



2025-2026

COMPUTATIONAL SCIENCE MAJOR, B.A.

Science & Health Department; Shaw School of Sciences

Computational science is a multi-disciplinary field that includes elements of computer science, applied mathematics, and the traditional scientific disciplines of biology, chemistry and/or physics. CSE focuses on the integration of information and methods from each of these disciplines.

To graduate must complete all major requirements, foundational requirements, and additional electives needed for 124 hour minimum degree requirement.

MAJOR REQUIREMENTS (61-72)

(48 Core + 13-24 Concentration)

Table listing major requirements with columns for credits, course number, and course name. Includes Computer Programming I-III, Calculus I-III, Differential Equations, Linear Algebra, Mathematical Modeling, Numerical Analysis, and Gen Physics I-II.

CPSC – CHEMISTRY & PHYSICS (21-23)

Table listing chemistry and physics requirements with columns for credits, course number, and course name. Includes Gen College Chemistry I-II and Physical Chemistry I-II.

Choose one Chemistry course* 200 or higher:

3-4* CHE _____
*may be 4 credits if chosen course has a lab

Choose one Chemistry course* 300 or higher:

3-4* CHE _____
*may be 4 credits if chosen course has a lab

REQUIRED CONCENTRATION (choose one):

CPSB – BIOLOGY (24)

Table listing biology requirements with columns for credits, course number, and course name. Includes General Biology I-II and Physical Chemistry I.

Choose two Biology courses w/labs 200 or higher:

4 BIO _____
4 BIO _____

Choose one Biology course w/lab 300 or higher:

4 BIO _____

CPSM – MATHEMATICS (13)

Table listing mathematics requirements with columns for credits, course number, and course name. Includes Introduction to Proofs, Probability, Abstract Algebra, Senior Seminar, and Complex Analysis.

PLUS FOUNDATIONS REQUIREMENTS (49)

(3 hours Math and 4 hours Science satisfied by required major courses.)

Plus electives needed for the 124 hour degree requirement (3-14)