

Photo credit: Astronomy Department

### **HOW TO USE THIS MAP**

Use this map to help plan and guide your experience at UC Berkeley, including academic, co-curricular, and discovery opportunities. Everyone's Berkeley experience is different and activities in this map are suggestions. Always consult with your advisors whenever possible for new opportunities and updates.

### **CONNECT WITH US**

#### **Events**

Attend department events with students, staff, and faculty. Join our **Advising Discord**, follow us on **Instagram**, **Facebook**, and **Twitter**, and visit our **Astro events and news**.

### **ADVISING**

Brianna Franklin is the Academic Advisor.
Contact her for more information on major and minor requirements, policies, procedures, department resources, events and activities.
Advising appointments can be made using Calcentral. For general information, please contact astroadvising@berkeley.edu.

Join our **Advising Discord** and view our **Astro wiki page** for information about courses, resources and more.

**Eugene Chiang** is the Undergraduate Faculty Advisor. Email him for office hours and assistance with content of courses, research, graduate school and career development.

### **Climate Advisors and Undergraduate Student Representative**

Do you have any feedback or concerns on climate, curriculum, etc.? Check in with the **Undergraduate Climate Advisors** or the **Undergraduate Student Representative**, and join our bi-annual Town Hall meeting with the Chair and Faculty Advisor.

Visit **ue.berkeley.edu/majormaps** for the latest version of this major map.

# Berkeley Astronomy 501 Campbell Hall #3411 Berkeley, CA 94720-3411 astro.berkeley.edu

### **ASTROPHYSICS**

Bachelor of Arts



### INTRODUCTION TO THE MAJOR

The UC Berkeley Astrophysics Undergraduate program prepares students to understand the world beyond our own! The Department of Astronomy endeavors to meet that need by providing students access to a broad spectrum of courses taught by prize-winning faculty, state-of-the-art facilities, first-class scientists and researchers, and opportunities to conduct research projects. The Astrophysics major provides students physical reasoning, computational and analytical skills and prepares them for a career in academia, data science, tech and space industry, and many other fields.



Photo credit: UC Regents / Lick Observatory

I like the closeness of the Astronomy department, how there are frequent chances to interact with other undergraduates, graduates, postdocs, and faculty alike.

- Nicholas Rui, Class of '20

### THE ASTROPHYSICS CURRICULUM

Berkeley Astronomy courses cover an array of topics. The lower division ASTRO 7A & 7B courses give a comprehensive overview of our Universe, from exoplanets to cosmology. The upper division courses offer an in-depth view on planetary astrophysics (162), stellar physics (160), and relativistic astrophysics and cosmology (161). Our program stands out by its unique and rigorous lab courses, including the optical-IR (120), the radio astronomy (121), and the data science (128) labs. Courses are taught by expert faculty, ensuring a more enlightened and thorough educational experience.

### **AMPLIFY YOUR MAJOR**

- Join the Undergraduate Astronomical Society.
- Learn how to program in Python early by taking our DeCal course, PHYSICS 77/88, or CS 61A.
- Conduct a research project with one of our world-renowned scientists in the Astronomy Department, SSL, or LBL.
- Apply to a summer REU program
- Apply to an undergraduate student instructor (UGSI) or grader position.
- Join CalTeach to prepare for a career in education. Talk to CalTeach faculty director Eugene Chiang.

## **ASTROPHYSICS**

Explore career fields through the Career

**Connections Networking Series** or a winter

### **DESIGN YOUR JOURNEY**



	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR
Explore _				
your major	Meet with your <b>Astro advisor</b> and <b>L&amp;S advisor</b> to discuss your academic plans.  Review <b>major</b> and <b>college requirements</b> .  Complete MATH 1A + 1B and PHYSICS 5A/7A.  Learn more about the major with the <b>Astrophysics FAQ</b> , <b>Piazza page</b> , and <b>Berkeley Astronomy Wiki</b> .	Complete MATH 53, PHYSICS 89/MATH 54, PHYSICS 5B/7B + 5C/7C and ASTRO 7A + 7B.  Take Astro Python coding DeCal course, PHYSICS 77/88, or CS 61A.  Submit the required forms to <b>declare the major</b> to your major advisor.  Get access to <b>Campbell Hall</b> for use of lab space, KAIT room, and study lounge.	Focus on upper division requirements and electives.  Review your degree progress with your major and college advisor. See the Astro Degree Check Template and Advising Table.  Enroll in ASTRO 198: Introduction into Research (you must already be involved in research).	Do a <b>degree check</b> to ensure you are on track to graduate.  Complete any "bucket list" courses and remaining <b>major</b> , <b>college</b> , and <b>campus requirements</b> .  Register for the department and campus-wide commencement ceremonies.
Connect	Sign up for the Astronomy <b>mailing list</b> and follow us	Participate in stargazing and science talks at Actro	Attend weekly <b>Department Lunch Talks</b> ,	Gain leadership experience by applying for an officer
and build community	on <b>Facebook</b> , <b>Twitter</b> , and <b>Instagram</b> .	Participate in stargazing and science talks at <b>Astro Night</b> and <b>Science@Cal</b> .	Astronomy Colloquium, Theoretical	position with the <b>Undergraduate Astronomy</b>
	Join the <b>Undergraduate Astronomy Society</b> .	et to know your Astronomy professors and raduate student instructors by attending office Astrophysics Center Seminars, and the seminar.	Astrophysics Center Seminars, and the CIPS seminar.	Society.  Join a professional association such as the American
	Participate in the <b>Astro Buddy Program</b> or <b>Berkeley Connect</b> .	hours.	Become a buddy in the <b>Astro Buddy Program</b> .	Astronomical Society.
	Take advantage of (STEM) community and resources from programs like <b>Cal NERDS</b> and <b>EOP</b> .	Explore other student groups like Society of Women in the Physical Sciences, <b>Out in STEM</b> , or <b>AstroQ</b> .	Get involved in student organizations like <b>LEAD</b> .	Connect with <b>alumni groups</b> such as the <b>UC Berkeley Astronomy group</b> on LinkedIn and build your <b>network</b> as you prepare to graduate.
Discover _				
your passions		Find a research project by attending the Astronomy Undergraduate Research Symposia or through	Apply for summer research programs —check out the American Astronomical Society (AAS) List of	Consider applying to the Astronomy Honors Program or writing a senior thesis.
	Attend the Undergraduate Research and	URAP.	Summer Research Opportunities, Haas Scholars	Teach your own <b>DeCal course</b> .
	Scholarships Fair in October.	Attend our "Success after Berkeley" seminar series on academic resources, graduate school, career	Program, SURF, and Cal-NERDS.  Interested in astro instrumentation? Attend	Present your research at a scientific meeting.
	Get involved in campus research with <b>ULAB</b> .  Enroll in Howard Isaacson's "Introduction to	development, research and more.	Professor Jessica Lu's <b>AstroTech</b> summer school.	
	Research" course in the summer after your first year.	Enjoy teaching? Explore a career in education while gaining teaching skills with <b>CalTeach</b> .	Apply to be an Astro UGSI or grader.	
Engage _				
locally and globally	Attend the <b>Calapalooza</b> student activities fair and get involved with a student organization.	Enroll in a <b>Sophomore Seminar</b> , <b>Big Ideas Course</b> or <b>Discovery Course</b> .	Become a <b>Golden Bear Orientation Leader</b> and welcome new students to UC Berkeley.	Hone your leadership skills with the <b>Peter E. Haas Public Service Leaders program</b> .
	Find service opportunities through the <b>Public</b>	Engage in STEM education and mentorship of local	Go on a service-learning trip with the <b>Alternative Breaks Program</b> .  Enrich your studies with a <b>certificate</b> , <b>course</b>	Explore service opportunities after graduation, such as <b>Peace Corps</b> , <b>Teach for America</b> , or <b>U.S. Department of State</b> .
	Service Center.  Explore study, internship, and research abroad	youth with <b>Support, ENcourage, and Develop for Children at Berkeley</b> .		
	options with Berkeley Study Abroad or Berkeley Global Internship.	Experience life at another UC or college on a <b>visitor</b> and exchange program.	thread, or summer minor.	
Reflect _				
and plan	Attend the Astrophysics "Success after Berkeley" seminar series on academic resources, graduate	Meet with a <b>Career Educator</b> , <b>Astro Advisor</b> or Undergraduate Faculty Advisor to discuss your	Discuss post-graduate options with advisors and professors.	Apply to jobs, graduate school, and other opportunities.
your future	school, career development and more.	career options and goals.	Interested in going to graduate school? Meet with	Planning to go to graduate school? Apply to the <b>NSF-</b>
	Visit the Berkeley Career Engagement and Career	Learn about <b>graduate and professional school</b> .	our <b>Undergraduate Faculty Advisor</b> .	<b>GRFP</b> and other fellowships.
	Counseling Library. Sign up for Handshake and	See <b>Step-by-Step</b> for planning help.	Attend Astronomy workshops on graduate school	Utilize <b>job board tools</b> in your job search.

Try some **self-assessment activities** to explore

different directions within Astrophysics.

**Graduate School Fairs** 

Update your resume and **LinkedIn** profile.

#### WHAT CAN I DO WITH **MY MAJOR?**

The undergraduate program prepares students for astrophysics graduate work or other advanced degrees in related science and engineering fields. It also prepares students for careers in teaching or for working in data science and other technical fields. Our students graduate with research and lab experience, computational and analytical skills, and an education that will equip them in their chosen fields and professional endeavours.

#### **Jobs and Employers**

Chemist, Argonne National Lab Data Scientist, Lockheed Martin Mission Integration Engineer, SpaceX Process Engineer, DiCon Fiberoptics Quantitative Analyst, BofA Research Asst., Cambridge University Research Intern, NASA-Ames Ctr. Scientist, Stanford University Scientist, James Webb Space Telescope

Software Engineer, Amazon Software Engineer, Samsung Tutor, C2 Education

#### **Graduate Programs**

Applied Mathematics, PhD Astronomy, PhD Astrophysics, PhD Chemical Engineering, PhD Computer Science, PhD Data Science, PhD Earth and Planetary Science, PhD Geophysics and Seismology, PhD Neuroscience, PhD Physics, PhD

Examples gathered from the **First Destination Survey** of recent Berkeley graduates.

Updated: 04.30.24

**Campus Recruiting.**