Graduate Certificate: High-Performance Computing for Scientific Applications

COLLEGE OF SCIENCE AND TECHNOLOGY

Learn more about the graduate certificate in High-Performance Computing for Scientific Applications.

About the Certificate

The graduate certificate in High-Performance Computing for Scientific Applications is designed to serve working professionals who need academic credentials for career advancement. Students are introduced to a portfolio of knowledge and experience that enables them to tackle problems using high-performance computing by:

• obtaining a fundamental understanding of the mathematical foundations and structure of numerical methods and parallel computing;
• becoming proficient in using hardware, algorithms, and programming;
• effectively applying high-performance computing to a variety of real-world problems, across multiple application fields; and
• gaining knowledge and skills applicable to academia, industry, and government.

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis. NOTE: International students may not be eligible to apply for a student visa based on admission to the certificate program. Please contact the graduate chairperson for more information.

Non-Matriculated Student Policy: Students can take up to 9 credits on a non-matriculated basis. When they complete 9 credits, they must declare their intention to complete the graduate certificate in High-Performance Computing for Scientific Applications by completing and submitting the “Non-Degree Seeking Student Request to Exceed 9 Credits of Graduate Coursework for Certificate Program,” found in TUportal under the Tools tab within “University Forms.”

Admission Requirements and Deadlines

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 13-14

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 5061</td>
<td>Fundamentals of Computer Programming for Scientists and Engineers</td>
<td>4</td>
</tr>
<tr>
<td>MATH 5062</td>
<td>High Performance Computer Programming for Scientific Modeling</td>
<td>3</td>
</tr>
<tr>
<td>MATH 5063</td>
<td>Introduction to High-Performance Computing Technology for Scientists</td>
<td>4</td>
</tr>
<tr>
<td>MATH 5066</td>
<td>Mathematical Methods for High Performance Computing</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credit Hours: 14

Students may replace any one course on the list with a graduate-level course approved by the advisor. If a 3-credit graduate course is substituted for a 4-credit core course, then the certificate may be completed in 13 credits.

GPA Required to be Awarded the Certificate: 3.0 minimum

Contacts

Certificate Program Web Address:
https://www.temple.edu/academics/degree-programs/high-performance-computing-for-scientific-applications-certificate-graduate-st-hpc-grad

Department Information:

Dept. of Mathematics
638 Wachman Hall
1805 N. Broad Street
Submission Address for Application Materials:
https://cst.temple.edu/academics/graduate-programs/apply-now

Department Contacts:

Graduate Chairperson:
Yury Grabovsky, Ph.D.
grad.math@temple.edu
215-204-1650

Chairperson:
Irina Mitrea, Ph.D.
mathematics@temple.edu
215-204-4650