



# A Curiosity-Driven Community



College of  
Biological Sciences

UNIVERSITY OF MINNESOTA  
Driven to Discover<sup>SM</sup>



CBS students work in the new Active Learning Lab on campus where they get to ask and answer their own research questions.

# DISCOVERY IS A CONSTANT AT THE COLLEGE OF BIOLOGICAL SCIENCES.

The drive to discover is part of everything we do at the College of Biological Sciences (CBS). As a student, you will expand your knowledge and put it to work in active-learning classrooms and faculty labs, on campus and in the community. You will collaborate with your peers to develop solutions to real-world problems and answer basic biological questions. You will gain the skills and knowledge to succeed after graduating. So, what do *you* want to discover?

Don't take it from us. Hear directly from students about what they value most about the College of Biological Sciences. [z.umn.edu/cbsexperience](https://z.umn.edu/cbsexperience)



# YOU WILL LEARN BIOLOGY BY DOING BIOLOGY.

Before you even arrive on campus in the fall to start your first year, you will head to Nature of Life at Itasca Biological Station and Laboratories. Once there, you will explore biology in a living laboratory while learning about the college and making connections. Back on campus, you will work with fellow students to address research questions as part of the Foundations of Biology course sequence. And that's just the first year! Translating knowledge into action is a common thread that runs through the CBS experience.



CBS students at the Mississippi River headwaters during Nature of Life at Itasca, a four-day biology immersion program at Itasca State Park the summer before their freshman year.



Professor **DEENA WASSENBERG** talks with students in an active-learning classroom in Bruininks Hall.

*"I love teaching a class where students get to see the real thing."*

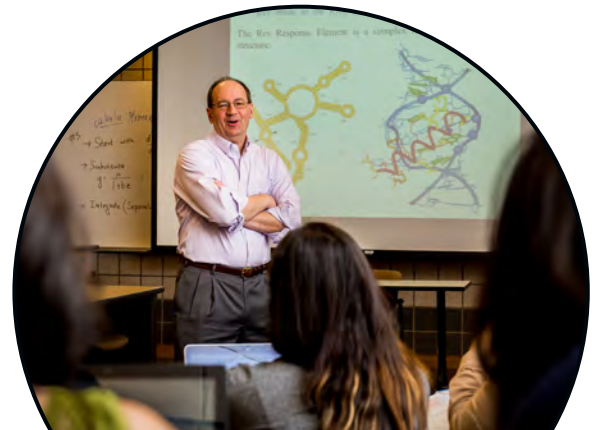
Award-winning Ecology, Evolution and Behavior professor **SHARON JANSA** brings mammalogy class to life with real specimens from the Bell Museum collection. Says Jansa: "This is one of the few universities with a comprehensive collection of mammal specimens. Students get hands-on experience with this collection. I love teaching a class where students get to see the real thing – real specimens of lions, tigers and bears, but also of pangolins, colugos, vampire bats and rodents."



# OUR AWARD-WINNING FACULTY WILL INSPIRE YOU.

Our faculty's passion for education sets CBS apart. As a student, you will have many opportunities to build meaningful connections with your instructors who bring their areas of expertise to life — from molecules to ecosystems. They will empower you to gain insight into how the world works and put that knowledge to work.

**Biochemistry Professor PAUL SILICIANO**  
— recipient of the Morse Alumni Award for Outstanding Contributions to Undergraduate Education and the Disability Resource Center's Access Achievement Award — teaches several core College of Biological Sciences courses.



# FIND OUT WHAT IT'S LIKE TO DO **REAL RESEARCH.**

Doing research as an undergraduate positions you for success no matter your professional aspirations. As a CBS student, you will have opportunities to work alongside accomplished researchers investigating a range of questions rooted in biology from the role of an enzyme implicated in breast cancer and HIV to the global nutrient cycle. You will learn the latest research techniques in state-of-the-art facilities and at University field research stations.



## HERE ARE JUST A FEW OF THE RESEARCH TOPICS CBS STUDENTS INVESTIGATED IN FACULTY LABS RECENTLY:

- The effect of food web composition and plant diversity on plant nutrient content
- Protein structural analysis of substrate specificity in a copper amine oxidase
- Assessing acoustic signal variability and the potential for sexual selection and social recognition in boreal chorus frogs
- The mechanism of gene targeting in human somatic cells





*"Students try new experiments that have never been done."*

Microbiologist **DANIEL BOND** with **DEVESH KAUSHIK** (Class of 2015), who developed a novel approach to measuring the activity of bacteria in a metal as an undergraduate researcher in the Bond lab. Says Bond: "Students try new experiments that have never been done. They help us figure out how to make them work and see that science is a creative process."



# CBS MAJORS

## **BIOCHEMISTRY**

Study the molecules that make up living things, from proteins and nucleic acids to lipids and carbohydrates.

## **BIOLOGY**

Develop a strong foundation in the fundamental nature and characteristics of living things, from molecules to ecosystems.

## **CELLULAR AND ORGANISMAL PHYSIOLOGY**

Study underlying physiological mechanisms in organisms ranging from microorganisms to large animals.

## **ECOLOGY, EVOLUTION AND BEHAVIOR**

Investigate a range of topics from evolutionary adaptations of plants and animals to the role of biodiversity in ecosystem stability.

## **GENETICS, CELL BIOLOGY AND DEVELOPMENT**

Learn how genetics influences cell structure and function, and drives the formation of organisms.

## **MICROBIOLOGY**

Explore the structure, function and interaction of the microscopic world of bacteria, fungi and Archaea.

## **NEUROSCIENCE**

Understand the way the brain works and how it drives perceptions, memory and movement.

## **PLANT AND MICROBIAL BIOLOGY**

Investigate the structure and function of plants and microorganisms and potential interactions between the two.

# WHATEVER YOUR INTEREST, WE HAVE A MAJOR TO MATCH IT.

Are you fascinated by the biological factors that contribute to disease? Or interested in understanding the impact of climate on biodiversity? Maybe you are curious about how microbes can be harnessed to clean up the environment and fight illness. The College of Biological Sciences offers eight majors that cover the breadth and depth of biology from molecules to ecosystems. No matter which major you choose, you will develop a solid foundation in the biological sciences and the critical thinking skills needed for success in any endeavor.

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## MARINE BIOLOGY? YOU BETCHA!

The College also offers multiple minors including marine biology! Members of the Marine Biology Club recently received the University's Tony Diggs Excellence Award for providing the public with opportunities to see and engage with marine invertebrates through their Traveling Touch Tank.





CBS students share many common reference points and experiences that help instill a strong sense of community.

# YOUR COLLEGE EXPERIENCE IS ABOUT FAR MORE THAN ACADEMICS.

It's about cultivating knowledge of science and yourself. It's about exploring your interests and gaining experience. It's about making friends and finding mentors. Being a student at a close-knit college within a large research university means that you will feel empowered to pursue your goals as part of a community of thinkers and doers who share your curiosity about life.

*"Getting involved as an undergraduate can open the door to infinitely more opportunities and skills for your future career."*

**MEET MEREDITH SONG** • Class of 2021

As an undergraduate, Meredith has been involved in the Chinese American Student Association, Bioethics Undergraduate Group, volunteers in a research lab and the Gender and Sexuality for Queer and Trans Life and created an art exhibit on empowering women in science. "Getting involved as an undergraduate can open the door to infinitely more opportunities and skills for your future career," she says.





Our award-winning advisors and staff build relationships with students and help them make the most of the many resources and opportunities available to them at the College of Biological Sciences.

# WHERE DO YOU WANT YOUR EDUCATION TO TAKE YOU?

The College of Biological Sciences provides exceptional one-on-one support throughout students' academic journey. Our award-winning Student Services staff and faculty will help you gain the insights and experiences needed to achieve your goals. Whether your future lies across the street or across the globe, you will find the support and resources you need to get there, including specialized support in undergraduate research, pre-health planning and career coaching.

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Interested in studying abroad? The world is your classroom! Explore forest ecology in Costa Rica, coral reef ecology in Honduras, evolution in the Galápagos and scientific innovation in Ireland. Students diving in Roatan (right) observe and gather data for the International Reef Check project as part of the course.



# A GREAT EDUCATION IS THE FIRST STEP TOWARD A GREAT CAREER.

Whether you want to teach, find cures for diseases or address environmental challenges, a degree from the College of Biological Sciences will prepare you to take the next step. Our alumni go on to top graduate programs and medical, dental and pharmacy schools. They become educators, doctors, business analysts and researchers. They join Fortune 500 companies and biotechnology start-ups. (Some even start their own ventures!) As a CBS grad, you will be well prepared for whatever path you choose.



**EMMANUEL OKEMATTI** (Neuroscience, '19) has aspirations to not only become a doctor, but change the world of medicine. Currently in medical school, he aims to increase representation in STEM-related fields and served as a mentor on campus, volunteered at a local hospital and researched in a faculty lab to prepare for life after graduating while an undergraduate. As one of the only major public research universities located in the heart of a major urban area, students have unparalleled access to opportunities while still in school.



A young man with short brown hair, smiling, stands in the foreground. He is wearing a dark navy blue blazer over a light blue and white checkered button-down shirt and dark trousers. His hands are in his pockets. The background features a modern building with a glass facade that reflects the sky and other buildings. To the right, a classic stone building with many windows is visible. The scene is outdoors on a paved walkway with some trees and other people in the distance.

*"I know my critical thinking skills are far better having graduated from CBS."*

**BEAU MILLER** (B.S. '14) graduated with degrees in Biochemistry, as well as Genetics, Cell Biology and Development and then went to study patent law. He now conducts biotechnology equity research for a global investment banking firm. He credits his coursework and experience researching to his career success. "I know my critical thinking skills are far better having graduated from CBS," he says.

# BE PART OF A CURIOSITY-DRIVEN COMMUNITY.

When you choose the College of Biological Sciences, you become part of a community of students, alumni and faculty motivated to make a difference. Your undergraduate experience will not only prepare you to think like a scientist, it will empower you to act on that knowledge through hands-on learning and research, student leadership opportunities, volunteering in clinics and schools, and much more.



## QUESTIONS ABOUT ADMISSION TO CBS?

Contact the Office of Admissions  
1-800-752-1000 or [admissions.tc.umn.edu](https://admissions.tc.umn.edu)



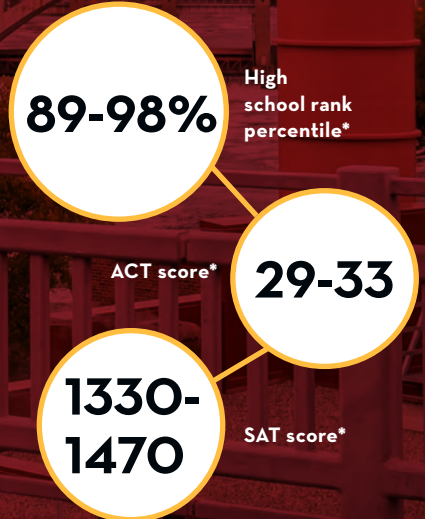
*Find us online at*  
**[cbs.umn.edu](https://cbs.umn.edu)**



**ALLIE, EMILY and ERICA ELLINGSON** share more than a last name. The sisters share a passion for science and a desire to make a difference. Allie (Genetics, Cell Biology and Development, '10) is an ob/gyn resident at the University of Minnesota. Emily (Ecology, Evolution and Behavior '14) is a practicing optometrist after studying at the State University of New York (SUNY) College of Optometry in New York City. Erica (Class of 2020), has her sights set on a career in healthcare, as well.



**CBS STUDENT STATS**  
The College of Biological Sciences attracts highly qualified students from Minnesota and across the country. Here is a brief rundown for the high school rank and standardized test scores of the middle 50 percent of students admitted to the College of Biological Sciences for fall 2019.



*The University of Minnesota is an equal opportunity educator and employer. This publication is available in alternative formats upon request. Direct requests to Katie Hoffman, 612-625-2247, hoff0530@umn.edu. Printed on recycled and recyclable paper with at least 10 percent postconsumer waste material. The University's mission, carried out on multiple campuses and throughout the state, is threefold: research and discovery, teaching and learning, and outreach and public service. © 2019 Regents of the University of Minnesota. All rights reserved. Photography by A Frame Forward Photography (aframeforward.com) except for page 6 (Stephanie Xenos) and page 17 (Jonathan Pavlica).*

*\*The data presented here provide a composite picture of admitted freshman applicants to the College of Biological Sciences; they are not admission criteria. Admission decisions are based on an individual, holistic assessment of each application.*