Undergraduate Forum
Computer Science

Conquer Advising Mayhem!

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• Academic load: credit hours vs. actual hours
• Meeting degree requirements vs. optimizing plan of study

Know your resources:
  • Department website: http://cs.mst.edu/programs/undergraduate/
  • Registrar’s website: http://registrar.mst.edu/
  • Catalogs (current and past)
  • Student Academic Regulations
  • Joe’Ss
  • Your advisor
- Course load
- Know the difference between humanities & social sciences
- Degree audits
  - It’s not law; the catalog is!
  - Can contain mistakes or “bad decisions”.
- Transfer credits
- Grade replacement (Repeat Course GPA Adjustment)
Select Undergrad Advising Forms

Most available from Registrar’s website, some from department, some from both

- Advisor/Student Scheduling Agreement Form
- Declaring Departmental Focus Area
- Substitutions & Waivers *
- Transfer Part of the Last 60 Hours
- Authorization to Exceed Permissible Hours
- Undergraduates Taking 6000 Level Course
- Grade Change *
- Second BS Program of Study
- Authorization for Time Conflict
- Change of Catalog Year (moving backward & forward)
- Authorization for Pass/Fail or Hearer Grading Form
Senior Assessment (MFT) Experiential Learning

----------> AT LEAST ONE REQUIREMENT HAS NOT BEEN SATISFIED <----------

**NO 1** ALL SENIORS ARE REQUIRED TO COMPLETE SENIOR ASSESSMENT PRIOR TO GRADUATION. CONTACT YOUR DEPARTMENT FOR INSTRUCTIONS AT THE BEGINNING OF THE SEMESTER OF GRADUATION.

--> NEEDS: 1 SUB-GROUP
   - 1) NEEDS: 1 COURSE
       SELECT FROM: COMP SCIASSESS

**NO 2** ALL STUDENTS ARE REQUIRED TO COMPLETE A SIGNIFICANT EXPERIENTIAL LEARNING ACTIVITY PRIOR TO GRADUATION. CONTACT YOUR DEPARTMENT FOR MORE INFORMATION.

--> NEEDS: 1 SUB-GROUP
   - 1) NEEDS: 1 COURSE
       SELECT FROM: MISC EXPLRN
Advising Timeline

- Pre-advising week
- Advising week
- Priority registration
- Wait lists
- Prerequisites
- Late registration
- Adding/dropping classes
- Changing to hearer
What is Undergrad Research?

- Research adds to the body of knowledge in a particular field
- In contrast, internships/co-ops are often purely developmental (or worse!)
- Undergraduate Research often is in the form of R&D projects: some pure research combined with development
Why do Undergrad Research?

- Increases your marketability (research skills, independent work, makes resume stand out)
- Gives you a chance to test out grad school
- It gives you a leg up in applying for research positions in faculty labs
- You learn a lot of new, cool stuff
- You typically get paid
- Chance to present your work
- Earn undergraduate research credit hours
- Meet your Experiential Learning requirement
- It’s a lot of fun!
Financial Support

- OURE (http://academicsupport.mst.edu/experientiallearning/oure/)
- OURE Fellows (http://academicsupport.mst.edu/experientiallearning/ourefellows/)
- Faculty grant/contract
- NSF REU (https://www.nsf.gov/crssprgm/reu/)
- CREU (http://cra.org/cra-w/creu/)
- DREU (http://cra.org/cra-w/dreu/)
- Barry Goldwater Scholarship (https://goldwater.scholarsapply.org/)
Undergraduate Research

- COMP SCI 4099 – Undergraduate Research
  - Graded or SAT/UNSAT
  - No incomplete, but can be delayed
  - Up to 6 credit hours per semester
  - Up to 6 credit hours total towards degree

- COMP SCI 4000/5000 – Special Problems
  - Graded or SAT/UNSAT
  - No credit hour limits

- Neither count as elective CS lecture course credits
Academic Credit (1)

- **COMP SCI 4099 – Undergraduate Research**
  - Graded or pass/fail
  - No incomplete, but can be delayed (see page 15 of Student Academic Regulations at [http://registrar.mst.edu/academicregs/](http://registrar.mst.edu/academicregs/))
  - Up to 6 credit hours per semester
  - Up to 6 credit hours total towards degree
  - Can count either towards CS electives or free electives
**COMP SCI 4000/5000 – Special Problems**

- May be offered by your research advisor when appropriate, for instance when maxed out on *COMP SCI 4099* credits
- Graded or pass/fail
- Cannot be delayed
- Has no explicit credit hour limits
- Can count towards either CS electives or free electives
Academic Credit (3)

- **CS Elective rules:** Starting with catalog year FS2012, at least nine credit hours of CS electives must be lecture courses.

- While *COMP SCI 4099* nor *COMP SCI 4000/5000* count towards the minimum number of lecture hours requirement of the CS electives, they can count towards CS electives.
How to get into Undergrad Research

- Excel in a professor’s class to get invited
- High GPA makes you look like a better bet
- Find out about current projects and ask whether you can sit in on meetings
- Attend the Undergraduate Computer Science Research Fair
How to get into Undergrad Research

- Be proficient with various OS’es, most importantly Linux and Windows
- Be proficient in a variety of programming languages such as C++, Python, and Java.
- Be proficient with programmer tools such as IDEs, debuggers, profilers, and version control systems such as Git & Github.
- Be proficient with LaTeX as most CS publications are typeset in it.
How to get into Undergrad Research

- For many research projects, familiarity with virtual machines, hypervisors, computer networking, system administration, and PC hardware is a plus if not a must.
- Beyond that, it’s probably best to identify those projects you’re most interested in contributing to and finding out what particular skills are needed to work on them.