BIOINFORMATICS, GRADUATE/PROFESSIONAL CERTIFICATE

Admissions to the Bioinformatics, Graduate/Professional Certificate have been suspended as of spring 2019 and will be discontinued as of spring 2022. If you have any questions, please contact the department.

Bioinformatics is the application of computational and statistical methods to molecular biology. In the realm of biological and medical science, bioinformatics is a central discipline and is placing a new demand on the training of graduate students and other scientists in the biological and computer sciences.

The educational objective of the graduate certificate program in bioinformatics is to provide added formal training for graduate students currently enrolled at UW–Madison to improve their fundamental skills in bioinformatics. The goal is to allow them to have enough basic knowledge to continue their own research and to collaborate with computer scientists specializing in bioinformatics methods.

ADMISSIONS

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The Department of Biostatistics and Medical Informatics is the administrative home of the bioinformatics certificate program.

You must be currently enrolled in a graduate program at UW–Madison.

To apply for the certificate program you must provide the following:

- A completed Graduate Certificate in Bioinformatics Application Form (https://www.biostat.wisc.edu/sites/default/files/Application.pdf)
- A Statement of Purpose explaining how the certificate program will help your current and future research
- A CV/resume
- One letter of recommendation

Please submit the listed materials to Beth Bierman, graduate coordinator, bbierman@wisc.edu

For additional information about the certificate program, see Graduate Certificate in Bioinformatics (https://www.biostat.wisc.edu/content/graduate-certificate-bioinformatics)

Applications are accepted on a rolling basis.

REQUIREMENTS

The Graduate/Professional Certificate in Bioinformatics consists of four courses for a total of 12 credits. Three of the courses are required; one is an elective. Depending on their course and/or research load, students are given two years to complete the program.

Prerequisites:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MATH 222</td>
<td>Calculus and Analytic Geometry 2</td>
<td>4</td>
</tr>
<tr>
<td>COMP SCI 300</td>
<td>Programming II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Or COMP SCI 367 - Intro to Data Structures prior to fall 2018.</td>
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Basic Course Requirements:

Choose ONE Statistics Course:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>B M I/STAT 541</td>
<td>Introduction to Biostatistics</td>
<td>3</td>
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<tr>
<td>or STAT/F&amp;W ECOL/HORT 571</td>
<td>Statistical Methods for Bioscience I</td>
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Complete BOTH of these courses:

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<tbody>
<tr>
<td>B M I/COMP SCI 576 &amp; B M I/COMP SCI 776</td>
<td>Introduction to Bioinformatics and Advanced Bioinformatics</td>
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</table>

Choose ONE elective:

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<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>B M I/STAT 542</td>
<td>Introduction to Clinical Trials I</td>
<td>3</td>
</tr>
<tr>
<td>COMP SCI 540</td>
<td>Introduction to Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>COMP SCI 564</td>
<td>Database Management Systems: Design and Implementation</td>
<td>4</td>
</tr>
<tr>
<td>COMP SCI 577</td>
<td>Introduction to Algorithms</td>
<td>4</td>
</tr>
<tr>
<td>COMP SCI 731</td>
<td>Advanced Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>COMP SCI 760</td>
<td>Machine Learning</td>
<td>3</td>
</tr>
<tr>
<td>COMP SCI 766</td>
<td>Computer Vision</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/B M I 617</td>
<td>Health Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>MATH 605</td>
<td>Stochastic Methods for Biology</td>
<td>3</td>
</tr>
<tr>
<td>MATH/B M I/BIOCHEM/BMOLCHEM 606</td>
<td>Mathematical Methods for Structural Biology</td>
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<tr>
<td>MATH 608</td>
<td>Mathematical Methods for Continuum Modeling in Biology</td>
<td>3</td>
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