

East Central University
 BIOLOGY- Molecular Biology Conc.
 Major Code= 0049 / 2024-2025 Academic Catalog

Student Name:	Student ID #
30 hours at ECU completed	Advisor: _____
60 hours at Sr college completed	
40 hours upper level completed	OSRHE Computer Proficiency Requirement met <input type="checkbox"/>

Requirements	Hours	Hours
I. General Education	40	III. Related Work
		33-35

A maximum of twelve hours may be counted in both the major/related work and general education.

Courses highlighted in blue are general education courses

II. Major in Biology--Molecular Concentration	49-50
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A. Required in Biology Core		20
BIOL 1114	General Biology	
BIOL 1214	General Botany	
BIOL 1314	General Zoology	
BIOL 3434	Genetics	
One of the Following:		
BIOL 3514	General Physiology OR	
BIOL 3634	Human Physiology	
C. Required in Molecular Biology Concentration:		20-21
BIOL 2344	General Microbiology	
BIOL 3013	Research Methods & Bioethics	
BIOL 4313	Cell and Molecular Biology	
BIOL 4545	Advanced Molecular Biology	
BIOL 4881	Senior Seminar	
One of the Following:		
BIOL 2184	Human Anatomy	
BIOL 3245	Comparative Vertebrate Anatomy	
D. Required Electives. Select from:		9
BIOL 2243	Intro. To Biotechnology	
BIOL 2773	Forensic Biology	
BIOL 3553	Genomics and Bioinformatics	
BIOL 3623	Biochemistry of Human Disease	
BIOL 3683	Immunology	
BIOL 4763	Biochemical Genetics	
BIOL 4981-4	Seminar in Biology	

CHEM 1114	General Chemistry I	
CHEM 1214	General Chemistry II	
CHEM 3114	Organic Chemistry I	
CHEM 4213	Biochemistry	
CHEM 4221	Biochemistry Lab	
PHYS 1114	General Physics	
PHYS 1214	General Physics II	
MATH 1513	College Algebra	

One of the Following:		3
MATH 2825	Calculus & Analytical Geometry OR	
MATH 2613	Calculus for Bus, Life and Soc Sciences	

One of the Following:		3
EHS 3703	Biostatistics and Environmental Calc.	
MATH 1223	Intro. To probability and Statistics	
PSYCH 3833	Behavioral Science Statistics	
SOC 3833	Statistics for Social Sciences	

IV. Minor (not required)

V. Electives **6-10**

An elective course is any college-level course not required by the degree that is utilized to reach the 120 credit hours required for degree completion. Elective courses are chosen according to the interest of the student and can be used in completion of a minor, certificate, or additional major.

VI. Total Hours Required **120**

VII. Special Requirements

With department approval, students may omit MATH 1513 and begin with MATH 2825.

Students interested in the 3+1 degree program (ECU-OSUCOM) can apply for early admission to the OSU College of Osteopathic Medicine and earn an ECU bachelors degree in biology by completing the first year of medical school at OSUCOM (D.O. degree). Complete information on the program can be obtained from the Records Office or the Department of Biological and Environmental Sciences.