quality control, production design and analysis, telecommunications, financial analysis, and risk analysis. This certificate will help the data analysts in conducting appropriate statistical analyses of their data and helping the technical supervisors in understanding the results of statistical analyses conducted by other people.

- Role of sample surveys. Sampling from finite populations. Sampling designs, the Horowitz-Thompson estimator of the population mean. Different sampling methods, simple random sampling, stratified sampling, ratio and regression estimates, cluster sampling, systematic sampling.
- Statistically designed experiments and their importance in data analysis, industrial experiments. Role of randomization. Fixed and random effect models and ANOVA, block design, latin square design, factorial and fractional factorial designs and their analysis.
- Communicating with scientists in other disciplines. Statistical tools for consulting. Using statistical software such as JMP, SAS, and S-plus. Case studies which illustrate using statistical methodology and tools are presented by the instructor and guest speakers from academia and industry.

Why study Applied Statistical Methods at NJIT?

The graduate certificate’s narrow focus allows you to dig deep into this specific topic, and start applying your knowledge sooner. Earn this certificate on our NJIT Newark campus. And you’ll learn from NJIT’s distinguished professors and instructors.

Prerequisites

Applicants must have an undergraduate degree from an accredited institution with at least 12 credits in mathematics, including calculus. Students who do not meet these requirements may be admitted if they satisfy the university's requirements for admission. An undergraduate GPA of at least 3.0 on a 4.0 scale or equivalent is normally required.

Related Degree Programs

Gainful Employment Disclosure

Click here (http://www.njit.edu/graduatestudies/sites/graduatestudies/files/gainfulemployment/applied-statistical-methods-cert-gainful-employment.html) for the Gainful Employment Disclosure for this program.

Faculty Advisor: Ji Meng Loh (http://directory.njit.edu/PersDetails.aspx?persid=loh)