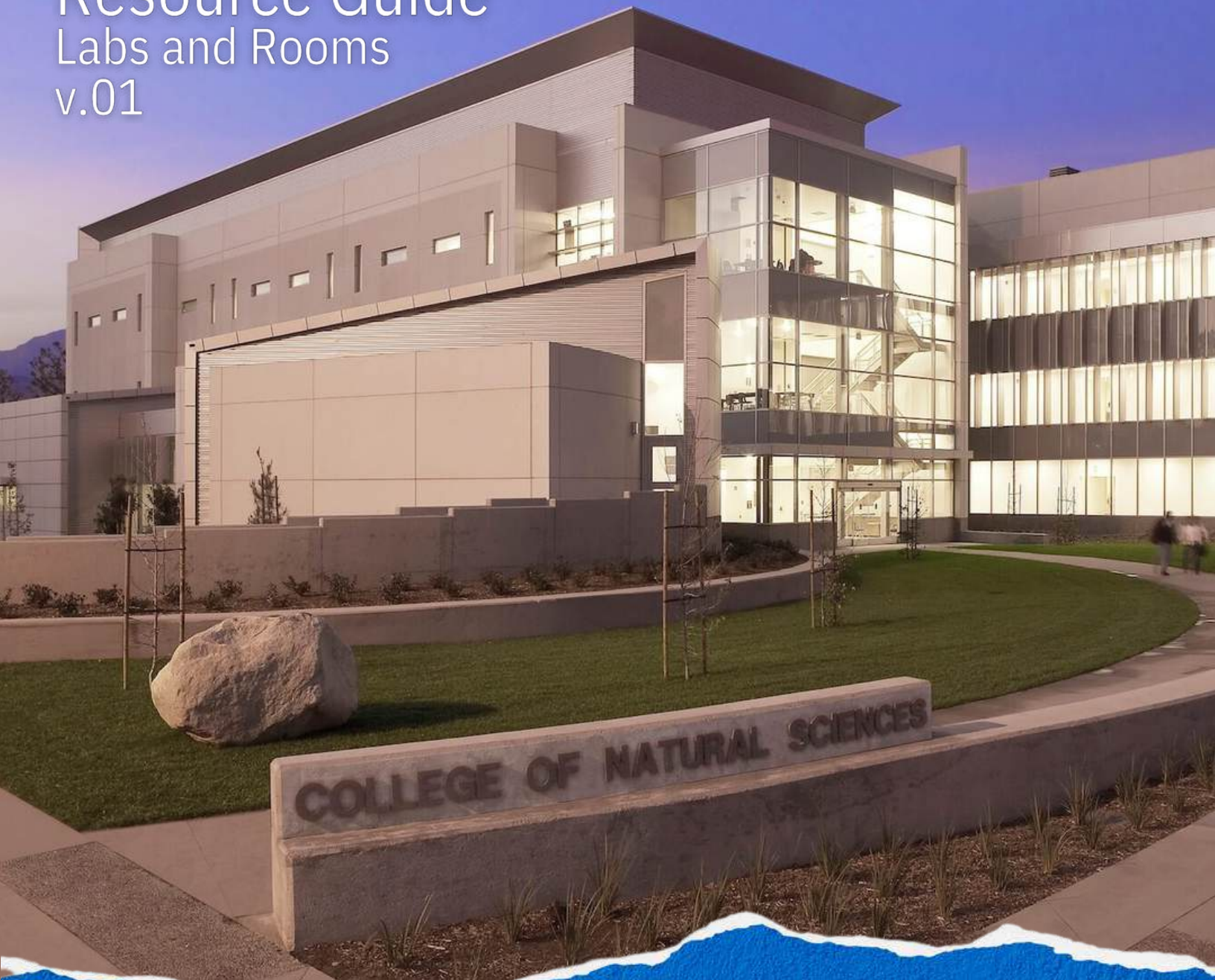


Resource Guide

Labs and Rooms

v.01



Office of the Dean

Office of the Dean: This office of home to the Dean of the College of Natural Sciences (CNS) who currently oversees ten departments: Biology, Chemistry and Biochemistry, Computer Science and Engineering, Geological Sciences, Health Science and Human Ecology, Kinesiology, Mathematics, Nursing, Physics and Astronomy, and Physician Assistant Studies. The College also oversees the operation of the Murillo Family Observatory.

Contact

Phone Number: (909) 537-5300

Location: BI-107

Office Hours: M-F 8:00am - 5:00pm

Website: www.csusb.edu/cns



I hope you are in good health and in good spirits. As the Dean of the College of Natural Sciences (CNS) at California State University, San Bernardino (CSUSB), I am proud to share this resource guide that lists some of science labs where excellent research and learning happens. Our student success is our #1 priority and these resources play an important role in our student, faculty, staff and alumni success, lead to discoveries, and train future leaders in science.

Thank you for your ongoing support, and I look forward to another productive and successful year. **We Define the Future!**

Sastry G. Pantula, Dean of College of Natural Sciences

Sincerely,

Sastry G. Pantula



Department of Biology

The Department of Biology's curriculum fosters an appreciation of the relevance of the biological sciences to their lives and the choices they will be faced with as members of a society experiencing rapid technological advances. To this end, students will develop knowledge and skills that will enable them to evaluate the impact of their decisions on local, regional and global issues concerning the economy, personal health and welfare, and the environment. Students completing the biology major will be prepared for entry-level careers in science or to pursue advanced training in graduate and professional schools.

Labs

Biology Teaching Labs: There are teaching labs for a wide variety of classes on all three floors of the Biological Sciences Building. These include microbiology, molecular biology, cell biology and tissue culture techniques, physiology, organismal biology, and ecology, as well as introductory biology for majors, non-majors, and those interested in careers.

Biology Research Labs: Faculty in the Biological Sciences Department run active research labs that provide opportunities for undergraduate and MS student researchers. Department labs publish in top journals, secure external research funding, and send lab graduates to competitive PhD and MD/PhD programs. Research topics addressed by these labs include microbiology, microbial ecology, plant biology and genetics, as well as those listed below.

STEM Cell Research Lab: This lab's purpose is to advance our understanding of stem cell biology and to harness its potential to improve human health.

Behavioral Genetics & Neurobiology Research Lab: This lab focuses on discovering the genetic basis of major psychiatric and neurological disorders, and genetically dissecting additional traits that will shed light on the development, function, or degeneration of the central nervous system.

Molecular Virology Lab: The main focus of this laboratory is the molecular and cell biology of virus-host interactions, including influenza virus and feline viruses.

Molecular Ecology & Evolution Lab: The Molecular Ecology & Evolution Lab is a cutting-edge research facility focused on investigating the genetic and evolutionary dynamics within ecological systems. Equipped with advanced molecular biology tools, this lab enables students and faculty to explore the intricacies of biodiversity, population genetics, and ecological relationships at the molecular level.



A biology student poses with the latest equipment to work on upcoming projects.

Behavioral Ecology & Herpetology Research Lab: The Behavioral Ecology & Herpetology Research Lab is a dynamic research facility focused on the study of animal behavior and the ecology of reptiles and amphibians (herpetology). This lab serves as a hub for investigating the intricate interactions between organisms and their environments, contributing valuable insights to the fields of behavioral ecology and herpetology.

Paleontology Research Lab: The Paleontology Research Lab is dedicated to the study of fossils and the Earth's ancient life forms. Researchers in this lab explore the rich history of life on our planet through the examination, analysis, and interpretation of fossilized remains. This lab plays a crucial role in advancing our understanding of past ecosystems, evolution, and the Earth's geological history.

Anatomy Lab: The Anatomy Lab is for the study of biological structures at a microscopic and molecular level. Integrating anatomical principles with chemical sciences, this lab provides a unique environment for researchers and students to explore the intricacies of living organisms. It serves as a bridge between anatomy and chemistry, fostering interdisciplinary research and education.

Cadaver Lab: The Cadaver Lab is designed for the study of human anatomy through the examination of cadavers preserved human bodies. This controlled environment provides medical and anatomical researchers with a hands-on learning experience, allowing them to explore the intricacies of the human body's structure, organs, and systems for educational and research purposes.

Department of Chemistry & Biochemistry

The Department of Chemistry and Biochemistry prides itself on the quality of the instruction it provides and the personal attention given to its students. Most classes are deliberately kept to a moderate size, so students can better interact with the instructor.

Laboratory classes are typically 24 for general chemistry, and 16-20 or less for most upper division classes. The upper division labs are mostly taught by permanent faculty, and the lower division laboratories are mostly taught by the part-time lecturers and a few teaching associates from the MSES program.

Labs & Room

Analytical Lab: The laboratory performs analyses on selected chemical constituents of soil, plant, water, and wastewater samples, and provides support for agricultural and environmental research.

Cold Room: Cold rooms are walk-in spaces used by researchers to keep research materials below room temperature. In most cases, the air in these rooms are 100% recirculated.

Advanced Lab: This lab is designed for teaching advanced techniques in physical chemistry and is mostly performed in various laboratories at the Chemistry and Biochemistry department using equipment that is used for contemporary research.

Chemistry & Biochemistry Lab: Teaching laboratories are equipped with state-of-the-art teaching and research laboratories to support learning and faculty-student research. Whether enrolled in chemistry and biochemistry courses or engaged in collaborative research with faculty, our students have complete access to top-of-the-line, modern facilities.



A Chemistry student using stands in front of state-of-the-art equipment.

Organic Instrument Room: The Organic Instrument Room is a specialized facility equipped with state-of-the-art instruments and tools for conducting research and experiments in the field of organic chemistry. This dedicated space allows researchers to analyze, synthesize, and study organic compounds, fostering advancements in the understanding and application of organic chemistry principles, thin sections, and mineral grains.



A Chemistry Professor with students conducting practical applications.

School of Computer Science and Engineering

The School of Computer Science and Engineering educates students in the disciplines of computing theory and machinery, and teaches them to apply their knowledge in a socially responsible way. The School educates students in the intellectual basis of the field, including issues of computability, information theory, and engineering, as well as the technology. Students may study for the BS or MS in Computer Science, the BS in Computer Engineering, the BS in Bioinformatics, or the BA in Computer Systems.



Computer Science & Engineering students work on projects in a computer lab.

The Bachelor of Science in Computer Science program is accredited by the Computing Accreditation Commission of ABET (National Standards Accreditation Agency), and the Bachelor of Science in Computer Engineering program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

The School of Computer Science and Engineering has strong ties to Southern California employers who provide internships and long-term employment <https://www.csusb.edu/cse/internships-careers>.

The School's Industry Advisory Board brings in industry and committee executives to help abreast of trends and directions in the local economy and more globally. Our industry partners help ensure that the education we provide is needed to build the successful future.

Labs & Room

The School of Computer Science and Engineering provides computer labs in an effort to facilitate learning through technology.

These computer labs are available to any CSE student, using their myCoyote ID information. The labs provide access to computing systems, with a variety of soft ware students can utilize throughout their studies. Our labs also provide students with resources for printing papers and reports.



Excel Grant recipients with CSUSB Administrative Leadership and Professors.

We provide support for software and hardware used in the lab room, as well as student account/access. We also provide lab equipment for checkout.

Lab Room Information

Operating Systems

- Windows 11
- Rocky Linux

JB-358

General Lab

Operating Systems

- Fedora Linux

JB-359

General Lab

Operating Systems

- Fedora Linux

JB-360

General Lab

Operating Systems

- Windows 10

JB-361

Research Lab

Operating Systems

- MacOS

Windows 11

Department of Geological Sciences

The Department of Geological Sciences' mission is to prepare students for meaningful careers in the earth sciences or related fields. We offer a Master's degree in Geology and four bachelor's degrees, including concentrations in Field and Applied Geology and Environmental Geology. Geology faculty are externally funded by organizations such as the National Science Foundation and the US Geological Survey, and use the spaces below to work closely with students. Every geology major completes an independent research project working closely with a faculty mentor.

Labs & Research Facilities

Structural and Thermal Modeling Lab: A laboratory for computer-based modeling of crustal deformation and thermal histories.

Microscopy for Tectonics Lab: A specialized laboratory for analysis of microscopic deformation, rock compositions, and geo-/thermochronology applications.

Sedimentary | Hydrology Lab: This facility supports student learning in sedimentary geology and hydrogeology studies.

Mineralogy and Petrology Classroom: Resources include a high-end polarizing light microscope and imaging system, as well as binocular and digital microscopes for evaluating the optical properties and surface features of rock fragments, thin sections, and mineral grains. Petrology and Geochemistry Laboratory for experimental, theoretical, and field investigations of fluid-rock interaction.

Sample Preparation Laboratory (Rock Shed): Our Hard Rock Sample Preparation lab is fully equipped with jaw crushers, disk mills, rock saws, a thin section machine, and a variety of lap and polishing wheels to ensure precise and efficient processing of geological samples.



Geology students in the field studying engineering geology.

Health Sciences & Human Ecology

The Department of Health Sciences and Human Ecology is one of ten departments within the College of Natural Sciences. We offer four bachelor's degrees, and three Masters degrees in Public Health, Health Services Administration, and Nutrition Science.



A Health Science Professor that teaches Principles of Nutrition.

Labs & Room

Health Science Study Room: A study room is available for Health science students to study.

Health Nutrition and Food Sciences Sensory Evaluation Room: The lab focuses on providing sensory services using quantitative and qualitative testing methods to support all areas of the food and beverage department.

Henry T. Susan Chen Nutrition and Food Sciences Instructional Lab: This lab is dedicated to the memory of Henry T. and Susan Chen, esteemed parents of Dr. Dorothy Chen-Maynard, a distinguished faculty member in the Health Sciences and Human Ecology Department. Dr. Chen-Maynard, along with her husband and fellow faculty member, Dr. David Maynard, has generously established an endowment to sustain the lab. Additionally, they have established a scholarship, bearing the same name, aimed at providing support to majors within the department.

Vector Lab: The Vector Lab is dedicated to supporting both teaching and research endeavors related to disease vectors. These vectors, typically arthropods, have the capability to transmit a diverse array of pathogens to humans and animals.

Mosquito Rearing Lab: Mosquito colonies are maintained in Environmental Chambers. The lab conducts various research on mosquito adults and their immature stages. The current focus is on the impact of agrochemicals, such as herbicides, on the mosquito survival, development, and oviposition and as well as the adult fitness to transfer diseases.

Environmental Resources and Spatial Analytics Lab: The focus of current research is on the local and regional water and air quality issues that impact communities, the purpose is to investigate the environmental quality parameters that influence public health and ecosystems.

Department of Kinesiology

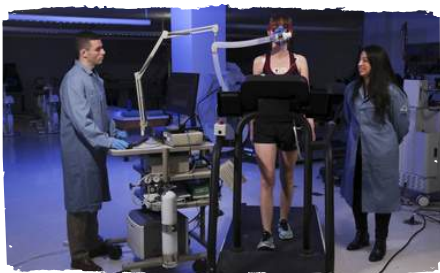
The Kinesiology Department is one of the largest departments at CSUSB, with 17 full-time and 26 part-time faculty, and 950 undergraduate students.

The department offers one undergraduate degree major in Kinesiology with four concentrations- Allied Health Professions, Physical Education and Adapted Physical Education, Exercise Science, and Health Promotion.

Labs & Room

Human Performance Lab: The Human Performance Laboratory is dedicated to the study of the effects of physical activity on the physiological systems of the human body. Here, students will receive hands-on experience working with various pieces of equipment that are used to assess an individual's physical fitness levels.

Hemodynamics Lab: The Hemodynamics Laboratory is dedicated to study thermoregulation, cardiovascular function, bone mineral density, and endocrine responses to exercise. There is a blood handling area with equipment for the sampling and storage of serum for hormone and bone biomarker assays.



Kinesiology students assessing aerobic fitness.



Kinesiology students learning the importance to monitor health.

Applied Physiology Lab: An applied physiology lab is a facility where researchers study how the human body responds to various physical activities and environmental conditions. This may include research on exercise physiology, biomechanics, cardiovascular function, respiratory function, and other aspects of human physiology in applied settings.



CSUSB Cody the Coyote completing a vertical jump test.

Biomechanics Lab: The biomechanics lab provides teaching and research equipment to assess individuals' movement mechanics. This lab has 3D cameras, isokinetic testing, force plates, and muscle activity.

Fitness Assessment Lab: Student interns work with faculty and receive hands-on experience working with various pieces of equipment that are used to assess an individual's physical fitness levels.

Biomechanics Lab: The biomechanics lab provides teaching and research equipment to assess individuals' movement mechanics. This lab has 3D cameras, isokinetic testing, force plates, and muscle activity.

Kinesiology Lounge: Students can relax in between classes in the Kinesiology sponsored student lounge located in the Health and PE Complex first floor. Enjoy a game of cards, talk with your friends, study, or simply relax while waiting for your next class.

Kinesiology Student Association (KSA): KSA The Kinesiology Student Association (KSA) was established in order to unite students who have a common interest in the field of Kinesiology; giving them the opportunity to create new friendships, network, and to gain many opportunities in the Kinesiology field.

Physical Education & Adapted Physical Education Lab: The Physical Education and Adapted Physical Education lab is a dedicated space for interactive technology for physical education students to use and learn a variety of assessments required in k-12 programs



Two Kinesiology Students learning how to test body composition using the underwater weighing assessment.

Motor Behavior Lab: The Motor Behavior Laboratory is dedicated to conduct research and interactive class activities specifically related to investigating the use of observation techniques on performance and skill acquisition. The lab sits at an intersection between motor behavior/motor learning and sport and exercise psychology.





The Math Club is a registered club with the Associated Students Incorporated (ASI). The club meets regularly and is very active. The faculty advisors to the Math Club are Dr. Lo and Dr. Dunn.

Department of Mathematics

The Department of Mathematics is one of nine departments within the College of Natural Sciences. We offer four bachelor's degrees, a Master's degree, a minor in mathematics and a minor in statistics.

The Math Gym: Tutoring for math majors by peers is available each semester. This gym is funded by a grant for prospective secondary level mathematics teachers. Tutoring is available at all class levels.

The Math Club: Members find the Math Club beneficial because it gives you the opportunity to meet other math majors and allows you to network with others. The Math Club while supported by the Department of Mathematics is completely independent of the Department and is entirely student run.

Center for Enhancement of Mathematics Education: Center for Enhancement of Mathematics Education (CEME) addresses the continuum of mathematics education from kindergarten through college teachers through district partnerships and with

The overall goal of improving readiness for college level math among inland empire students.

Center for Advanced Functional Materials

The Center for Advanced Functional Materials scholars have the opportunity to participate in summer research programs, academic year-long research and research abroad. Scholars will receive research stipends while working with our faculty members. CAFM also partners with community colleges such as College of the Desert, Victor Valley College, and San Bernardino Valley College providing students with a chance to get familiar with the CSUSB community while gaining research skills working alongside fellow STEM peers. We also partner with CSUSB Upward Bound program to provide high school students with hands-on University level research experience. There are many opportunities to attend national conferences for a chance to present research findings, all-expense paid research trips, summer internships with NASA, and many more!

Department of Nursing

The Department of Nursing offers undergraduate pre-licensure and RN-BSN/Concurrent Enrollment Program as well as graduate programs in Nursing.

On campus skills lab, simulation lab and A variety of health care agencies are utilized for students' clinical rotation experience.

Lab

Dr. Prem Reddy Nursing Lab:

Dr. Prem Reddy, founder of Prime Healthcare Services, generously donated \$500,000 to the nursing simulation lab. With this gift, the department will be able to provide students; state-of-the-art equipment to learn hands on skills and critical thinking skills in different clinical scenarios.

Department of Physics & Astronomy

The Department of Physics is one of nine departments within the College of Natural Sciences. We offer two bachelor's degrees, and three minors in Applied Physics, Physics, and Astronomy.

Society of Physics Students: The Society of Physics Students is a professional physics association explicitly designed for students.

Membership, through collegiate chapters, is open to anyone interested in physics. Within the SPS, Sigma Pi Sigma, a nationally recognized scholastic honor society, elects members on the basis of outstanding academic achievement. Th is two-in-one Society operates within the American Institute of Physics (AIP). Th e SPS is essentially a self-governing society created to serve the interests of physics undergraduate and graduate students.





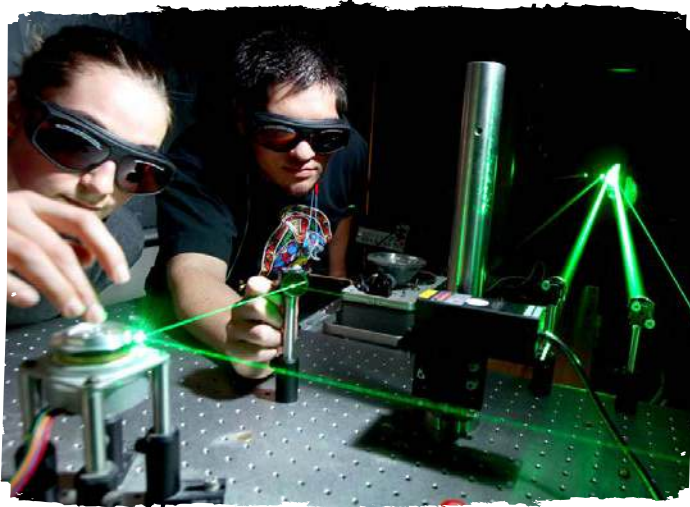
A Physics Professor instructing students on how to use laboratory equipment.

Labs & Room

Physics Study Room: A study room is available for physics students to study or gather with other students. You may even, on occasion, find a strange beast in there: a physics professor.

Solid State Lab: Research in solid state physics is conducted in the Low Temperature Laboratory and Materials Science Facility in the Physics Department. This lab focuses on the study of the behavior of electrons in solids.

Instructional Labs: Physics is an experimental science. In the Instructional Labs at CSUSB, we seek to instill an excitement for experimental physics while teaching students to design experiments, take high quality data sets, make sound analysis choices, and write compelling reports.



Physics students using a microscope in the Physics and Astronomy Labs.

Murillo Family Observatory



The Murillo Family Observatory on the north side of campus.

The Murillo Family Observatory is managed by the Department of Physics. The Observatory provides a state of the art research facility dedicated to meeting the observing and educational needs of the students, faculty and staff at California State University San Bernardino and the general public. We volunteer our time to open to the public once a quarter, weather permitting. Follow us to get updates on our research and scheduling of public events.

Science Success Center

Science Success Center: The Science Success Center supports student success within the College of Natural Sciences serves all CNS majors and specialized advising for students in STEM (Science, Technology, Engineering, Mathematics) majors.



The Science Success Center provides pro-active advising for students who are members of SSC cohorts, and provides them develop their individual development Plans (IDPs).





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College of Natural Sciences