Undergraduate Options

This section of the catalog introduces some of the options that undergraduate students can choose from to supplement their degree program, advance their career objectives, or focus on an interest that may be unrelated to their major. From IDEaTE, which offers minors and courses in areas that merge technology and creativity like Game Design, to Student Defined Majors, which is designed for students whose academic goals cannot be adequately served by curricula of existing majors or minors, learn more about the additional options offered to CMU's undergraduate students.

Additional Majors/Dual Degrees

Students interested in pursuing more than one area of study are encouraged to consider an additional major or dual degree. Students who complete an additional major will earn a single degree in two areas. Generally, it is possible to fulfill the requirements of both majors in four years by taking the course requirements of the second major in the elective spaces allowed by the first major.

Some majors are offered only as additional majors:

- Students in the College of Engineering may elect to double major in Biomedical Engineering (http://coursecatalog.web.cmu.edu/schools-colleges/courses/addlmajorsminors/departmentofbiomedicalengineering/#courserequirementsfortheadditionalmajor.degree.text) or Engineering and Public Policy (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/departmentengineeringandpublicpolicy/#doublemajorscurriculumtext), which are offered only as an additional major.


Dual Degree programs allow students to earn two degrees. Students who are interested in an additional major or dual degree are encouraged to review the specific possibilities with the relevant academic advisor.

Accelerated Master's Programs

Qualified undergraduates may apply to one of several programs to earn their bachelor's and master's degrees in five years. For further details about these programs, please refer to the appropriate college or departmental sections.

College of Engineering

The five-year Integrated Master's/Bachelor's programs offered by the Departments of Electrical and Computer Engineering and Civil and Environmental Engineering offers students superior technical preparation for careers in industry. The Departments of Chemical Engineering and Mechanical Engineering also offer fifth-year Accelerated Master's programs. The Department of Materials Science and Engineering offers a cooperative Industrial Internship Option in which students alternate coursework with practical experience in industry. Admission is highly competitive and leads to a Master of Science degree.

Dietrich College of Humanities and Social Sciences

The Department of Philosophy offers two bachelor's/master's degree options: the Bachelor's in Logic and Computation and Master's in Logic, Computation & Methodology degree as well as a Bachelor's/Master's degree in Philosophy. The Institute for Politics and Strategy offers an accelerated Master of Science degree in International Relations and Politics. The Master of Arts in Teaching English to Speakers of Other Languages (TOESL) is a fifth-year master’s option for Modern Language students who are concentrating in English as a Second Language. Also, the Department of English offers an accelerated program for undergraduates to obtain a Master of Arts in Professional Writing.

Heinz College of Information Systems and Public Policy

Heinz College's Accelerated Master's program allows qualified undergraduate students to earn a prestigious Master of Science degree in Public Policy and Management. For students in the College of Fine Arts or the Bachelor of Humanities and Arts degree program who are interested in careers in arts management, the program leads to a Master of Arts Management degree.

Mellon College of Science

The Honors Programs in the Departments of Chemistry and Mathematics are demanding, accelerated programs that give highly qualified students the opportunity to earn their bachelor's and master's degrees in just four years. Admission is by invitation only.

Tepper School of Business

Students who are interested in business management may wish to consider the Tepper School of Business 3-2 program. Qualified undergraduate students may earn their Master of Business Administration in addition to their bachelor's degree.

Health Professions Program

Jason D'Antonio, PhD, Director

Location: Doherty Hall 1324

Phone: 412-268-8494

The Health Professions Program (http://www.cmu.edu/hpp/) (HPP) at Carnegie Mellon University is an advising and resource center for all university students and alumni who are interested in one or more aspects of the health professions. This program complements a student’s curricular advising and is meant to help students explore their interests, prepare for graduate programs in the health professions, and facilitate their application process. Students can enroll in the program at any time during their academic career, but the importance of early planning is communicated to interested first-year students. Once enrolled, students meet regularly with the director to discuss course requirements, medical exposure opportunities, and other aspects of preparing to be a competitive candidate. Students in the HPP span all colleges of the university and have many diverse career interests including medicine, dentistry, optometry, biomedical research, medical physics, rehabilitation engineering, medical informatics, and health policy.

For students interested in medicine or dental medicine, regardless of a student's major, the basic course requirements outlined below must be completed prior to matriculation:

1. One year of Biology with one lab, plus Biochemistry.

This is typically fulfilled by the following Carnegie Mellon courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>03-121</td>
<td>Modern Biology</td>
<td>9-10</td>
</tr>
<tr>
<td>03-151</td>
<td>Honors Modern Biology</td>
<td></td>
</tr>
<tr>
<td>03-139</td>
<td>Structure and Function of the Human Body</td>
<td>9</td>
</tr>
<tr>
<td>03-202</td>
<td>Physiology</td>
<td></td>
</tr>
<tr>
<td>03-220</td>
<td>Genetics</td>
<td></td>
</tr>
<tr>
<td>03-320</td>
<td>Cell Biology</td>
<td></td>
</tr>
<tr>
<td>02-124</td>
<td>Modern Biology Laboratory</td>
<td>9-12</td>
</tr>
<tr>
<td>02-343</td>
<td>Experimental Techniques in Molecular Biology</td>
<td></td>
</tr>
<tr>
<td>03-206</td>
<td>Biomedical Engineering Laboratory</td>
<td></td>
</tr>
<tr>
<td>02-261</td>
<td>Quantitative Cell and Molecular Biology Laboratory</td>
<td></td>
</tr>
<tr>
<td>03-231</td>
<td>Honors Biochemistry</td>
<td>9</td>
</tr>
<tr>
<td>03-232</td>
<td>Biochemistry I</td>
<td></td>
</tr>
</tbody>
</table>

2. One year of Inorganic Chemistry with one lab.

This is typically fulfilled by the following Carnegie Mellon courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>09-105</td>
<td>Introduction to Modern Chemistry I</td>
<td>10</td>
</tr>
<tr>
<td>09-106</td>
<td>Modern Chemistry II</td>
<td>10</td>
</tr>
<tr>
<td>09-221</td>
<td>Laboratory I: Introduction to Chemical Analysis</td>
<td>9</td>
</tr>
</tbody>
</table>

9-10

10

9
The Integrative Design, Arts and Technology (iDeATe) (http://ideate.cmu.edu/) network offers students the opportunity to become immersed in a collaborative community of faculty and peers who share expertise, experience, and passions at the intersection of arts and technology. Students will engage in active ‘learning by doing’ in the iDeATe labs and classrooms in Hunt Library. The program addresses current and emerging real-world challenges that require disciplinary expertise coupled with multidisciplinary perspectives and collaborative integrative approaches.

The iDeATe undergraduate curriculum consists of nine interrelated areas, all of which can be shaped into minors that students pursue alongside their primary majors. The themes of these areas integrate knowledge in technology and arts:

- **Game Design**: Enhance your knowledge of key component areas of games such as dramatic narrative and character development, programming and engine development, game assessment and redesign. Create games for varied platforms from mobile devices to home entertainment systems and theme parks.
- **Animation & Special Effects** (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addmajors/minors/#ideateminorstext): Explore the technical and artistic aspects of 3D and 2D animation in an integrated manner and within different application contexts (from film animation and special effects to interactive displays).
- **Media Design**: Learn to design digitally mediated experiences across different platforms, from mobile apps to large-scale installations, and for varied applications (from media for daily living to mediated performances).
- **Design for Learning**: Design effective new media systems for learning using new technologies, learning science principles and media arts knowledge. Produce engaging and effective experiences from games to tangible learning tool kits and remote systems.
- **Sonic Arts**: Create experimental music or explore new, technology-enabled applications and markets for sound design, music creation, and performance.
- **Innovation and Entrepreneurship**: Work collaboratively in hands-on explorations of the complete 21st century innovation ecosystem. You will experience integrated models of innovation that increase the likelihood of home-run products and services that will captivate society and/or the marketplace.
- **Intelligent Environments**: Develop spaces and devices that support efficiency and high quality of experience, in contexts like daily activity, built environment, making process (from laying plaster to robot development), and arts performance.
- **Physical Computing**: Build interfaces and circuitry to embed in physical contexts, such as mobile environments and new creative practice instruments.
- **Soft Technologies**: Weave together a rich set of traditions and techniques to animate soft materials and matter.

Undergraduate research is a hallmark of the educational experience at Carnegie Mellon in many disciplines. Whether in the psychology lab studying the impact of breast cancer diagnosis on family social dynamics, in the NMR lab imaging metabolic function in the heart or brain, or in the surgery suite testing robotic devices, our students have made significant achievements in research, well beyond the more traditional guided experiments.

Our university policy is to train students to be first class scientists, engineers, artists, writers, managers, or whatever their passion may be. We do not train students to be "pre-med," but if they choose to use their talents in a health profession, we offer many services to help them obtain their life goals. Regular advising, application workshops, health issue seminars and symposium, community outreach activities, and preceptorship/internship experiences are all part of our programming. The student pre-health organizations on campus: Doctors of Carnegie Society (DOCS); Minority Association of Pre-Health Students (MAPS); Alpha Epsilon Delta; Global Medical Brigades; and Global Public Health Brigades, together with the HPP, provide students with many opportunities to learn, explore, and prepare for their chosen area of professional interest.

The HPP has been successful in helping students to define, prepare for, and obtain their professional goals. Our students are regularly accepted at top-level medical, dental and graduate programs, and our alumni continue to serve as outstanding ambassadors of Carnegie Mellon and the training and experience they received here.

**iDeATe**

3. One year of Organic Chemistry with one lab. This is typically fulfilled by the following Carnegie Mellon courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>09-217</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>or 09-219</td>
<td>Organic Chemistry I</td>
</tr>
<tr>
<td>09-218</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>or 09-220</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>09-208</td>
<td>Techniques for Organic Synthesis and Analysis</td>
</tr>
<tr>
<td>or 09-222</td>
<td>Laboratory II: Organic Synthesis and Analysis</td>
</tr>
</tbody>
</table>

4. One year of Physics with one lab. This is typically fulfilled by the following Carnegie Mellon courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>33-121</td>
<td>Physics I for Science Students</td>
</tr>
<tr>
<td>or 33-141</td>
<td>Physics I for Engineering Students</td>
</tr>
<tr>
<td>33-122</td>
<td>Physics II for Biological Sciences &amp; Chemistry Students</td>
</tr>
<tr>
<td>or 33-142</td>
<td>Physics II for Engineering and Physics Students</td>
</tr>
<tr>
<td>33-100</td>
<td>Basic Experimental Physics</td>
</tr>
<tr>
<td>or 33-104</td>
<td>Experimental Physics</td>
</tr>
</tbody>
</table>

5. One year of Math. 

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-120</td>
<td>Differential and Integral Calculus</td>
</tr>
<tr>
<td>21-122</td>
<td>Integration and Approximation</td>
</tr>
<tr>
<td>or 21-124</td>
<td>Calculus II for Biologists and Chemists</td>
</tr>
<tr>
<td>or 36-200</td>
<td>Reasoning with Data</td>
</tr>
<tr>
<td>or 36-202</td>
<td>Methods for Statistics &amp; Data Science</td>
</tr>
</tbody>
</table>

6. One year of English. This is typically fulfilled by the following Carnegie Mellon courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>76-101</td>
<td>Interpretation and Argument, or any two of</td>
</tr>
<tr>
<td>97-xxx</td>
<td>English course of the student's choice, typically 200-level or higher</td>
</tr>
</tbody>
</table>

In addition to these general course requirements, recommended coursework includes statistics, behavioral sciences, ethics, and languages. Interdisciplinary studies are also strongly encouraged, and many students design an undergraduate curriculum that incorporates majors and/or minors in both the natural and social sciences.
Minors

In addition to a student’s primary degree, they can choose a minor that is a secondary focus to the student’s area of study, which can enhance a student’s breadth of study and overall experience while not requiring the same amount of coursework as a second major or degree. The following list shows available minors. Unless otherwise indicated, minors are generally open to all university undergraduate students.

Intercollege:
- Game Design (IDeATe) (http://coursecatalog.web.cmu.edu/intercollegeprograms/#ideateminorstext)
- Health Care Policy and Management (http://coursecatalog.web.cmu.edu/servicesandoptions/intercollegeprograms/#minorinhealthcarepolicyandmanagementtext) (jointly between the Dietrich College of Humanities and Social Sciences, the H. John Heinz III College, and Mellon College of Science)
- Music Technology (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofcomputerscience/addmajors/minors#minorsunderarchitecturetext) (jointly between the School of Computer Science, Mellon College of Science, and Dietrich College of Humanities and Social Sciences)
- Neural Computation (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addmajors/minors#minorsunderarchitecturetext) (jointly between the School of Computer Science, Mellon College of Science, and Dietrich College of Humanities and Social Sciences)

College of Engineering:

The following engineering minors are open to all Carnegie Mellon students:
- Biomedical Engineering (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/minorsforbiomedicalengineering学生们) (text)
- Engineering Studies (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/minorsforengineeringstudents) (text)
- Technology and Policy (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/minorsforengineeringstudents) (text)

Designed Minors (open only to engineering students):
- Additive Manufacturing (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/undergraduatedesignatedminors/#additivemanufacturingtext)
- Audio Engineering (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/undergraduatedesignatedminors/#audioengineeringtext)
- Automation and Controls (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/undergraduatedesignatedminors/#automationandcontrolstext)
- Colloids, Polymers and Surfaces (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/undergraduatedesignatedminors/#colloidspolymersandsurfacestext)
- Electronic Materials (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/undergraduatedesignatedminors/#electronicmaterialstext)
- Global Engineering (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/undergraduatedesignatedminors/#globalengineeringtext)
- Materials Science and Engineering (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/undergraduatedesignatedminors/#materialsscienceandengineeringtext)
- Mechanical Behavior of Materials (http://coursecatalog.web.cmu.edu/schools-colleges/collegeofengineering/undergraduatedesignatedminors/#mechanicalbehaviorofmaterialstext)

College of Fine Arts:

- Architectural Design Fabrication (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/collegeoffineartsmajors/#minorsunderarchitecturetext) (available only to B. Arch candidates)
- Architectural Representation and Visualization (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/collegeoffineartsmajors/#minorsunderarchitecturetext) (available also to B. Arch candidates)
- Art (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/collegeoffineartsmajors/#minorsunderarchitecturetext)
- Building Science (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/collegeoffineartsmajors/#minorsunderarchitecturetext) (available only to B. Arch candidates)
- Collaborative Piano (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/schoolofmusic/#minorstext-opt1) (available only to Piano majors in the School of Music)
- Conducting (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/schoolofmusic/#minorstext) (available only to students in the School of Music)
- Design (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/collegeoffineartsmajors/#minorsunderarchitecturetext) (available only to B. Arch candidates)
- Drama (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/collegeoffineartsmajors/#minorsunderarchitecturetext)
- History of the Arts (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/collegeoffineartsmajors/#minorsunderarchitecturetext)
- Media Design (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/collegeoffineartsmajors/#minorsunderarchitecturetext) (available only to B. Arch candidates)
- Music (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/collegeoffineartsmajors/#minorsunderarchitecturetext) (available only to B. Arch candidates)
- Music Education (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/schoolofmusic/#minorstext) (available only to students in the School of Music)
- Music Technology (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/schoolofmusic/#minorstext)
- Music Theory (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/schoolofmusic/#minorstext)
- Musicology (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/collegeoffineartsmajors/#minorsunderarchitecturetext)
- Photography (http://coursecatalog.web.cmu.edu/schools-colleges/collegeoffinearts/collegeoffineartsmajors/#minorsunderarchitecturetext)

Undergraduate Options
Undergraduate Options

- Sonic Arts (http://coursecatalog.web.cmu.edu/schools-colleges/collegesoffinearts/collegesoffineartsmajors/minorsundermusictext) (IDeATe)
- Sound Design (http://coursecatalog.web.cmu.edu/schools-colleges/collegesoffinearts/schoolofmusic/minorstext) (IDeATe)

**Dietrich College of Humanities and Social Sciences:**

- African and African American Studies (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/interdepartmentalmajors/minors/africanandafriicanamericanstudiestext)
- Anthropology (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofanthropology/minorstext)
- Arabic Studies (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofarabic/minorstext)
- Chinese Studies (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofchinese/minorstext)
- Cognitive Neuroscience (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofcognitive/neuroscience/minorstext)
- Creative Writing (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofcreative/writing/minorstext)
- Cybersecurity and International Conflict (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/instituteforpoliticsandstrategy/minorstext)
- Decision Science (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofdecision/sciences/minorstext)
- Economics (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/undergraduateeconomicprogram/minorstext)
- English (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofenglish/minorstext)
- Ethics (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofphilosophy/minorstext)
- Film and Media Studies (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/interdepartmentalmajors/minors/intermediasandiaestudiestext)
- French and Francophone Studies (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentoffrench/minorstext)
- Gender Studies (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/interdepartmentalmajors/minors/genderstudiestext)
- German Studies (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/interdepartmentalmajors/minors/germanstudiestext)
- Global Systems and Management (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/interdepartmentalmajors/minors/globalsystemsandmanagementtext)
- Hispanic Studies (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofspanish/minorstext)
- Humanities Analytics (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofenglish/minorstext)
- International Relations and Politics (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/instituteforpoliticsandstrategy/minorstext)
- Japanese Studies (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofjapanese/minorstext)
- Linguistics (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/interdepartmentalmajors/minors/linguisticstext)
- Logic and Computation (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofphilosophy/minorstext)
- Philosophy (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofphilosophy/minorstext)
- Policy and Management (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofpolicyandmanagement/minorstext)
- Politics and Public Policy (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/instituteforpoliticsandstrategy/minorstext)
- Professional Writing (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofprofessionalwriting/minorstext)
- Psychology (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofpsychology/minorstext)
- Religious Studies (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/interdepartmentalmajors/minors/religionstudiestext)
- Russian Studies (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofrussian/minorstext)
- Science, Technology and Society (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/interdepartmentalmajors/minors/scientecetchnologyandsocietystext)
- Social & Political History (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofhistory/minorstext)

**Societal & Human Impacts of Future Technologies (SHIFT)** (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofphilosophy/minorstext)

- Sociology (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/interdepartmentalmajors/minors/sociologytext)
- Statistics (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentofstatistics/minorstext)
- Technical Writing (http://coursecatalog.web.cmu.edu/schools-colleges/dietrichcollegeofhumanitiesandsocialsciences/departmentoftechnicalwriting/minorstext)

**Mellon College of Science:**

- Biological Sciences (http://coursecatalog.web.cmu.edu/schools-colleges/melloncollegeofscience/departmentofbiologicalsciences/minorstext)
- Chemistry (http://coursecatalog.web.cmu.edu/schools-colleges/melloncollegeofscience/departmentofchemistry/minorstext)
- Computational Finance (http://coursecatalog.web.cmu.edu/schools-colleges/melloncollegeofscience/servicesandoptions/intercollegeprograms/minorstext)
- Discrete Mathematics and Logic (http://coursecatalog.web.cmu.edu/schools-colleges/melloncollegeofscience/departmentofmathematical/computer/minorstext)
The requirements for successful completion of a Student Defined Major include a student proposal approved by an advisor, relevant college(s), the vice provost for education, and successful completion of the approved course of study. In brief:

- A student interested in pursuing a student-defined major must develop a proposal which outlines an intellectually coherent area of study (with degree title) and a plan of study (courses to be taken, pedagogical rationale, and proposed schedule). The proposal should include an explanation of why it is not appropriate or possible to pursue such a program through the curriculum of any one of the colleges. It should outline a program of study for both general education (for example, the core requirements of one of the most relevant colleges or equivalent general education plan) and major requirements. The proposal should designate one of the participating colleges as de facto "home college" for tracking and verification purposes.

- Proposals must be approved at least one academic year prior to expected graduation. Students should therefore submit their

School of Computer Science:

- Animation & Special Effects (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addlmajors/minors/ideateminorstext) (IDEATE)
- Computational Biology (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addlmajors/minors/ideateminorstext)
- Computer Science (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addlmajors/minors/ideateminorstext)
- Design for Learning (IDEATe) (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addlmajors/minors/ideateminorstext)
- Human-Computer Interaction (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addlmajors/minors/humancomputerinteractionminorstext)
- Intelligent Environments (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addlmajors/minors/ideateminorstext) (IDEATE)
- Language Technologies (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addlmajors/minors/languagetechnologiesminorstext)
- Machine Learning (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addlmajors/minors/machinelearningminorstext)
- Physical Computing (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addlmajors/minors/ideateminorstext) (IDEATE)
- Robotics (http://coursecatalog.web.cmu.edu/schools-colleges/schoolofcomputerscience/addlmajors/minors/softwareengineeringminorstext)

Tepper School of Business:

- Business Administration (http://coursecatalog.web.cmu.edu/schools-colleges/tepper/undergraduatebusinessadministrationprogram/minorstext)
- Business Analytics and Optimization (http://coursecatalog.web.cmu.edu/schools-colleges/tepper/undergraduatebusinessadministrationprogram/minorinbusinessanalyticsoptimizationtext)
- Innovation and Entrepreneurship (http://coursecatalog.web.cmu.edu/schools-colleges/tepper/undergraduatebusinessadministrationprogram/minorininnovationentrepreneurshipertext) (IDEATE)
- Operations and Supply Chain Management (http://coursecatalog.web.cmu.edu/schools-colleges/tepper/undergraduatebusinessadministrationprogram/minorinoperationsandsupplychainmanagementtext)

Student Defined Majors

Carnegie Mellon offers the opportunity for undergraduate students to pursue a Student Defined Major. Some colleges have specific processes for Student Defined Majors within their college (see relevant college section of the catalog). For information and advice, interested students are encouraged to speak to the associate dean of their current home college or the college most relevant to the proposed course of study. The requirements for successful completion of a Student Defined Major include a student proposal approved by an advisor, relevant college(s), the vice provost for education, and successful completion of the approved course of study. In brief:
proposals by the end of their fifth semester, to allow ample time for approval.  
• The student’s proposal must be approved by a faculty advisor within a college who takes pedagogical responsibility for the program, by the de facto “home college” and by any other colleges involved in granting the degree. The signed proposal will be submitted to the Provost’s Office for a final review and approval.  
• Once approved by the faculty advisor, colleges, and the Provost’s Office, the student’s major will be administered by the advisor and their progress tracked by the dean’s office of the “home college.” The “home college” will be responsible for monitoring the student’s progress and reminding any collateral colleges of the approval of the Student Defined Major so that these colleges may insure the student’s ability to enroll in the necessary courses. Upon successful completion of the course of study, the “home college” will be responsible for contacting all the relevant colleges and verifying the completion of the degree. Upon consultation with the “home college”, students may receive their diploma in the most relevant department’s ceremony.

**Note:** To distinguish Student Defined Majors from regularly offered majors at Carnegie Mellon, the phrase ‘Student Defined Major’ will be added to the end of the major name. This notation will appear on all official documents (transcripts, verification letters, diplomas, etc.).

**Student-Taught Courses (StuCo)**

The Student College (StuCo) was established in 2001 to provide Carnegie Mellon students with the opportunity to share knowledge through educational, self-designed courses. Students can teach classes on any topic of their choice. However, the course cannot be available through regular university offerings. Courses typically meet once a week (for a full semester) and follow the current Carnegie Mellon academic calendar. Instructors and students receive credit (3 elective units - pass/no pass) for their work.

• All CMU students are eligible to teach StuCo courses and to join the Executive Committee that governs StuCo.
• All currently-enrolled CMU students, staff and community members are eligible to take StuCo courses.
• StuCo classes are taught during the fall and spring semesters.

StuCo courses vary semester to semester. Current classes offered by StuCo for fall 2020 include:

- **98-012** Student Taught Courses (StuCo): Fun with Robots  3
- **98-038** Student Taught Courses (StuCo): Anime From Astro Boy to Your Name  3
- **98-127** Student Taught Courses (StuCo): Game Creation for Ppl Who Want to Create Games  3
- **98-163** Student Taught Courses (StuCo): Introduction to Tetris  3
- **98-174** Student Taught Courses (StuCo): Great Ideas in Tech Interviews & Coding Screens  3
- **98-182** Student Taught Courses (StuCo): Billiard Games: From Noob to Pro  3
- **98-205** Student Taught Courses (StuCo): Introduction to Minecraft  3
- **98-212** Student Taught Courses (StuCo): Competitive Computer Security  3
- **98-217** Student Taught Courses (StuCo): Bhangra 101  3
- **98-230** Student Taught Courses (StuCo): Avatar: The Last Airbender & The Legend of Korra  3
- **98-242** Student Taught Courses (StuCo): Intro to Esoteric Programming Languages  3
- **98-244** Student Taught Courses (StuCo): Sign Language Through Pop Music  3
- **98-251** Student Taught Courses (StuCo): Principles of Racetrack Engineering  3
- **98-262** Student Taught Courses (StuCo): Intro to Boardgames  3
- **98-269** Student Taught Courses (StuCo): Intro to Sabermetrics & Exploring Baseball Data  3
- **98-272** Student Taught Courses (StuCo): Financial Literacy for Beginners  3
- **98-275** Student Taught Courses (StuCo): Marvel Film and Media Studies  3
- **98-288** Student Taught Courses (StuCo): Star Wars: The Course Awakens  3
- **98-290** Student Taught Courses (StuCo): Lock Picking and Physical Security  3
- **98-303** Student Taught Courses (StuCo): Introduction to Freestyle Rap  3
- **98-317** Student Taught Courses (StuCo): Hype for Types  3
- **98-331** Student Taught Courses (StuCo): Animation and Video Editing  3
- **98-335** Student Taught Courses (StuCo): Introduction to Glowstringing/Poi  3
- **98-336** Student Taught Courses (StuCo): Introduction to Greek Mythology  3
- **98-338** Student Taught Courses (StuCo): Memes for StuCo-Taking Teens  3
- **98-350** Student Taught Courses (StuCo): Introduction to Bridge  3
- **98-352** Student Taught Courses (StuCo): Introduction to Star Trek  3
- **98-359** Student Taught Courses (StuCo): Survey of Horror in Media  3
- **98-360** Student Taught Courses (StuCo): GEB  3
- **98-368** Student Taught Courses (StuCo): Introduction to the Kardashians  3
- **98-369** Student Taught Courses (StuCo): Brooklyn Nine-Nine  3
- **98-370** Student Taught Courses (StuCo): Mysteries of the Universe  3
- **98-371** Student Taught Courses (StuCo): Introduction to Old Irish  3
- **98-372** Student Taught Courses (StuCo): Introduction to Battlerstar Galactica  3
- **98-373** Student Taught Courses (StuCo): The Legend of Zelda: The Tri Course  3
- **98-374** Student Taught Courses (StuCo): Sheep by Sheep: Investageation into Tea Culture  3
- **98-375** Student Taught Courses (StuCo): Introduction to Meta-Learning  3
- **98-376** Student Taught Courses (StuCo): Interpreting Film Through Painting  3
- **98-377** Student Taught Courses (StuCo): The Way We Live Now  3
- **98-378** Student Taught Courses (StuCo): First Clip to Video Editing  3
- **98-379** Student Taught Courses (StuCo): Neuroscience for Non-Majors  3
- **98-380** Student Taught Courses (StuCo): Practical Economics  3
- **98-381** Student Taught Courses (StuCo): Wuhan Chinese  3

For detailed information on the Student College, please visit the StuCo website (http://www.cmu.edu/stuco/).

**Study Abroad Programs**

**IMPORTANT NOTE:** Due to a global pandemic caused by the COVID-19 virus, the university had to make the difficult decision to suspend Carnegie Mellon’s participation in study abroad (https://www.cmu.edu/studyabroad/covid/) for the fall 2020 semester and over winter break (between the end of fall 2020 and the start of spring 2021) and participation in educational exchange for the 2020-2021 academic year.

Carnegie Mellon students from every major may be able to study in any part of the world for a semester, year or summer. Short-term programs during spring and winter break are also possible. A well planned study abroad program, in coordination with one’s academic advisor, will allow a student to receive credit for study abroad and graduate on time. Most students study abroad during their junior year; however, a growing number of students are studying abroad during their sophomore and senior years.

The study abroad advising staff offers general information sessions as well as individual advising appointments to assist students in all stages of the study abroad process. The Office of International Education (OIE) has a large in-house library as well as useful web links to help students find the most appropriate study abroad program. In addition, OIE offers orientations to help with personal, academic and acculturation issues, before and after a study abroad experience.

Carnegie Mellon offers students a variety of payment options for study abroad to allow students to study abroad regardless of financial need. There
are three categories of programs: Exchange Programs, Sponsored Programs, and External Programs. A description of each program follows. 

More detailed information can be found at www.cmu.edu/studyabroad (http://www.cmu.edu/studyabroad/).

Exchange Programs

Students who participate in exchange programs pay Carnegie Mellon tuition and receive their regular financial aid package. Students are responsible for room, board, travel and miscellaneous expenses.

University Exchanges

Carnegie Mellon University has university-wide exchange programs with institutions located in Australia, Chile, Hong Kong, Israel, Japan, Mexico, Qatar, Singapore, and Switzerland.

Departmental Exchanges

Architecture, Art, Chemical Engineering, Design, Drama, Electrical and Computer Engineering, English, Heinz College, Information Systems, Materials Science and Engineering, Modern Languages, Computer Science and Business offer departmental exchange programs. Students should contact their department or the study abroad website for additional information.

Sponsored Programs

The university has designated a few study abroad programs administered by other organizations or universities as sponsored programs. To participate in these programs students pay a university fee equivalent to current tuition, room and board, and retain their eligibility for all financial aid. Carnegie Mellon in turn pays the program costs to the study abroad sponsor. Where applicable, funds are distributed to the student for room, board, travel, and personal expenses.

Currently Carnegie Mellon has 38 sponsored programs available around the world. A full list can be found at www.cmu.edu/studyabroad (http://www.cmu.edu/studyabroad/) or in consultation with a study abroad advisor.

External Programs

Students may also participate in a program sponsored by another university or study abroad organization if the student’s home department approves the program and its course offerings. Students will pay the other organization or institution directly. Students who receive institutional aid from Carnegie Mellon will not be eligible for this aid while they are abroad. However, students with state and federal aid will still qualify. Students can learn more about external program options during study abroad advising appointments and by exploring the study abroad website and library.