

Biology

Warriors on the Way to STEM

WOW2STEM

Modesto Junior College

The Department of Biological Sciences attracts students who want to study life in all its grandeur! Questions of how living organisms function and evolve are some of the areas of inquiry pursued. Some students pursue a degree in biology in order to conduct basic or applied research. Other students complete coursework required for health professional schools, such as medical school.

What can I do with a degree in Biology?

Where can a Biological Sciences degree take you? Physicians, dentists, pharmacists, nurses, clinical laboratory scientists, and physician's assistants all need solid biology backgrounds, as do teachers, veterinarians, plant geneticists, ecologists, podiatrists, horticulturists, and entomologists.

How can I participate in WOW2STEM?

- **Meet with a STEM counselor each semester at your community college.**
- **Follow a student educational plan (SEP) as outlined by a STEM counselor.**
- **Attend presentations and workshops throughout the year.**
- **Follow application dates and deadlines as directed by the Transfer Advisor and Stanislaus State.**

For more information you may contact:

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www.csustan.edu/STEM-success



Dr. Terry Jones is a professor in the Biological Sciences department at Stanislaus State. His current research consists of studying modern animals to discover the biology of extinct animals.

Biology B.A. Roadmap		
Prerequisites to Lower-Division Courses	Lower-Division Courses at Modesto Junior College	Major Course Requirements at Stanislaus State
	BIO 101*(Biological Principles)	BIOL 3310 - Cellular and Molecular Biology (3 units) BIOL 3350 - Introductory Genetics (3 units) BIOL 3680 - Ecology (4 units) BIOL 4400 - Evolution (3 units)
BIO 101	BOT 101* (General Botany)	
BIO 101	ZOOL 101*(General Zoology)	
MATH 90	CHEM 101** (General Chemistry 1)	
CHEM 101	CHEM 102** (General Chemistry 2)	
	Select 4 or more units from the following: CHEM 102 CHEM 112 *** (Organic Chemistry 1) or CHEM 122*** (Structure and Reactivity: Organic Chemistry 1) OR MATH 161 PHYS 142 & 143 or PHYS 142 & 152 OR MATH 171 & PHYS 165 PHYS 101 & 121 or PHYS 101 & 102	Genetics and Biotechnology course (2 units) Structure and Function course (4 units) Diversity and Systematics courses (8 units) Upper Division Biology Elective courses (10 units)
*Approved course articulation with Biology 1050/1150 (BIO 101 & BOT 101 & ZOOL 101) is accepted as a series only. The Lecture and Lab cannot be transferred separately for the Major. **Students should complete CHEM 101 & 102 at MJC before transferring to Stanislaus State to ensure timely progress. ***While CHEM 112 & 122 satisfy the Organic Chemistry requirement, they do not count as upper-division units. Upon transfer, four additional units of upper-division will be required to complete the major.		

Biology B.S. Roadmap

Prerequisites to Lower-Division Courses	Lower-Division Courses at Modesto Junior College	Major Course Requirements at Stanislaus State
	BIO 101*(Biological Principles)	BIOL 3310—Cellular and Molecular Biology (3 units) BIOL 3350—Introductory Genetics (3 units) BIOL 4400—Evolution (3 units) BIOL 3680—Ecology (4 units)
BIO 101	BOT 101* (General Botany)	
BIO 101	ZOOL 101*(General Zoology)	
MATH 90	CHEM 101** (General Chemistry 1)	
CHEM 101	CHEM 102** (General Chemistry 2)	
CHEM 102	CHEM 112 *** (Organic Chemistry 1) or CHEM 122*** (Structure and Reactivity: Organic Chemistry 1)	Genetics and Biotechnology course (2 units) Structure and Function course (4 units) Diversity and Systematics courses (8 units)
MATH 89 or 90 MATH 89 or 90 MATH 161 & MATH 162	Complete one of the following: MATH 134 (Elementary Stats) or PSYCH 121 (Intro to Stats) or MATH 171 (Calculus: First Course)	Upper Division Biology Elective courses (18 units) Or may choose one OPTIONAL Concentration: - Molecular, Cellular, & Microbial Biology - Organismal, Ecological, & Evolutionary Biology - Environmental Sciences
	Select 1 of the following PHYSICS series:	
MATH 161	PHYS 142 & PHYS 143 OR PHYS 142 & PHYS 152 AND	
PHYS 142	PHYS 143 & 153	
	OR	
MATH 171 & PHYS 165	PHYS 101 & PHYS 121 OR PHYS 101 & PHYS 102	

AND PHYS 103 & PHYS 113 OR PHYS 102 & PHYS 103 MATH 172 & PHYS 101	
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For all degree requirements, visit www.csustan.edu/roadmaps

Associate Degree

Name: _____ Major: _____ Date: _____ Student ID#: _____

To complete the associate breadth requirement, you must select courses that fulfill the unit requirements of the following areas:					C2 Humanities (3 units)	Completed	In Progress	Planned
Area A: English Language, Communication, and Critical Thinking (9 units total)					ANTHR 104			
Complete one course in each category					ENGL 102, 105, 106, 111, 112, 114, 116, 131, 132, 135, 136, 137, 138, 151, 156, 157, 162, 163, 168, 169, 171, 172, 173, 174, 175, 179			
A1 Oral Communication (3 units)	Completed	In Progress	Planned		FREN 101, 102			
COMM 100, 102, 110					GERM 101			
A2 Written Communication (3 units)	Completed	In Progress	Planned		HIST 104, 105, 106, 107			
ENGL 100, 101					HUMAN 101, 105, 106, 110, 130, 140			
A3 Critical Thinking (3 units)	Completed	In Progress	Planned		ITAL 101			
COMM 104, 107					PHILO 101, 111, 113, 115, 120, 121, 123, 135, 140			
CSCI 203					SIGN 125, 126, 127			
ENGL 103					SPAN 101, 102, 103, 109, 110, 112, 173			
PHILO 103, 105, 107					Area D: Social Sciences (9 units total)	Completed	In Progress	Planned
READ 184					ADJU 201, 203, 234			
Area B: Scientific Inquiry and Quantitative (9 units total)					AGEC 210			
B1 Physical Science (3 units)	Completed	In Progress	Planned		AGGE 146			
ASTR 160, 160-151*					ANTHR 101, 102, 104, 130, 140, 150			
CHEM 101*, 102*, 112*, 113*, 122*, 123*, 142, 143*, 144*, 150, 150-164*					CLDDV 103, 109, 262			
EASCI 161*, 162*					COMM 103, 130, 132			
GEOG 101					ECON 101, 102, 115			
GEOL 160, 161*, 165, 166*					ENSCI 110			
METEO 161*					FAMLF 131			
NR 200*					GEOG 102, 104, 105, 110			
PHSCI 180*					HE 114			
PHYS 101*, 102*, 103*, 142*, 143*, 160, 165*, 180*					HIST 101, 102, 104, 105, 106, 107, 115, 116, 125, 129, 145, 154, 155			
B2 Life Science (3 units)	Completed	In Progress	Planned		KIN 103			
ANAT 125*					PHILO 130			
ANSC 200					POLSC 101, 102, 110, 120, 130, 131, 140, 165, 180			
ANTHR 101, 110*					PSYCH 101, 104, 105, 111			
BIO 101*, 111*, 114*, 115, 116*, 140*, 145*					SIGN 119			
BOT 101*, 110*					SOCIO 101, 102, 125, 150, 154, 156			
ENSCI 108					SOCSC 105, 130			
MICRO 101*					Area E: Lifelong Understanding and Self-Development (3 units)	Completed	In Progress	Planned
PHYSO 101*					ADJU 217			
PLSC 200					CLDDV 103			
PSYCH 103					COLSK 100			
ZOOL 101*					FAMLF 131			
B3 Laboratory Activity (3 units)	Completed	In Progress	Planned		FDNTR 219			
Take one course from B1 or B2 with a laboratory, indicated by an asterisk (*).					HE 110, 111, 115			
B4 Mathematics/Quantitative Reasoning (3 units)	Completed	In Progress	Planned		HUMSR 118			
CSCI 204					PSYCH 110, 118, 130, 141			
MATH 101, 105, 106, 111, 130, 134, 138, 161, 162, 171, 172, 173, 174, 191, 193					Area F: Ethnic Studies (3 units)	Completed	In Progress	Planned
PSYCH 121					ETHS 101			
Area C: Arts and Humanities (9 units total)					ETHS 102			
C1 Arts (3 units)	Completed	In Progress	Planned		US History, Constitution and American Ideals (6 units)			
ART 102, 120, 140, 151, 160, 162, 163, 164, 165, 168, 169, 170					Group 1 (3 units)	Completed	In Progress	Planned
CMPGR 202					ECON 115			
COMM 120, 123, 132					HIST 101, 102, 115, 116, 154, 155			
DANCE 102					Group 2 (3 units)	Completed	In Progress	Planned
ENGL 161					POLSC 101, 102, 120			
MUSG 101, 102, 111								
MUST 121, 122, 123, 124					Additional Major Prerequisites			
SOCSC 154						Completed	In Progress	Planned
THETR 100, 123, 160, 161								