Curriculum Flow Chart for Computer Science in Grainger Engineering

**Follow the Grainger College of Engineering General Education & Language requirements**

A line from one course to another indicates that the first course is a prerequisite for the second, concurrent enrollment acceptable where there are straight arrows, curved arrows indicate courses can be taken in either order.

*See course explorer for course prerequisites: https://courses.illinois.edu/

**CS tech electives must cover CS focus area and teaming requirements; See course explorer for course prerequisites: https://courses.illinois.edu/**
Curriculum Plan: Grainger Engineering Computer Science Beginning Fall 2021

General Education Requirements

- ENG 100 (ENG 300 for transfer students)
- Composition I
- Advanced Composition
- 3rd Level Language (LOTE)

Those listed below must equal 18 total separate hours
- 3hrs Humanities and the Arts
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- 3hrs Social and Behavioral Science
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- 3hrs Liberal Education (or add’l. HUM/SBS)
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Math & Science

- MATH 221 4hrs, Calc I or MATH 220 Calc 4 hrs (ENG)
- MATH 231 3hrs, Calc II
- MATH 241 4hrs, Calc III
- MATH 257 3hrs, Linear Alg w/Comp Apps (preferred) MATH 415 3hrs, Linear Algebra or MATH 416 3hrs, Abstract Lin Algebra
- PHYS 211 4hrs, Univ. Phys: Mechanics
- PHYS 212 4hrs, Univ. Phys: Elecricity & Mag

Computer Science Core Courses

- CS 100 1hr, Fresh Orientation (Recommended)
- CS 124 3hrs, Intro to Computer Science I
- CS 128* 3hrs, Intro to Computer Science II
- CS 173** 3hrs, Discrete Structures
- CS 210** 2hrs, Ethical & Professional Issues or CS 211** 3 hrs, Ethical & Professional Conduct (ACP)
- CS 222* 1hr, Software Design
- CS 225** 4hrs, Data Structures
- CS 233 ** 4hrs, Computer Architecture
- CS 241** 4hrs, Systems Programming
- CS 357** 3hrs, Numerical Methods I
- CS 361** 3hrs., Probability and Statistic for Comp Sci.
- CS 374** 4hrs, Algorithms and Models of Comp.
- CS 421** 3hrs, Programing Languages and Compilers

*Has prerequisites and/or co-requisite; See Course Explorer & if you have earned credit for CS 225, see a CS advisor

** Has prerequisites and/or co-requisite; See Course Explorer

Additional Notes

- 128 total hours required for graduation
- 60 residency hours required for graduation

Working ahead in your CS coursework does not guarantee entrance into the next CS course. To meet a course’s prerequisites you will need to have earned the listed prerequisite credit or be on path to earn the prerequisite credit before the course begins.

CS Tech Electives*

Minimum (6) CS courses, (3) must be from (1) focus area & (1) must satisfy the team project, for a total of 18 credit hours minimum

- CS tech (Focus Area)***
- CS tech (Focus Area)***
- CS tech (Focus Area)***
- CS tech (Team Project)***
- CS tech***
- CS tech***

***Not Allowed - CS 400, CS 401, CS 402, CS 403 or CS 491. Check CS departmental website to determine if a course falls into a focus area and/or team project.

Advanced Electives*, **

Minimum (2) courses for a total of (6) hrs of 400 level credit from any area (distinct from CS tech), including additional CS courses.

- 400 level in ANY Department
- 400 level in ANY Department

*CS 397 may be used for CS tech or CS advanced, with a maximum of 6 hours of CS 397 or CS 499 being used.

**CS 491 and most other seminar courses are not allowed for CS tech or CS advanced.

It is recommended that you work in concert with your assigned academic advisor to ensure you are on track to successfully complete your degree.