Biochemistry and Molecular Biology

What is Biochemistry and Molecular Biology?
Biochemistry and molecular biology is the central scientific discipline linking the chemical, physical and biological sciences. By applying concepts and methods of chemistry and physics to the fundamental problems of biology, biochemists have made great progress in their effort to understand the biochemical mechanisms of living organisms. This knowledge has been used to improve the quality of life and health care by producing therapeutic drugs, increasing agricultural yield and providing a cleaner environment.

Why Study Biochemistry and Molecular Biology?
Major discoveries on the biochemistry of genetic material have produced the tools of molecular biology that are essential to contemporary life sciences research. As a biochemistry and molecular biology major, you will build a strong foundation in physical and biological sciences as we tailor your education to meet your career goals. You will learn protein biochemistry and the basis of recombinant DNA technology and genetic engineering. All of our degree tracks help prepare you for an excellent career in science or in any of the professional health care fields, including medicine and veterinary science.

Finish in 4
For each undergraduate degree program in CASNR, we have prepared example plans of how you may successfully complete your degree plan in four years.

Where Do You See Yourself?
- Biomedical researcher
- Biotechnologist
- Dentist
- Environmental researcher
- Forensic scientist
- Medical doctor
- Nutritionist
- Pharmacist
- Science educator
- Veterinarian

Student Spotlight

Daniel Henthorn
Mustang, Oklahoma

“I believe OSU will be able to propel me further into my career of going into research with the rigorous and exciting academic work and fulfilling extracurricular activities.”
**Major Options**

Within biochemistry and molecular biology, you have the option to select a predefined emphasis area or work with your faculty advisor to customize your plan of study.

**Major without an Option**

Provides a broad background in chemistry and biological sciences and permits flexibility in meeting your particular interests.

**Pre-Medical or Pre-Veterinary Science Option**

Science-heavy curriculum helps you meet requirements for post-graduate attendance to medical or veterinary school while also preparing you for biochemistry careers.

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**Oklahoma State University**

**College of Agricultural Sciences and Natural Resources**

Department of Biochemistry and Molecular Biology

**Biochemistry and Molecular Biology Major**

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**Fast Fact**

OSU has the only American Society for Biochemistry and Molecular Biology accredited biochemistry and molecular biology program in the state. The program is one of only a handful in the entire country.

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**OSU Department of Biochemistry and Molecular Biology**

**Undergraduate Research Opportunities**

Students in the department are encouraged to participate in a guided research experience. Students can become involved with a research laboratory as early as they wish, even in their freshman year. The experience helps students begin to learn how to think like a scientist.

**Faculty Mentoring Program**

In an effort to provide students with additional career and academic advice, the department’s faculty-mentoring program provides students with quality time with one of many outstanding faculty members. Meetings with faculty members give new students the opportunity to find out how faculty completed their education and what motivated them to be the professional they are today. Faculty advisors in the department also help students apply for summer internships nationwide and draw from their own experiences to provide them with both research training and personal mentoring.

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**Highlight**

The OSU Department of Biochemistry and Molecular Biology hosts and sponsors the Proteomics, Next Generation Sequencing and Bioinformatics core facilities. These facilities provide sophisticated biochemical analyses, vend specialized molecular biology tools and manage a pod of multi-user instruments. The three scientists that staff the facility have more than seven decades of cumulative experience in biochemistry and molecular biology.

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