ROBOTICS (MINOR)

Program Description
The Minor in Robotics provides students with a foundation in the fundamental areas of the interdisciplinary field of robotics. Together with a degree in engineering or computer science, the Minor in Robotics prepares students for careers and graduate studies in robotics.

Admissions
New York University’s Office of Undergraduate Admissions supports the application process for all undergraduate programs at NYU. For additional information about undergraduate admissions, including application requirements, see How to Apply (https://www.nyu.edu/admissions/undergraduate-admissions/how-to-apply.html).

Program Requirements
The minor requires the completion of 14 credits, comprised of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROB-UY 2004</td>
<td>ROBOTIC MANIPULATION AND LOCOMOTION</td>
<td>4</td>
</tr>
<tr>
<td>ROB-UY 3203</td>
<td>ROBOT VISION</td>
<td>3</td>
</tr>
<tr>
<td>ROB-UY 3303</td>
<td>ROBOT MOTION AND PLANNING</td>
<td>3</td>
</tr>
<tr>
<td>ROB-UY 3404</td>
<td>INTRODUCTION TO HAPTICS AND TELEROBOTICS IN MEDICINE</td>
<td>4</td>
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</tbody>
</table>

Total Credits 14

Interested students should allow 4 semesters (two years) to complete the four courses for the Minor in robotics.

Minor Prerequisites
The courses for the Minor in Robotics have the following prerequisites in computer science, mathematics, and physics.

1. Computer Science - Introduction to Programming
2. Mathematics - Differential Equations and Linear Algebra
3. Physics - Mechanics

Students at NYU Tandon and other schools of NYU who meet the prerequisites may enroll in ROB-UY courses. Various courses across NYU schools and NYU global campuses satisfy these prerequisites, as follows.

1. The Computer Science prerequisite is satisfied by any of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CS-UY 1114</td>
<td>INTRO TO PROGRAMMING &amp; PROBLEM SOLVING</td>
<td>4</td>
</tr>
<tr>
<td>CS-UY 1113</td>
<td>PROBLEM SOLVING AND PROGRAMMING I</td>
<td>3</td>
</tr>
<tr>
<td>CS-UY 1133</td>
<td>Engineering Problem Solving and Programming</td>
<td>3</td>
</tr>
<tr>
<td>ENGR-UH 1000</td>
<td>Computer Programming for Engineers</td>
<td>4</td>
</tr>
<tr>
<td>CS-UH 1001</td>
<td>Introduction to Computer Science</td>
<td>4</td>
</tr>
<tr>
<td>CSCI-SHU 11</td>
<td>Introduction to Computer Programming</td>
<td>4</td>
</tr>
<tr>
<td>CSCI-SHU 101</td>
<td>Introduction to Computer and Data Science</td>
<td>4</td>
</tr>
</tbody>
</table>

2. The Mathematics prerequisites is satisfied by a single course covering linear algebra and differential equations or by separate courses in linear algebra and differential equations.

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Course       | Title                                      | Credits |
-------------|--------------------------------------------|---------|
MA-UY 2034   | Linear Algebra and Differential Equations  | 4       |
MA-UY 265    | Linear Algebra and Differential Equations  | 4       |
MA-UY 3034   | APPLIED LINEAR ALGEBRA                     |         |
MA-UY 140    | Linear Algebra                             |         |
MATH-UH 1022 | Linear Algebra                             |         |
MATH-UH 140  | Linear Algebra                             |         |
MA-UY 4204   | Ordinary Diff Equations                    |         |
MATH-UH 262  | Ordinary Diff Equations                    |         |
MATH-UH 1024 | Fundamentals of Ordinary Differential Equations | 4   |
MATH-UH 262  | Ordinary Differential Equations            |         |
MA-UY 1013   | MECHANICS                                  | 3       |
PHYS-UA 11   | General Physics I                          | 5       |
PHYS-UA 91   | Physics I                                  | 3       |
ENGR-UH 2012 | Conservation Laws in Engineering           | 2       |
PHYS-SHU 11  | General Physics I                          | 3       |
PHYS-SHU 91  | Foundations of Physics I Honors             | 3       |
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Notes
'UH' designates courses offered at NYU-Abu Dhabi
'SHU' designates courses offered at NYU-Shanghai

Policies

Minor GPA Policy
In order for the Minor to be awarded and recorded on the official student transcript, the student must obtain an overall 2.00 GPA in the Minor courses.

NYU Policies
University-wide policies can be found on the New York University Policy pages (https://bulletins.nyu.edu/nyu/policies/).

Tandon Policies
Additional academic policies can be found on the Tandon academic policy page (https://bulletins.nyu.edu/undergraduate/engineering/academic-policies/).