# BS, Computer Science

**COLORADO SCHOOL OF MINES**

## WHERE COMPUTER SCIENCE STUDENTS GO

**Student pursuits one-year post-graduation:**



SEEKING · UNKNOWN · INTERNATIONAL · FURTHER EDUCATION · EMPLOYED
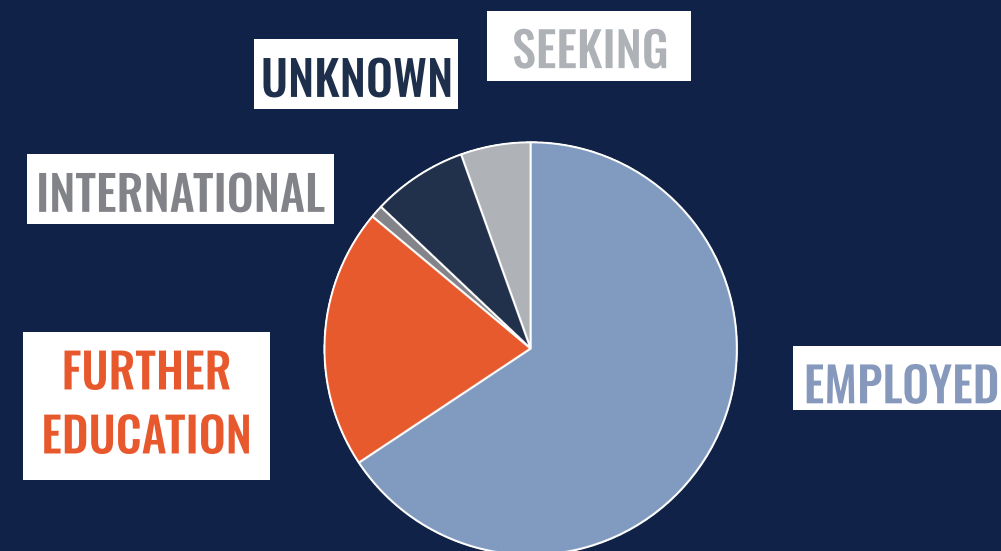
**Industries of employment for students one year out:**

- Consulting
- Energy - Alternative/Renewable
- Aerospace/Defense/Aviation
- Government/Public Sector
- Game and Entertainment Industry
- High Tech/ Information Technology
- Financial Services/Banking
- Energy - Oil & Gas
- Healthcare
- Retail/Wholesale
- Electronics/ Electrical Components

**Job titles of our graduates one-year out:**

- Biotechnical Engineer
- Software Engineer
- Consultant
- Control Systems Programmer
- Data Engineer
- Mechanical Engineer
- Flight Controller
- Software Developer

This menu is a tool for you to use to explore opportunities at Mines outside of the classroom. These are not requirements, but rather recommendations to help you leverage what Mines has to offer. Just like at a restaurant, choose what looks best to you and start from there! This menu can help you create your own pathway and customize your experience during your time at Mines.

The activities are placed in specific years based off staff and faculty recommendations, but you can participate in most of them at any time. There is never a wrong time to get involved if you're looking, and no pressure to do any of these things!

## Get to know Computer Science

The Computer Science department (CS@Mines) prepares tomorrow's leaders to bring the computational power and thinking of computer science to all fields of engineering and science, as well as business, medicine, public policy and entertainment. We are the fastest growing department at Mines. There are opportunities for many tracks, with deep course offerings across multiple disciplines. CS@Mines provides a breath of hands-on and engaging learning opportunities rooted in research, field study, internship, community outreach and mentorship.

Within the department there is an emphasis on industry collaboration, commitment to diversity, and the steadfast goal of improving computer science education for Colorado and the nation.

## Get Involved

**Attend Celebration of Mines in August to get to know campus organizations and academic departments, sample food, and play games.** Below are some departments that offer many great opportunities to enhance your experience here at Mines.

- Student Activities, Involvement & Leadership
- University Honors and Scholars Program
- Every Oredigger

## Academic options in Computer Science

**Explore the options below to see how to expand upon a Computer Science degree and what to expect from the course load.**

- **Minors**
  - Applied Mathematics & Statistics
  - Electrical Engineering
  - Computer Engineering
  - Data Science
  - McBride Honors Program
  - Teaching

- **4+1 Programs**
  - Computer Science

- **Focus Areas**
  - Business, Computer Engineering, Data Science, Robotics & Intelligent Systems, Space, Research Honors

- **Academic Flow Chart**
- **Academic Catalog**

# 2023-24 EXPERIENTIAL MAJOR MAP
## BS, Computer Science

**COLORADO SCHOOL OF MINES**

| | 1st year | 2nd year | 3rd year | 4th or final year |
|---|---|---|---|---|
| **Leadership & innovation** | • **Help out at the Mines High School Programming Competition**<br>• Explore opportunities to get involved with the Undergraduate Student Government<br>• Explore options to get involved with RHA and Community Councils<br>• Apply for the Environmental Leadership Lab trip and Scholars Program. Check the Daily Blast for more information in April. | • **Join ACM or ACM-W**<br>• **Apply to be a TA for your favorite CS course**<br>• Attend the Leadership Summit and develop your leadership skills right on campus<br>• Participate in the Leadership Workshop Series<br>• Attend the Hennebach Program lectures<br>• Sign up to engage in innovative thinking and real-world problem solving with Innov8x Challenge | • **Apply to be student representative on CS@Mines committees**<br>• **Look into C-MAPP scholarships**<br>• Become an officer in your student organization<br>• Apply to be an Undergraduate Writing Fellow, a peer tutor in the Writing Center. Check the Daily Blast for information in early October. | • Expand your leadership in your organization<br>• Take CSM 350: Special Studies in Leadership & Small Group Dynamics |
| **Professional development** | • Update or create a college resume and get it reviewed with feedback<br>• Attend Career Day<br>• Use DiggerNet for employment opportunities | • **Attend ACM and ACM-W events**<br>• **Look into CS specific clubs**<br>• **Attend Career Day for summer internship positions**<br>• Work on a professional profile using the Mines Strategy guide<br>• Enroll in CSM 250 to plan your career path<br>• Explore ethics opportunities across campus<br>• Attend VIP events each semester<br>• Attend the Chevron Lecture Series luncheon | • **Compete at ICPC with Mines teammates**<br>• Consider opportunities for graduate schools<br>• Take Introduction to Research Ethics (SYGN 502) or Professional Oral Communication (LICM 501), both are graduate classes but accessible to Undergraduates.<br>• Write an article for SWE's annual newsletter<br>• Be a tutor or lead core review with CASA | • **Enroll in a Teach@Mines course to explore HS teaching careers**<br>• Look for full time employment at Career Day and on DiggerNet.<br>• Take advantage of the Career Center's Offer Letter Review |
| **Research, creative & scholarly achievement** | • **Participate in the National Cyber League competition**<br>• Explore the option of a summer with SURF<br>• Pick up copies of The Oredigger to see what is going on at Mines and maybe contribute a written piece.<br>• Explore how to get involved with research through different opportunities on campus | • **Look into representing Mines at the Rocky Mountain ICPC**<br>• **Explore ongoing research within the CS department**<br>• Attend the Emerging Scholars Seminar Series to learn about various research topics<br>• Find a faculty member you are interested in working with and apply for MURF<br>• Explore classes offered through HASS | • Show your research outcomes in Reuleaux<br>• Explore options to join a musical group on campus or Mines Little Theater<br>• Take Research, Values, and Communication (HASS 360)<br>• Co-author a paper with a fellow student or faculty member<br>• Manage departmental or student organization's web and/or social media presence | • Submit a piece of visual art, fiction, poetry or music to High Grade<br>• Present at a conference<br>• Present at Mines Undergraduate Research Symposium |
| **Inclusive & impactful civic engagement** | • **Spread awareness of the opportunities that come with a career in CS to K-12 students with CS@Mines OnTour**<br>• Join Society of Women Engineers as a mentee<br>• Attend the Study Abroad Fair this Fall to start exploring your options. Additional scholarships may be available.<br>• Attend the annual Celebration of DI&A at Mines | • **Become a U-CLIMB mentor**<br>• **Look into applying for the Hidden Talents Program**<br>• Participate in Girls Lead The Way<br>• Examine different viewpoints with the movie and book recommendations from MEP<br>• See how you can contribute to Mines Without Borders projects<br>• Join the Mines DI&A general council meetings or a learning community | • **Volunteer with DECTech**<br>• Assist with Trick-or-Treat so Golden Can Eat, more information in Daily Blast<br>• Explore DI&A workshops along with trainings from SHAPE<br>• Join the departmental DI&A Council<br>• Serve as a panelist at Making The Connection or other recruitment events<br>• Coordinate an S2S community service event | • Tutor at a local high school<br>• Volunteer as a mentor for K-14 student with Rocky Mountain MESA<br>• Take Art & Environmentalism in Italy<br>• Apply for a Mines DI&A community grant to help promote an inclusive campus<br>• Facilitate a workshop at Celebration of DI&A at Mines. Keep an eye on the Daily Blast for calls for proposals. |
| **Health & wellness** | • Participate in Oredigger Camp to build your Mines community before classes start<br>• Balance studying for finals with daily wellness activities during Stress Less Week<br>• Become familiar with the Counseling Center's services<br>• Attend a QPR suicide prevention training<br>• Attend a Bystander Intervention workshop<br>• Attend Fresh Check Day<br>• Take a group fitness class | • Sign up to be a part of intramural sports<br>• Get financially savvy with Money Matters<br>• Participate in a Peer Educator led workshop<br>• Utilize YOU@Mines to find personalized wellness resources to succeed, thrive & matter at Mines<br>• Apply to be a Betsy's Friends Peer Educator<br>• Check on your own health at the Sexual and Reproductive Wellness Fair | • Adventure with the Outdoor Recreation Center through an organized trip (domestic or international!) or rent gear to have one of your own<br>• Get CPR/First Aid certified<br>• Prioritize your sleep by grabbing a Bedside Box<br>• Organize a suicide prevention training or a Peer Education workshop for your student organization<br>• Destress with some therapy dogs at Pause for Paws<br>• Do a personal training session with Rec Sports | • Show your loved ones everything you love about Mines at Family & Friends weekend<br>• Participate in the Imposter Syndrome Peer Education workshop before heading out into the workforce or graduate school<br>• Help manage your stress with Stress Less Box<br>• Take a Self-Check at YOU@Mines<br>• Do a QPR refresh |
| **Academic Success** | • Sign your family up for the CASA First-Year Family Newsletter so they can support your academic success<br>• Attend the Major Fair and declare a major in late April at Declaration Day with CASA. Keep an eye out for an announcement in the Daily Blast | • Check out CASA for academic advising to go over your schedule and academic opportunities<br>• Explore Bounce Back if you are needing to retake a course, on academic probation or returning from academic suspension. | • **Participate in Summer Field Session this upcoming summer**<br>• Meet with CASA to go over your schedule and talk about possible graduate opportunities including 4+1 programs<br>• Start to request letters of recommendation from faculty or supervisors for graduate school or jobs | • **Mandatory Senior Design ResearchExperience**<br>• **Enroll in CSCI 398A: "Your Path to Graduate School" to learn more about the application process and different programs available to you**<br>• Apply to graduate school and/or jobs |