Honors Program Curriculum

**General Studies:** Focuses on breadth of study through honors general education courses.

**Advanced Scholarship:** Gives students a chance to conduct original research over two semesters under the supervision of a faculty member.

- **Departmental Honors:** For students who wish to undertake advanced research within their major.
- **Multidisciplinary Honors:** For students who want to design honors programs of study outside of their major or between their major and other disciplines.

Source: [https://www.honors.umass.edu/curriculum-overview](https://www.honors.umass.edu/curriculum-overview)
<table>
<thead>
<tr>
<th>Departmental Honors</th>
<th>Multidisciplinary Honors</th>
<th>General Studies Honors Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>One CS honors course any level (excluding service courses). One CS honors course at the 300+ level. Can also use some 500/600</td>
<td>4-5 Honors courses from more than one discipline including the Honors Thesis or Project.</td>
<td>5 General Studies Honors courses, including Honors Writing 112H.</td>
</tr>
<tr>
<td>Honors Thesis or Project advised by a <strong>CS faculty member</strong>.</td>
<td>Honors Thesis or Project advised by a faculty member in a different department.</td>
<td>No honors thesis or project.</td>
</tr>
<tr>
<td><strong>Commonwealth Honors Scholar</strong> on diploma and transcript. <strong>Departmental Honors</strong> listed on transcript.</td>
<td><strong>Commonwealth Honors Scholar</strong> on diploma and transcript. <strong>Multidisciplinary Honors</strong> listed on transcript</td>
<td><strong>General Studies Honors</strong> on transcript.</td>
</tr>
<tr>
<td>Apply using form on CS honors website.</td>
<td>Need to apply directly to CHC.</td>
<td>Meet with a CHC Advisor to opt out of advanced studies.</td>
</tr>
</tbody>
</table>

**Source:** [https://www.honors.umass.edu/sites/honors.umass.edu/files/forms/curriculum/CHCCurriculumCharts/CurriculumComparisonChart.pdf](https://www.honors.umass.edu/sites/honors.umass.edu/files/forms/curriculum/CHCCurriculumCharts/CurriculumComparisonChart.pdf)
Part I – Preparation: Students spend one semester acquiring the background needed to do research in their desired area and developing a thesis/project proposal. Two options: individual (499Y) or course-based (691DD). Typically 3 credits.

Part II – Project/Thesis: Students spend one semester performing research. The final deliverable is a written thesis document (499T) -- or a written project report (499P). Both require a project presentation. Typically 3 credits.

Source: https://www.honors.umass.edu/capstone-experience
CS Honors Track: Admissions

**Course Requirement:** Students must have completed the 200-level core requirements for their degree type to be admitted to the track (all of 220, 230, 240, 250 for BS students; three of the four for BA students).

**GPA Requirement:** The minimum GPA to be admitted to the track is 3.4.

**Conditional Admission:** Admissions to the track is conditional on submitting a 499Y contract and semester plan, or finding an advisor and registering for 691DD.

Source: https://www.cics.umass.edu/cics-honors-admission-application
CS Honors Track: Recommended Timeline

**Fall Junior Year**
- Submit Application
- Find Research Advisor
- Choose Prep Option
- 499Y Proposal
- 691DD Approval

**Spring Junior Year**
- Take 499Y
- Take 691DD
- 499 T/P Proposal

**Fall Senior Year**
- Take 499T/P
- Submit Thesis or Project

Source: https://www.cics.umass.edu/ugrad-education/cs-departmental-honors-timeline
CS Honors Track: Admissions

Apply as early as possible. If your application is conditionally approved, I will send you 499Y examples to use in preparing your semester plan.

Source: https://www.cics.umass.edu/cics-honors-admission-application
We maintain a list of faculty who are actively looking for honors research students.

You can also contact any faculty member by email or in person.

The number of honors research positions is limited by the availability of faculty advisors. Finding an advisor can be competitive.

Source: https://www.cics.umass.edu/ugrad-education/cs-departmental-honors-research-advisors
CS Honors Track: 499Y Proposal

CHC PATHS is an online tool for the Commonwealth Honors College community. Honors students can use CHC PATHS to set up course contracts such as an independent study honors (ISH) or an Honors Thesis/Project (499Y/T/P). Faculty members and honors thesis committee members use CHC PATHS to review and authorize these contracts. CHC PATHS users may log in using their UMass NetID.

499Y contract and semester plan are prepared using CHC Paths. Due 12/11/2015.

Semester Plan (2-3 pages)

Source: https://honorsweb1.honors.umass.edu/chc-paths/
CS Honors Track: 691DD – Research Methods

CMPSCI 691DD: Seminar - Research Methods in Empirical Computer Science

This course introduces graduate students to basic ideas about conducting a personal research program. Students will learn basic methods for activities such as reading technical papers, selecting research topics, devising research questions, planning research, analyzing experimental results, modeling and simulating computational phenomena, and synthesizing broader theories. The course will be structured around three activities: lectures on basic concepts of research strategy and techniques, discussions of technical papers, and preparation and review of written assignments. Significant reading, reviewing, and writing will be required, and students will be expected to participate actively in class discussions. 3 credits.

Restrictions: Your research must have a suitable empirical component and you must work with your honors advisor throughout the semester to select a project topic. This option requires prior HPD approval.

Source: https://www.cs.umass.edu/ugrad-education/spring-15-course-descriptions
Research Proposal (5-10 pages)

Brendan Murphy
Commonwealth Honors College
499T/P Proposal

The goal of my honors project is to enhance an existing web application which is being developed by Professor Richards and his research team that automatically records lectures that take place in the Computer Science building and uploads them online.

**Background**

As we enter the digital age, many of the services and systems that used to exist solely on paper and in person have become digitized. This can be seen from things as trivial as the daily newspaper to as important as banking. It seems that in this day and age nearly everything that one needs is available at the click of a button. However, one system that has not evolved with the web is the classroom experience. Even though there are plenty of platforms available that provide lecture videos for free, there currently is not any application that attempts to recreate the entire lecture experience in an accessible format. I have chosen to pursue this project since I believe it is an area of web-based academia that can greatly be enhanced.

**Technologies**

The following technologies will be the main frameworks that I will be using to develop features that I will add to the application.

- **Node.js** is a javascript framework that is used for building distributed web applications. Contrary to older web systems that make use of multithreading to handle new connections, Node.js makes use of callback functions to mimic the concurrency of having multiple open connections at any time. Node.js does this because multithreading is more inefficient than this model. Under heavy server loads, Node.js will outperform most of its competitors since it does not allocate excess memory for each new connection, unlike a multithreaded system which allocates a fixed stack of memory for each new thread. Furthermore, Node.js is non-blocking, so the system will not be held up by waiting for explicit functions to finish execution.

- **Express.js** is a javascript framework that is built on top of Node.js and makes use of all of its existing features, in addition to providing a layer of extra features that automates much of the Node.js workflow. Additionally, Express.js allows the programmer to modularize the

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499T/P contract and proposals are prepared online using CHC Paths.

Source: https://honorsweb1.honors.umass.edu/chc-paths/
CS Honors Track: Thesis or Project

**Deliverables:** Final deliverable for honors research is a thesis or project document describing the work. Typically 10-20 pages in length. Students must also give an oral presentation on their work.

**CS Major Credit:** CS major allows for up to 3 credits from 499T/P or independent studies to count toward the major. Some tracks also allow the use of 499T/P as a track course.
CS Honors Track: More Information

Source: https://www.cics.umass.edu/ugrad-education/honors-track
Questions ?