

GENERAL STUDIES: EMPHASIS IN STEM FUNDAMENTALS

The Associate in Arts in General Studies with an emphasis in STEM Fundamentals is a local degree intended for students who are exploring STEM majors and professions. This area of emphasis allows students to sample various STEM fields by taking introductory mathematics, science, engineering, or computer science courses to help them choose a specific major for which there is a local Associate in Science (A.S.) degree, an Associate Degree for Transfer (ADT), or University of California Transfer Pathways (UCTP) degree. In addition, this degree can also be used by students to prepare for transfer in majors at CSU, UC, or independent universities where an AS, ADT, or UCTP is not available or not aligned with the preparation required.

Students are required to:

1. Complete Oxnard College's General Education requirements to include areas 1-7 or the California General Education Transfer Curriculum (Cal-GETC).
2. Complete a minimum of **5 courses** in the STEM Fundamentals area of emphasis to include a minimum of 18 units. Each course in the area of emphasis must be completed with a grade of "C" or better (or a "P").
3. Complete a minimum of 60 degree-applicable units. Students intending to transfer will need to complete 60 CSU or UC transferable units.
4. Complete requirements in scholarship (2.0 minimum cumulative degree-applicable GPA).
5. Complete a minimum of 12 semester units in residence within the Ventura County Community College District.

NOTE: Students planning to transfer to a four-year university are advised to choose courses that meet the lower division major preparation and general education requirements for their chosen university in consultation with a college counselor.

Students will select a minimum of **5 courses** (a minimum of 18 units) from the area of emphasis in STEM Fundamentals courses listed below.

Course ID	Title	Units/ Hours
ANAT R101	General Human Anatomy	4
ANTH R101 or ANTH R101H	Introduction to Biological Anthropology Honors: Introduction to Biological Anthropology	3
ANTH R101L	Introduction to Biological Anthropology Lab	1
ANTH R118	Introduction to Forensic Science	3
AST R101	Introduction to Astronomy	3
AST R101L	Astronomy Laboratory	1
BIOL R100	Marine Biology	3
BIOL R100L	Marine Biology Laboratory	1
BIOL R101 or BIOL R101H	General Biology Honors: General Biology	3
BIOL R101L	General Biology Laboratory	1
BIOL R120	Principles of Biology I	4

BIOL R120L	Principles of Biology I Lab: Intro to Cellular and Molecular Biology	1
BIOL R122	Principles of Biology II	4
BIOL R122L	Principles of Biology II Laboratory	1
BIOL R155	Principles of Botany	3
BIOL R155L	Principles of Botany Laboratory	1
BIOL R170	Biological Marine Resource Management	1
CHEM R104	General, Organic, and Biological Chemistry	5
CHEM R110	Elementary Chemistry	5
CHEM R112	Elementary Organic and Biological Chemistry	5
CHEM R120	General Chemistry I	5
CHEM R122	General Chemistry II	5
CHEM R130	Organic Chemistry I	5
CHEM R132	Organic Chemistry II	5
CNIT R101	IT Essentials	3
CNIT R161	Programming Essentials in Python	3
CNIT R170	Introduction to Artificial Intelligence	3
CS R131	Programming Concepts and Methodology I	3
ENGR R101	Introduction to Engineering	2
ESRM R100	Introduction to Environmental Science	3
ESRM R100L	Introduction to Environmental Science Laboratory	1
GEOG R101	Elements of Physical Geography	3
GEOG R101L	Physical Geography Laboratory	1
GEOG R103	Introduction to Weather and Climate	3
GEOL R101	Physical Geology	3
GEOL R101L	Physical Geology Laboratory	1
GEOL R103	Introduction to Oceanography	3
GEOL R103L	Introduction to Oceanography Laboratory	1
GEOL R114	Historical Geology	3
GEOL R114L	Historical Geology Laboratory	1
GEOL R121	Earth Science with Laboratory	4
GEOL R130	Environmental Geology	3
MATH R115	College Algebra	4
MATH R116	College Trigonometry	3
MATH R117	Precalculus and Trigonometry	6
MATH R120	Calculus with Analytic Geometry I	5
MATH R121	Calculus with Analytic Geometry II	5
MICR R100	Principles of Microbiology	3
MICR R100L	Principles of Microbiology Laboratory	2
MST R100	Marine Biology	3
MST R100L	Marine Biology Laboratory	1
MST R103	Introduction to Oceanography	3
MST R103L	Introduction to Oceanography Laboratory	1
PHSC R170	Concepts in Physical Science	4
PHSO R101	Human Physiology	5
PHYS R101	College Physics 1	4
PHYS R101L	College Physics 1 Laboratory	1
PHYS R102	College Physics 2	4
PHYS R102L	College Physics 2 Laboratory	1
PHYS R121	Physics with Calculus 1	5
PHYS R122	Physics with Calculus 2	5

PHYS R131	Physics for Scientists and Engineers 1	5
PHYS R132	Physics for Scientists and Engineers 2	5
PHYS R133	Physics for Scientists and Engineers 3	5
PSY R105	Introduction to Physiological Psychology	3
STAT C1000	Introduction to Statistics	4
or STAT C1000H	Introduction to Statistics - Honors	
Total Required Major Units		18
Oxnard College General Education		24
Double-counted Units		- 3-6
Free Electives Required		21-24
Total Units Required for the A.A. Degree		60
OR		
Total Required Major Units		18
Cal-GETC		34
Double-Counted Units		-3-10
Free Electives Required		11-18
Total Units Required for the A.A. Degree		60

- Utilize critical thinking skills in evaluating reports of scientific information regarding source, bias, and the scientific method.
- Demonstrate an understanding and appreciation of the scientific method
- Express an understanding of the relationships between science and other human activities which may include recognizing components of scientific decision making and apply personal and social values within the process of decision making in scientific endeavors.
- Apply appropriate quantitative and qualitative methods to interpret and analyze pertinent data.