Master of Science in Computational Science and Engineering

The Master of Science in CSE is a one-year program of study offered by the Harvard School of Engineering and Applied Sciences. Students will achieve expertise in modeling and simulation as well as algorithms, parallel programming and analysis, and visualization of large data sets. Coursework includes a core of four courses in Applied Mathematics and Computer Science.

To earn this degree, a candidate must complete eight courses and an oral examination. A model plan of study includes both independent study and elective courses applying computation to a chosen domain.

Course requirements

<table>
<thead>
<tr>
<th>Category</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>core: AM 205/207, CS 205/207</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Applied Math electives*</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science electives*</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>domain electives</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>299r research courses</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>AC298r seminar</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>a total of 8 courses from these categories</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Approved electives are listed at [www.seas.harvard.edu/computational-science-and-engineering/cse-courses](http://www.seas.harvard.edu/computational-science-and-engineering/cse-courses)

To apply

Application is through the Graduate School of Arts and Sciences. Visit [gsas.harvard.edu](http://gsas.harvard.edu) for details. The 2013 application deadline is December 16.

Questions?

Contact Daniel Weinstock, Assistant Director of Graduate Studies in CSE, dweinsto@seas.harvard.edu

Institute for Applied Computational Science

[iacs.seas.harvard.edu](http://iacs.seas.harvard.edu)
IACS courses offered 2013–14

**fall core courses**

**AM 205 Advanced Scientific Computing: Numerical Methods**
An examination of the mathematical foundations or a range of well-established numerical algorithms, exploring their use through practical examples.

**CS 205 Computing Foundations for Computational Science**
An applications course highlighting the use of computers in solving scientific problems. Emphasizes parallel programming and “parallel thinking.”

**spring core courses**

**AM 207 Advanced Scientific Computing: Stochastic Optimization Methods**
Develops skills for computational research with a focus on stochastic approaches, emphasizing implementation and examples.

**CS 207 Systems Design for Computational Science**
A project-based course emphasizing designing, building, testing, maintaining and modifying software for scientific computing.

**electives**

**AC 209 Data Science** fall
**AC 274 Computational Fluid Dynamics** spring
**AC 275 Computational Design of Materials** fall
**AC 298r Interdisciplinary Seminar in Computational Science and Engineering** spring

Institute for Applied Computational Science
HARVARD SCHOOL OF ENGINEERING AND APPLIED SCIENCES

iacs.seas.harvard.edu