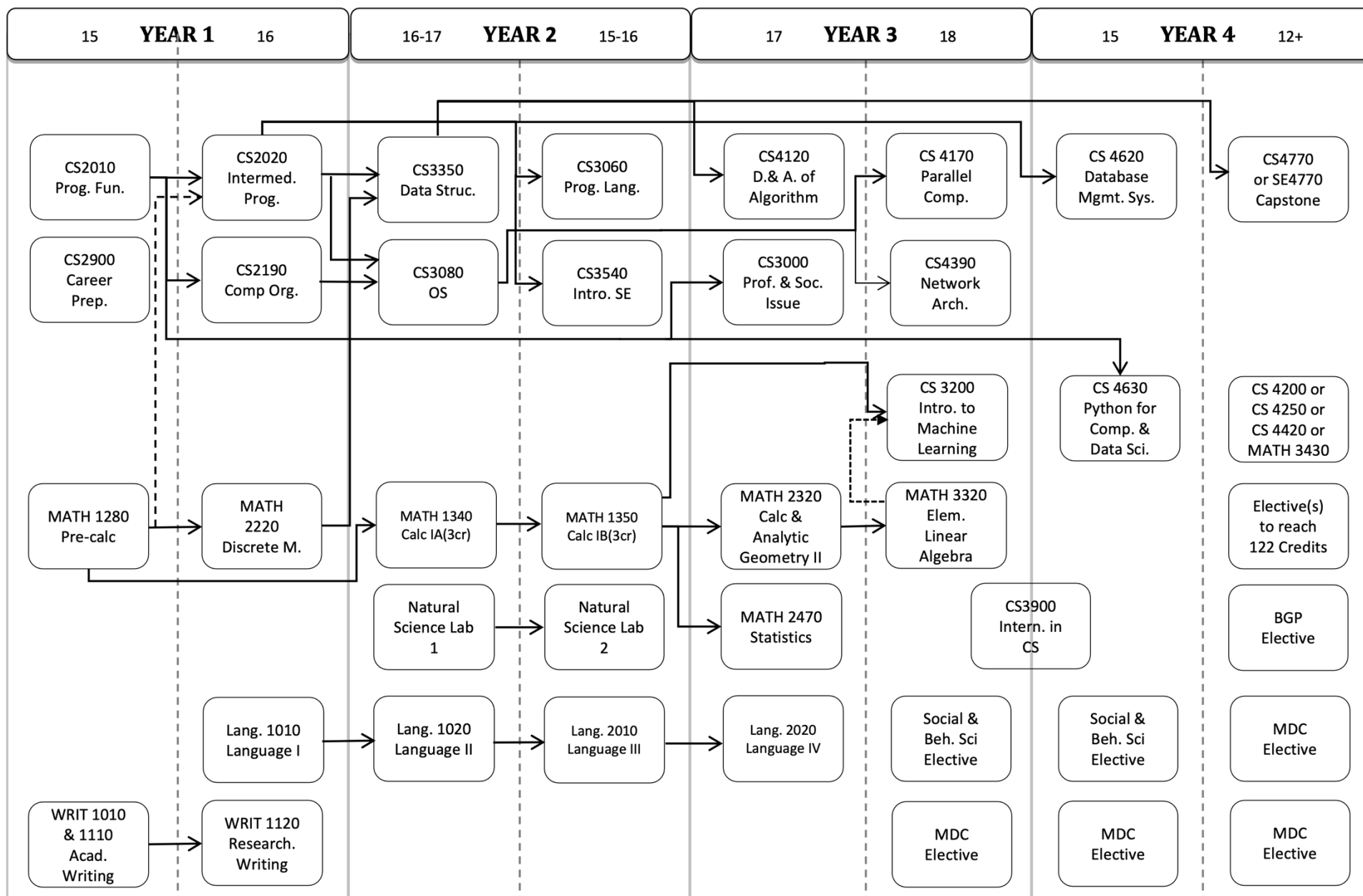# BS in CS Specialization in Computational Data Science Course Map (with relevant degree requirements)

Map shows typical course sequences for BS/CS majors. Core CS courses require a grade of C or higher to advance to the next course. The arrows indicate prerequisite(s) (solid arrows) or co-requisite(s) (dotted arrows).

15 · YEAR 1 · 16	16-17 · YEAR 2 · 15-16	17 · YEAR 3 · 18	15 · YEAR 4 · 12+

Course boxes (by flow):

- CS2010 Prog. Fun. → CS2020 Intermed. Prog. → CS3350 Data Struc. → CS3060 Prog. Lang. → CS4120 D.& A. of Algorithm → CS 4170 Parallel Comp. → CS 4620 Database Mgmt. Sys. → CS4770 or SE4770 Capstone
- CS2900 Career Prep. → CS2190 Comp Org. → CS3080 OS → CS3540 Intro. SE → CS3000 Prof. & Soc. Issue → CS4390 Network Arch.
- CS 3200 Intro. to Machine Learning → CS 4630 Python for Comp. & Data Sci.
- CS 4200 or CS 4250 or CS 4420 or MATH 3430
- MATH 1280 Pre-calc → MATH 2220 Discrete M. → MATH 1340 Calc IA(3cr) → MATH 1350 Calc IB(3cr) → MATH 2320 Calc & Analytic Geometry II → MATH 3320 Elem. Linear Algebra
- Elective(s) to reach 122 Credits
- Natural Science Lab 1 → Natural Science Lab 2 → MATH 2470 Statistics
- CS3900 Intern. in CS
- BGP Elective
- Lang. 1010 Language I → Lang. 1020 Language II → Lang. 2010 Language III → Lang. 2020 Language IV
- Social & Beh. Sci Elective → Social & Beh. Sci Elective
- MDC Elective
- WRIT 1010 & 1110 Acad. Writing → WRIT 1120 Research. Writing
- MDC Elective → MDC Elective → MDC Elective

Both MATH1340(3) & 1350(3) or MATH1310(5) can be taken for Calc I req. MATH2470(3), MATH 3410(3), or both BA2110(3) & 2120(3) can be taken for Stat req. MATH electives can be chosen from MATH 2320, 3280, 3320, and 3430. There are (4)+(4) or (5)+(5) credits natural science lab sequence courses. FREN/SPAN 2010/2020 meet language, Humanities & Arts, and International Perspective requirements! CS3900(3) is for full-time internships; CS3901(1-2) is for part-time internships. Internships must be pre-approved to get CS internship course credits.

Prepared by Undergraduate Committee (March 2025)