CNAS Undeclared

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Undeclared = Exploratory

We are available as guides in your exploration!

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NAUM/NAUP

NAUM: CNAS Undeclared Mathematical Science

NAUP: CNAS Undeclared Physical Science

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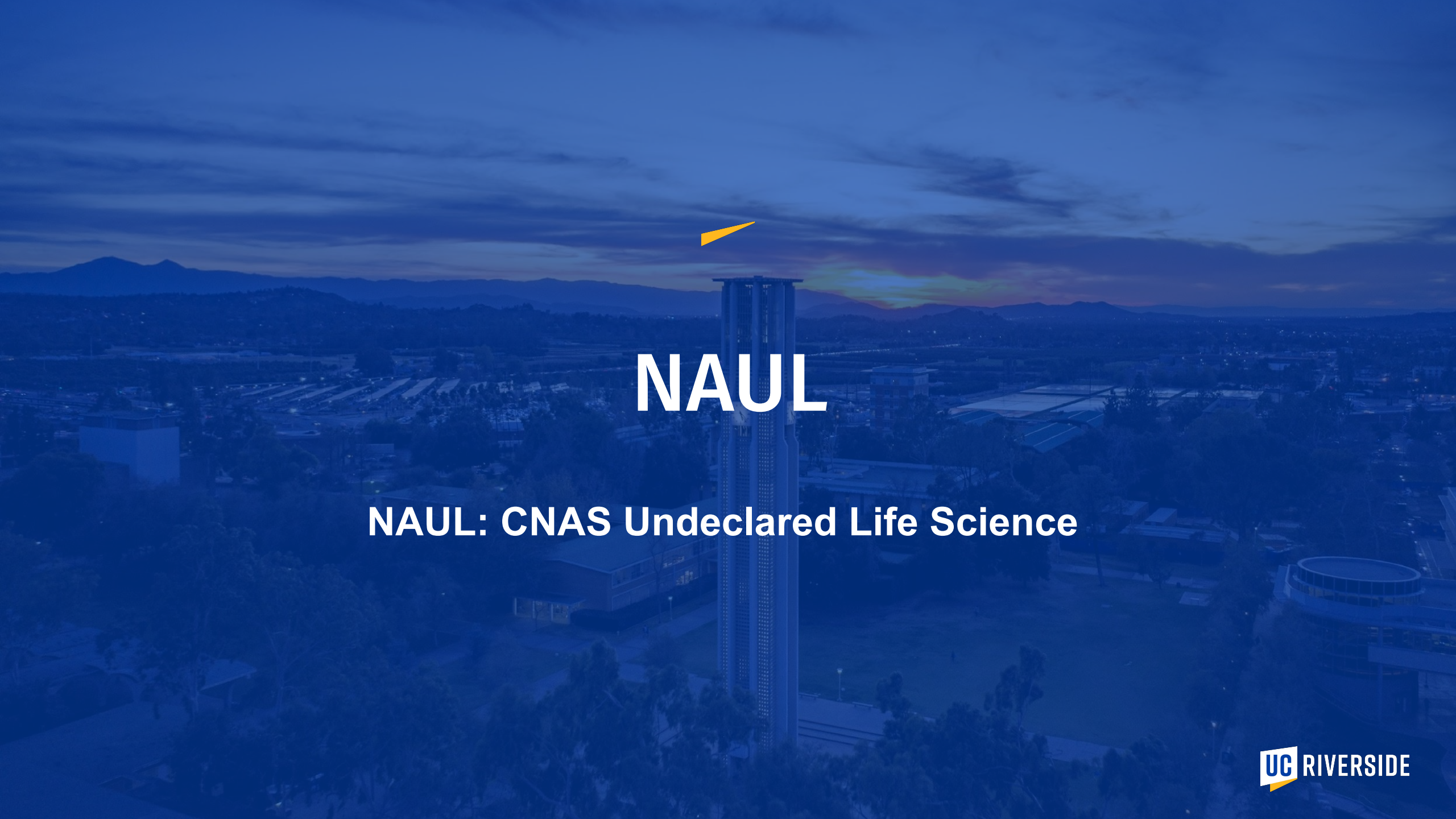
NAUL
NAUL: CNAS Undeclared Life Science
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Categories of Majors in CNAS

Life Sciences

Biochemistry
Biology
CMDB
Plant Biology
Entomology
Microbiology
Neuroscience

Mathematical Sciences

Data Sciences
Mathematics
Mathematics for Teachers of Secondary Schools
Statistics

Physical Sciences

Chemistry
Earth Sciences
Geology
Geophysics
Environmental Sciences
Physics

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How are CNAS majors unique?

Mathematical Sciences

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Mathematics:

- BS has 8 specific concentrations ranging from general math applied to computational math – offerings of specialized subject areas as they relate to math
- Pure math concentration is more geared towards M.S. and Ph.D. in mathematics
- Math holds their **annual research project every spring term** in which eligible students are invited to participate
- Excellent opportunities to study abroad, during the summer, when UCR math faculty participate in the FLEAP program overseas

Mathematics for Teachers of Secondary Schools:

- A specialized BS math degree with an **emphasis in teaching math in middle school and high school and prepares for credential admission at UCR.**
- Separate from the CalTeach SMI program; complementary programming.

Mathematical Sciences

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Data Sciences:

- Brand new major since Fall 2020
- CNAS cooperates with BCOE in degree**; combines Statistics & Computer Science**
- Data science minor just introduced for fall 2022
- Developed to help meet the need for specialists in data analysis

Statistics:

- BS has 3 concentrations: pure STAT, quantitative management (BUS courses), and statistical computing. Has a new BS/MS program.
- Specialized capstone experience for graduating seniors called STAT183 – statistical consulting, a sort of **real-world application of stats to client projects**
- Highlander Statistics Society, student organization
- Conferences are announced throughout the year

Physical Sciences

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Chemistry:

- Faculty to student ratio - **34 faculty:75 students per year**
- Undergraduate Research - 34 research active faculty; one of the biggest research department in CNAS (Ideally placed for Chem students to get into research with faculty members, much more so than other programs)
- Inorganic chemistry, organic chemistry, analytical chemistry and biochemistry
- "Central Science" - chemistry **prepares students for a wide variety of careers.** Rigorous science degree, with an environmental focus (water cleanup, climate change), as well as placements in pharma, forensics, viniculture, places like Proctor and Gamble (everyday cleaning products, plastics, etc); a good intro to law - pharma companies need lawyers with science experience

Physical Sciences

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Physics:

- BS offers 4 concentrations/ tracks: standard physics, biophysics, physics education, and applied physics and engineering
- **Cross disciplinary with BCOE and other CNAS majors**
- The 197 research experience is an option for meeting PHYS degree requirements
- All **physics students meet with a physics faculty member each term**
- There is a PHYS major Canvas course for major announcements such as conferences, former alumni presentations, employment, resources, etc.

Geophysics:

- Applies the principles of physics to the study of the Earth, its structure, processes and earthquakes
- **T**echniques used by geophysicists such as measuring and modeling variations in gravity, the magnetic field and in the speeds of seismic waves can be used as follows:
  - local scale to explore for water, mineral or petroleum resources underground
  - large scale to understand global tectonics and the structure of the crust and mantle

Physical Sciences

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Geology:

- Designed to meet the curriculum requirements of state accreditation in Geology, required to practice as a professional geologist in California
- Provides a strong foundation for students interested in academic, research or teaching careers
- Strong emphasis on learning in the field, making full use of southern California's 'natural laboratory'

Earth Sciences: **The most general degree; allows students to follow interests in:**

- Climate Change - The dynamics of the modern climate system, the chemistry of the oceans and the physics of the atmosphere
- Geobiology - a special emphasis on paleontology and interactions between organisms and environment over geological time
- Geophysics - learn about geophysical theories and techniques, and how they can be used to solve geological problems
- Geosystems -combines aspects of geology with elective classes covering the full range of our upper division offerings in climate change, geophysics, geochemistry and/or paleontology

Physical Sciences

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Environmental Sciences:

- No concentrations, but in consultation with the ENSC LFA, students can take courses based on areas of specialization such as environment toxicology, soil sciences, hydrologic science, atmospheric science, and environmental management

- Often students in ENSC look to sustainability studies to complement their interests in ENSC
- The 197 research experience is an option for meeting ENSC degree requirements

- Many junior and senior standing students take research lab experiences during the summer
- Combines physical sciences with the life science core requirements

- Active Environmental Science student club

Life Science Majors

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Biology:

- The **largest major** in CNAS
- Flexible upper division courses
- Course options include trips and overnight camping to the UC Natural Reserves.
- These lands are invaluable outdoor laboratories and classrooms used by scientist around the world.

Plant Biology:

- A **small major** with approximately 50 students
- The Department of Botany and Plant Sciences **traces its lineage to 1907** when the University of California developed the Citrus Experiment Station in Riverside.
- Fun fact, Professor of plant physiology botany, **Dr. Jodie Holt served as consultant on James Cameron's film "Avatar"** where she helped Sigourney Weaver's character as a botanist and helped create and name plants for the film.
- Opportunity to participate in BEUSA (Botany and Entomology Undergraduate Student Association) which is **an academic club** that strives to bring those curious about insects and plants into an interactive community.

Life Science Majors

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Biochemistry:

- The BCH department has been around **since 1962**
- One of the faculty, Dr. Dingwall, states: “One of my favorite characteristics of biochemistry is how it uses tiny chemical molecules or reactions to explain bigger, complex processes in biology. It is like building Legos: each piece is significant and contributes to the big picture.”
- BCH is unique for it’s 3 emphases (Biology, Chemistry, & Medical Sciences). All emphases help prepare students for a health profession, graduate school, or the workforce.

Cell, Molecular, and Developmental Biology:

- CMDB is a growing major
- Students take at least 2 laboratory upper-division courses, which provides **hands-on research skills**
- CMDB students tend to be engaged in research.
- Faculty are engaged in bringing more active learning pedagogy to curriculum.

Life Science Majors

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Microbiology:

- It involves the study of microscopic organisms including bacteria, viruses, and fungi
- **The faculty are very supportive of students with a smaller faculty to student ratio.**
- Students enroll in a research course called Experimental Microbiology
- There is an American Society for Microbiology (ASM) chapter at UCR that students can join

Neuroscience:

- **Offered by both CNAS and CHASS**; focuses on studying the brain and its functions at different levels
- Students can work with brain tissue in the Neuroscience Laboratory class
- Various neuroscience research labs on campus, including a Lab of Aging and Neurocognitive Imaging. Students can join the Neuroscience Club and teach neuroscience topics to K-12 students.

Entomology:

- ENTM was **established in 1961. Now has a BS/MS program!**
- The Entomology Research Museum provides space for medical entomology and urban vector ecology, the 3-million-specimen insect collection, and a teaching laboratory classroom.
- **Small major, approx. 30 undergraduates with 35 faculty**
- Since this is a small major, there are often social events for entomology undergrads and continued student support with more individualized attention.

FAQs

01 If I start in NAUM or NAUP, can I still declare a Life Science major in the future?
Yes, as long as you meet CNAS major change requirements for the Life Science major of interest. The same applies if you start in NAUL but decide on a major in Mathematical or Physical Sciences.

02 Is there any benefit to declaring a major soon, rather than waiting a while to declare?
Once you have decided on a major and you become eligible for the major change, we encourage you to declare the major so you can receive specialized advising in your new major.

03 Is there a time limit to declare a major?
Undeclared students have until they earn 75 units to declare a major. You should plan to declare a major before completing your 2nd year at UCR. AP/IB units are excluded from this calculation.

04 What if I can't decide between two majors?
Resources are available to help you find a major that's a great fit. These include the UCR Career Center (career assessments and meeting with a Career Counselor), and meetings with Academic Advisors and Lead Faculty Advisors.

05 Do I have a Lead Faculty Advisor as an Undeclared Student?
Yes, Dr. Connie Nugent, Divisional Dean of the Undergraduate Academic Advising Center, is your LFA. You can meet to confer about professional school, research opportunities, and career goals.

06 How do I meet with my Academic Advisor?
Please access MyAdvising at myadvising.ucr.edu to view your advisor's Appointment and Express Advising availability. There are in-person and online (Zoom) options available.

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Questions?
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