

Mathematics-Computer Science Major Application

UCSD Student ID #	Date
Last Name	First Name
	MI
Email	Phone Number

1) I am enrolled in the following UCSD College (check one):

<input type="checkbox"/> Thurgood Marshall	<input type="checkbox"/> Eleanor Roosevelt
<input type="checkbox"/> John Muir	<input type="checkbox"/> Earl Warren
<input type="checkbox"/> Revelle	<input type="checkbox"/> Sixth College

2) The quarter and year I entered UCSD was:

Quarter (Fall, Winter, Spring or Summer):	Year:

3) I entered UCSD as a (check one):

<input type="checkbox"/> Transfer Student	<input type="checkbox"/> First Year Student
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4) The Academic Senate approved a minimum GPA requirement of 2.5 in the lower division mathematics courses required for the Math-Computer Science major. The 2.5 minimum GPA in the lower division math courses reflects minimal preparation for upper division courses required for the major. Therefore, please indicate the following, where applicable:

UCSD Course	Grade (or AP Score)	Junior College (if transfer course)	Junior College Course
Math 20A			
Math 20B			
Math 21C			
Math 21D			
Math 20E			
Math 20F			

For Mathematics Department Use Only:

Basis	Date	Approved	Disapproved
<input type="checkbox"/> 1 st YR FA02 and later			
<input type="checkbox"/> Transfer FA03 and later			
<input type="checkbox"/> 1 st YR Prior FA02			
<input type="checkbox"/> Transfer Prior FA03			
Department Stamp			

Submit completed application to the Math Advising Office (AP&M 2313). Application deadline is before the instruction period ends in the spring term of applicant's sophomore year. See reverse side for the requirements of the Math-CS major.

Mathematics-Computer Science Major Application

Mathematics - Computer Science Major Requirements

Effective Fall 2001

Graduates of this program will be mathematically oriented computer scientists who have specialized in the mathematical aspects and foundations of Computer Science. Based upon past student performance, the Mathematics Department recommends that students who want to complete the Math-Computer Science major achieve at least a 2.5 GPA in all lower division mathematics courses.

Lower-Division Requirements

- | | | |
|----|--|---|
| 1. | Math 20A-B
Math 21C
Math 21D
Math 20E
Math 20F | Calculus for Science and Engineering
Calculus and Analytical Geometry
Introduction to Differential Equations
Vector Calculus
Linear Algebra |
| 2. | One of the following:
CSE 11
Or
CSE 8A-B | Introduction to Computer Science: Java (Accelerated Pace)

Introduction to Computer Science: Java |
| 3. | CSE 12 | Data Structures and Object-Oriented Programming |
| 4. | CSE 30 | Computer Organization and Systems Programming |

Upper-Division Requirements

- | | | |
|-----|---|--|
| 1. | Math 109 | Mathematical Reasoning |
| 2. | Math 103A-B | Modern Applied Algebra (100A-B may be substituted) |
| 3. | Math 166 | Theory of Computability (or CSE 105) |
| 4. | Math 176 | Advanced Data Structures (or CSE 100) |
| 5. | Math 180A | Introduction to Probability (Duplication of credit w/ Math 183) |
| 6. | Math 184A | Mathematical Foundations of Computer Science |
| 7. | Math 188 | Design and Analysis of Algorithms (or CSE 101) |
| 8. | Any eight units from: | |
| | Math 170A | Numerical Linear Algebra |
| | Math 170B | Numerical Analysis |
| | Math 170C | Numerical Ordinary Differential Equations |
| | Math 172 | Numerical Partial Differential Equations |
| | Math 173 | Mathematical Software-Scientific Programming |
| | Math 174 | Numerical Methods in Science and Engineering
(Duplication of credit w/ Math 170A, Math 170B and/or Math 170C) |
| 9. | Any eight units from: | |
| | Math 107A-B | Computer Algebra |
| | Math 155A-B | Computer Graphics |
| | Math 160A-B | Elementary Math. Logic |
| | Math 166B | Theory of Computability |
| | Math 168A-B | Topics in Applied Math-Computer Science |
| | Math 184B | Mathematical Foundations of Computer Science |
| | Math 187 | Introduction to Cryptography |
| | CSE 120-121 | Computer Operating Systems |
| | CSE 130 | Programming Languages |
| | CSE 131A-B | Compiler Construction |
| | CSE 140-140L | Components and Design Techniques for Digital Systems |
| | CSE 141-141L | Introduction to Computer Architecture |
| 10. | Any additional eight units in list 8 or list 9 or from: | |
| | Math 102 | Applied Linear Algebra |
| | Math 110 | Introduction to Partial Differential Equations (PDE) |
| | Math 130A-B | Ordinary Differential Equations (ODE) |
| | Math 131 | Variational Methods in Optimization |
| | Math 132A-B | Elements of PDE and Integral Equations |
| | Math 140A-B | Foundations of Analysis |
| | Math 142A-B | Advanced Calculus |
| | Math 171A-B | Mathematical Programming |
| | Math 180 B-C | Introduction to Probability |
| | Math 181A-B-C | Introduction to Statistics |

In order to graduate by the end of their senior year, students must complete Mathematics 103A, 103B, and 166 by the end of their junior year. *Updated: 07/23/01*