College of Natural Sciences & Mathematics

Marie Johnson, Dean

Mission. The College of Natural Sciences & Mathematics is dedicated to the principle that teaching and research are intricately mixed and undergraduate research is an integral part of education. By combining quality classroom instruction, student involvement in research, and strong academic advising, we transform the student experience.

A COMMITMENT TO EXCELLENCE

- Student-centered faculty are recognized for their outstanding teaching and cutting-edge research.
- Well-equipped, state-of-the-art laboratories and classrooms support student learning.
- Highly regarded degree programs provide meaningful career opportunities in essential areas of need.

Key Points. The College of Natural Sciences and Mathematics (CNSM) is one of eight Colleges on the campus of Cal State Fullerton. Where given, numbers are for Spring 2018.

- Approximately 39,774 students are enrolled in undergraduate and graduate programs.
- Our students are 57% female and 43% male.
- The ethnic distribution of our student body is .1% Native American, 1.9% Black, 21.1% Asian/Pacific Islander, 41.5% Hispanic, 20% White, 3.8% Unknown, 4% Multi-race, and 7.6% International.
- A total of 452 undergraduate students and 80 graduate students received degrees in 2017-2018.
- CNSM has 68 tenured professors, 32 tenure-track professors, and 14 full-time lecturers.
- CNSM offers eight undergraduate and seven graduate degree programs.
- CNSM offers a minor in Natural Sciences and the Departments offer seven discipline specific minors.
- Discipline-based education researchers are embedded in each department. These researchers study how students learn and disseminate this information so our classrooms employ the most advanced teaching techniques known.
- CNSM provides future teachers advanced coursework in science curriculums, research and seminar opportunities, and enables teachers to increase proficiency in science disciplines appropriate to their academic teaching assignments.
- CNSM supports student success with a robust Supplemental Instruction program.

Organizational Structure. The College of Natural Sciences and Mathematics is comprised of five departments.

- The Department of Biological Science is dedicated to educating the individual student using active-learning, inquiry-based educational approaches. Our program is distinctive in the region in the number of excellent opportunities are available for faculty-mentored undergraduate research. Our mission is to guide students to acquire skills, develop attitudes, and master information necessary to continue their education, obtain desirable employment in biology-related careers, and be productive citizens. Degrees offered: BS Biology, MS Biology, Biotechnology Minor, Cell and Molecular Biology Minor, Ecological and Evolutionary Biology Minor
- The Department of Chemistry and Biochemistry provides thorough and innovative instruction in the theory and practice of chemistry and biochemistry for students who will advance to graduate work, teaching careers, health professions, and positions in industry and government. From basic lectures and laboratories to specialized courses, our students are exposed to a wide and interdisciplinary knowledge base. Students also engage in capstone independent research projects with faculty mentors. Degrees offered: BS Chemistry, BS Biochemistry, BA Chemistry, Chemistry Minor, MA Chemistry, MS Chemistry
- The Department of Geological Sciences is one of the largest undergraduate geoscience programs in the state, and provides a field intensive, research-based curriculum that trains students to be effective citizen-scientists. Our students are well-prepared for employment in industry or government; teaching at the elementary, high school and community college level; and further graduate studies in the geological sciences. Degrees offered: BS Geology, BA Earth Sciences, MS Geology, Geology Minor
- The Department of Mathematics offers programs with sufficient breadth and depth in the study of mathematics to prepare students for subsequent graduate study in mathematics or related areas. Degrees offered: BA Mathematics, MA Mathematics, MS Statistics, Minor Mathematics
- The Department of Physics takes pride in mentoring students towards career paths in our classrooms and our research labs. Physics teaches a wide range of scientific skills and technologies while developing solid critical-thinking tools that bridge industries, such as engineering, electronics, communication, defense, and life sciences. Faculty work hard helping our students
Explore supernovae and collisions between black holes or neutron stars. GWPAC scientists model sources of gravitational-waves, analyze the gravitational-wave signals they produce, measure signals in the LIGO detectors, and improve detector sensitivity. The Center faculty members are prolific publishers and bring in significant externally funded grants.

**Outside Funding.** Faculty members were awarded over $8,110,917 for research and scholarly activities in 2017-18. During the same period, 68 proposals were submitted for total requested funding of $16,506,188.

Funded programs supporting undergraduate students:

- **Maximizing Access to Research Careers (MARC) Scholars Program**—$1.8 million from NIH to increase the number of disadvantaged and URM undergraduate who enter and succeed in biomedically-related PhD programs.
- **Minority Health & Health Disparities International Research Training Program (MHIRT)**—$1.2 million from NIH to increase the numbers of students belonging to health disparities populations or URM that pursue advanced degrees in basic sciences, biomedical or clinical research field and open opportunities for international collaborations.
- **California Institute for Regenerative Medicine (CIRM) Bridges to Stem Cell Research Scholars Program**—$1.3 million from CIRM to train students to become stem cell biology researchers and to enter the careers in stem cell-oriented companies.
- **Louis Stokes Alliance for Minority Participation (LSAMP)**—$49,994 from NSF to increase the number of targeted students who have faced or face social, educational, or economic barriers to graduate with degrees in the sciences, technology, engineering, or math (STEM).
- **Regional Alliance in STEM Education: Raising the Bar in Transfer, Retention and Graduation Rates (Project RAISE)**—$5.8 million from US Department of Education for a project partnering with eight regional community colleges to increase the number of Hispanic and low-income transfer students who complete bachelor’s degrees in STEM and enter in these fields.

Funded programs supporting future teachers:

- **Fullerton Mathematics Teacher and Master Teacher Fellows Project**—$2.53 million from NSF to develop a group of mathematics teachers and mathematics teacher leaders to serve as master/student teachers and college/university liaisons in high-need districts.