CS Undergraduate Prerequisite Structure

bold & colored courses
(with corresponding arrows) indicate prerequisites

3220* → 4220*

any 1xxx class listed or knowledge of programming

1110
1112*
1132
1133
1380
2770
2850

2024
2043
2110|2
+ 2111
2800|2
4750*

co-req

3152 → 4152 { plus 4700, 4620, or INFO 3300
4154
4620
+ 4621
4740
4780*

3410|20

3110

4320
+ 4321
4670
4700
+ 4701

4810
4850*
4860*

4786*
4787
4789

4410 → 4450
+ 4411
4414

4120
& 4121
4110
4160

4820 { A- or better in **2110** and **2800** satisfies **3110** prereq

4410 & 4414 fulfill the same core requirement. taking one suffices.

core classes

starred (*) courses
have at least 1 MATH pre- or co-requisite *See Roster.*

Practicums
in small font:
+ : optional
& : required

Course list (right column)

3110: Data Structures and Functional Programming
3152: Introduction to Computer Game Architecture
3220: Introduction to Scientific Computation
3410: Computer System Organization and Programming
3420: Embedded Systems *(prereq: ENGRD 2300, not shown)*
4110: Programming Languages and Logics
4120: Introduction to Compilers
4152: Advanced Topics in Computer Game Architecture
4154: Analytics-driven Game Design
4160: Formal Verification
4220: Numerical Analysis: Linear and Nonlinear Problems
4320: Introduction to Database Systems
4410: Operating Systems
4414: Systems Programming
4450: Introduction to Computer Networks
4620: Introduction to Computer Graphics
4670: Introduction to Computer Vision
4700: Foundations of Artificial Intelligence
4740: Natural Language Processing
4750: Foundations of Robotics
4780: Machine Learning for Intelligent Systems
4786: Machine Learning for Data Science
4787: Principles of Large-Scale Machine Learning
4789: Introduction to Reinforcement Learning
4810: Introduction to Theory of Computing
4820: Introduction to Analysis of Algorithms
4850: Mathematical Foundations for the Information Age
4860: Applied Logic

Course list (lower)
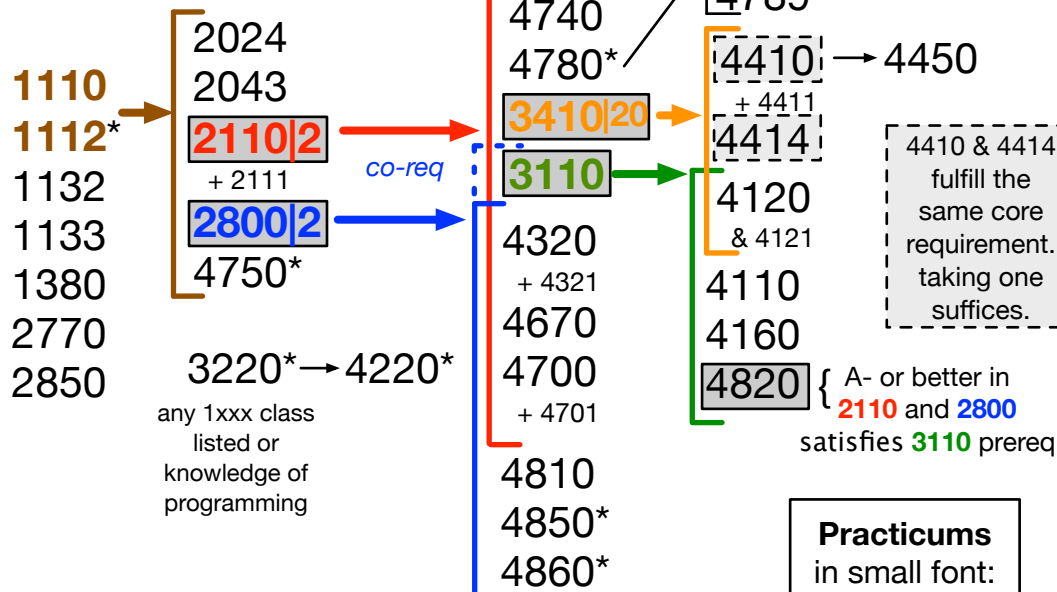
1110: Intro Computing: Design & Development
1112: Intro Computing: Engineering & Science
1132: Short Course in MATLAB
1133: Short Course in Python
1380: Data Science for All
2024: C++ Programming
2043: UNIX Tools & Scripting

2110: Object-Oriented Programming & Data Structures
2112: Object-Oriented Design and Data Structures - Honors
2770: Excursions in Computational Sustainability
2800: Discrete Structures
2802: Discrete Structures - Honors
2850: Networks