The Threads™ represent partial paths through the curriculum. Thus, a student weaves a degree from these Threads. Students are not forced to make Thread decisions very early in their academic careers; however, they may if they want. We define the Threads so they are flexible enough to allow for a variety of technical and creative experiences. Threads are coherent enough that students develop computing skills even if their focus shifts as they go along.

The Media thread is where computing meets design. This thread prepares students by helping them to understand the technical and computational capabilities of systems in order to exploit their abilities to provide creative outlets.

The Information Internetworks thread is where computing meets the data enterprise and all that this implies. The thread prepares students for all levels of information management by helping them to capture, represent, organize, transform, communicate, and present data so that it becomes information.

**Wellness**

- APPH 1040 Scientific Foundations of Health 2
- or APPH 10 The Science of Physical Activity and Health

**Core A - Essential Skills**

- ENGL 1101 English Composition I 3
- ENGL 1102 English Composition II 3
- MATH 1552 Integral Calculus 4

**Core B - Institutional Options**

- CS 1301 Introduction to Computing 3

**Core C - Humanities**

Any HUM (http://www.catalog.gatech.edu/academics/undergraduate/core-curriculum/core-area-c) 6

**Core D - Science, Math, & Technology**

- PHYS 2211 Introductory Physics I 4
- Lab Science 4
- MATH 1551 Differential Calculus 2
- MATH 1554 Linear Algebra 4

**Core E - Social Sciences**

Select one of the following:

- HIST 2111 The United States to 1877
- HIST 2112 The United States since 1877
- INTA 1200 American Government in Comparative Perspective
- POL 1101 Government of the United States
- PUBP 3000 American Constitutional Issues

- Any SS (http://www.catalog.gatech.edu/academics/undergraduate/core-curriculum/core-area-e) 9

**Core F - Courses Related to Major**

Lab Science 4

**Major Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 1100 Freshman Leap Seminar</td>
<td>1</td>
</tr>
<tr>
<td>CS 1331 Introduction to Object Oriented Programming ¹</td>
<td>3</td>
</tr>
<tr>
<td>CS 1332 Data Structures and Algorithms for Applications ¹</td>
<td>3</td>
</tr>
<tr>
<td>CS 2050 Introduction to Discrete Mathematics for Computer Science ²</td>
<td>3</td>
</tr>
<tr>
<td>or CS 2051 Honors - Induction to Discrete Mathematics for Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2550 Introduction to Multivariable Calculus ³</td>
<td>2</td>
</tr>
</tbody>
</table>

**Concentration**

Select one of the following for Advanced Information Management:

- CS 3251 Computer Networking I (if not taken for Introduction to Information Management) 3
- CS 4235 Introduction to Information Security (if not taken for Introduction to Information Management) 3
- CS 2110 Computer Organization and Programming ¹ 4
- CS 2200 Computer Systems and Networks ¹ 4
- CS 3451 Computer Graphics ¹ 3
- CS 3510 Design and Analysis of Algorithms ¹ 3
- CS 3511 Design and Analysis of Algorithms, Honors 3

Select six credit hours of the following for Introduction to Information Management:

- CS 3251 Computer Networking I
- CS 4235 Introduction to Information Security
- CS 4400 Introduction to Database Systems

Select one of the following for Advanced Information Management:

- CS 3251 Computer Networking I (if not taken for Introduction to Information Management)
- CS 4235 Introduction to Information Security (if not taken for Introduction to Information Management)

- CS 2200 Computer Systems and Networks ¹
- CS 3451 Computer Graphics ¹
- CS 3510 Design and Analysis of Algorithms ¹
- CS 3511 Design and Analysis of Algorithms, Honors

Select six credit hours of the following for Media Technologies:

- CS 4455 Video Game Design and Programming
- CS 4460 Introduction to Information Visualization
- CS 4464 Computational Journalism
- CS 4475 Computational Photography
- CS 4480 Digital Video Special Effects

**Junior Design Options (Capstone)**

- Junior Design Option ¹,² 6
International Plan designation may not be available with all of the Thread combinations. Efforts will be made to work with interested students to accommodate their individual circumstances with regard to the International Plan designator for the Bachelor of Science in Computer Science.

### Research Option

To complete the Research Option in the College of Computing, students must:

1. Complete at least nine units of undergraduate research:
   a. Over at least two, preferably three terms
   b. Research may be for either pay or credit;
2. Write an undergraduate thesis/report of research on their findings;
3. Take
   a. LMC 4701: Undergraduate Research Proposal Writing (taken during the first or second semester of research)
   b. LMC 4702: Undergraduate Research Thesis Writing (taken during the thesis writing semester).

### Research Classes

The following classes count toward fulfillment of the Research Option:

#### Research for Credit

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CS 2699</td>
<td>Undergraduate Research (Freshman and Sophomore)</td>
<td>1-12</td>
</tr>
<tr>
<td>CS 4699</td>
<td>Undergraduate Research (Junior and Senior)</td>
<td>1-12</td>
</tr>
<tr>
<td>CS 4980</td>
<td>Research Capstone Project</td>
<td>1-21</td>
</tr>
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</table>

#### Research for Pay (Audit only)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 2698</td>
<td>Undergraduate Research Assistantship (Freshman and Sophomore)</td>
<td>1-12</td>
</tr>
<tr>
<td>CS 4698</td>
<td>Undergraduate Research Assistantship (Junior and Senior)</td>
<td>1-12</td>
</tr>
</tbody>
</table>

To get credit toward completion of the Research Option for research for pay, students must be registered for the appropriate audit-only, research for pay class (CS 2698 or 4698). If work on research for pay begins after the close of registration and the student has not signed up for the appropriate class, unfortunately it is not possible to get credit toward the Research Option for work that term.

A research project will also fulfill the capstone design requirement if the student registers for CS 4980 for one of the research terms. This is typically done the last semester of research, while taking LMC 4702.

Completion of the Research Option is noted on the student’s transcript. For more information, see www.urop.gatech.edu.

### Contact Us

General Research Option Information (http://www.catalog.gatech.edu/academics/special-academic-programs/undergraduate-research-opportunities-program)