UCLA College | Life Sciences Computational & Systems Biology

COMPUTATIONAL & SYSTEMS BIOLOGY (CaSB) MAJOR CURRICULUM *(effective Fall 2021 and forward)*

Lower Division Requirements:

Life Sciences 7A, 7B, 7C
Chemistry 14A, 14B, 14BL ***OR*** 20A, 20B, 20L
Physics 5A, 5B, 5C ***OR*** 1A, 1B, 1C
Calculus & Statistics Series – **Option #1:** Mathematics 31A, 31B, 33A, 33B, Statistics 10*
Calculus & Statistics Series – **Option #2:** Life Sciences 30A, 30B, C&S BIO M32, Mathematics 33A, 33B, Life Sciences 40*
Computer Science (COM SCI) 31 ***OR*** Program in Computing (COMPTNG) 10A
*Statistics 10 and Life Sciences 40 required for students who declared the *pre-major* Fall 2019 and forward **NOTE:** Students following the Bioinformatics concentration must also complete Computer Science 32; ***OR*** Program in Computing 10B and 10C, but these do not have to completed prior to admission into the major. Students following the Biological Data Sciences concentration must also complete Computer Science 32, but this does not have to completed prior to admission into the major. Students following the Bioinformatics, Biomedical Systems, or Systems Biology concentrations must also complete Mathematics 32A, but this does not have to be completed prior to admission to the major. For students following the Calculus & Statistics Series Option #2, C&S BIO M32 can fulfill this requirement.

Methodology Core Upper Division Requirements: (7 courses total)

GATEWAY I – *Intro & Survey* – C&S BIO/COM SCI/BIOENGR M184
GATEWAY II – *Research Topics* – C&S BIO 185
PROBABILITY – STATS 100A ***OR*** MATH 170E ***OR*** EC ENGR 131A
STATISTICS – STATS 100B ***OR*** BIOSTATS 100A
BIOLOGICAL MODELING: C&S BIO M150
CAPSTONE SERIES *(2 COURSES, PICK ONE SERIES)* – **Option #1:** C&S BIO 199 and M187; **Option #2:** C&S BIO 198A and 198B; **Option #3:** C&S BIO 195 and M187**

**Students admitted to the *major* prior to Fall 2020 are required to complete just one course: C&S BIO M187

Concentrations: (5 upper division courses each; one concentration must be declared)

Bioinformatics	▪ COM SCI CM121 ***AND*** COM SCI CM124 ▪ MCD BIO 165A ***OR*** MCD BIO 144 ▪ PHYSCI 125 ***OR*** MCD BIO 187AL ▪ One additional course from list of electives on CaSB website
Biological Data Sciences	▪ COM SCI CM121 ▪ COM SCI 180 ▪ COM SCI M146 ***OR*** STATS 161 ***OR*** STATS 101C ▪ Two additional courses from list of electives on CaSB website
Biomedical Systems	▪ BIOENGR 100 ▪ BIOENGR C102 ***OR*** BIOENGR 110 ▪ EC ENGR 133A ***OR*** MATH 151A ▪ C&S BIO M186 ▪ One additional course from list of electives on CaSB website
Neurosystems	▪ NEUROSC M101A ***AND*** NEUROSC M101B ▪ NEUROSC 102 ***OR*** EC ENGR 113 ***OR*** MATH 155 ▪ C&S BIO M186 or COM SCI M182 ▪ One additional course from list of electives on CaSB website
Systems Biology	▪ EE BIOL 170 ***OR*** PHYSCI 166 ▪ MCD BIO 100 ***OR*** MCD BIO 144 ***OR*** MCD BIO 165A ▪ PHYSCI 125 ***OR*** MCD BIO 187AL ▪ C&S BIO M186 ▪ One additional course from list of electives on CaSB website

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Policies:

- All courses for the pre-major and major must be taken for a letter grade, C or better, unless only offered on a Pass/No Pass basis.
- Students are held to any changes in the major until officially admitted to the major (not the pre-major).

Admission to the Pre-Major:

- Current UCLA students who were admitted as Freshmen or Transfer Students* can request to declare the pre-major once they have met the following requirements:
  - Completed one quarter at UCLA
  - Are in good academic standing
  - Have a cumulative GPA of a 2.0 or better
  - Have established a minimum pre-major GPA of a 2.7 by taking at least one pre-major course at UCLA for a letter grade

    *Transfer students: must have been admitted to UCLA under the Division of Life Sciences.
- All requests to declare the pre-major must be sent via email to casb@lifesci.ucla.edu. Please include the following information in your email:
  - Full name
  - UID
  - Formal statement requesting to declare the pre-major
  - Approval to be added to the CaSB Undergraduate listserv
- NOTE:
  - Please allow 7 – 10 business days for review. If a student does not meet the requirements to declare the pre-major, there will not be an option to petition the decision.
  - All courses for the pre-major must be completed with a grade of C or better. Students are allowed to repeat up to two pre-major courses. Those who receive 3 grades of a C- or below in pre-major courses (either different courses or multiple repeats of the same course) are dismissed from the program.

Admission to the Major:

- Once students have completed all of the pre-major coursework, they must submit an application to be entered into the major.
- Students must submit the completed application to the casb@lifesci.ucla.edu. Please allow 7 – 10 business days for review. If a student does not meet all of the requirements to officially be entered into the major, they will need to petition by attaching a written statement addressing the circumstances that led to not being able to meet the minimum requirements. Students will be notified via email of the decision.
- Students will need to meet the following eligibility requirements to be admitted to the major:
  - Minimum 2.7 GPA in all pre-major courses
  - Minimum grade of C or better in all pre-major courses
  - Have a cumulative GPA of a 2.0 or better
  - Completion of all pre-major courses with a C or better

Honors Program:

- Students with a grade-point average of 3.5 or better in required major courses and a 3.0 cumulative GPA may apply for admission to the honors program. Honors or highest honors may be granted at the discretion of the faculty sponsor and the faculty committee to students demonstrating exceptional ability on the senior research thesis.

IT IS YOUR RESPONSIBILITY TO BE AWARE OF THE REQUIREMENTS LISTED ON YOUR DEGREE AUDIT REPORT (DAR) AND TO VERIFY THAT IT IS UP TO DATE.

FOR FURTHER ASSISTANCE, PLEASE GO TO THE UNDERGRADUATE ADVISING OFFICE: 102 HERSHEY HALL

casb@lifesci.ucla.edu