

GENERAL STUDIES: NATURAL SCIENCES OR MATHEMATICS - PATTERN III

The Associate in Arts in General Studies Pattern III with an emphasis in Natural Sciences or Mathematics is intended for students who are planning to transfer to a California public four-year university (UC or CSU) and plan to use the CSU GE-Breadth or IGETC to fulfill their lower-division general education.

The courses that fulfill the Natural Sciences or Mathematics area of emphasis will examine the physical universe, its' life forms and natural phenomena. The courses are designed to develop students' appreciation and understanding of the scientific method, and encourage an understanding of the relationships between science and other human activities.

This emphasis enables the student to take courses that will satisfy lower division major preparation requirements for areas including, but not limited to Allied Health, Biology, Chemistry, Environmental Science, Geological Sciences, Geography, Health Sciences, Mathematics, Nursing, Physics, and Pre-Medicine.

Students are required to:

1. Complete either the CSU GE-Breadth or IGETC
2. Complete local graduation requirements to include:
 - a. **Health Education** (one course/no unit minimum): **HED** R101, R102, R103, R104, R105, R107, R113, R114, R115, R116; **EMT** R109, R169; **FT** R090; **KIN** R100
 - b. **Kinesiology** (one course/no unit minimum): **DANC** R102A, R102B, R104A, R104B, R110A, R1110B, R112A, R112B; **FT** R073, any Kinesiology (**KIN**) activity course, or Intercollegiate Athletics course (ICA)
 - c. **Ethnic/Gender Studies** (a minimum of 3 units): **ANTH** R102, R102H, R105, R107, R114, R119; **BRS** R101, **CHST** R101, R102, R107, R108; **ECE** R107; **ENGL** R112, R124, R126, R129, R134; **ETHS** R107, R110, R114, R119, R134; **GEOG** R102; **GLST** R101; **HED** R103; **HIST** R107, R108, R109, R117, R124; **PSY** R110, R122; **SJS** R110, R120, R130; **SOC** R103, R108, R140; **SPAN** R232, R232H
3. Complete courses in the area of emphasis listed below.
 - a. Complete a minimum of **18 units in the chosen area of emphasis** with a grade of "C" or better (or a "P") in each of the courses selected within the chosen area.
 - b. Complete a minimum of **6 of the 18 units within a single discipline.**
4. Complete a minimum of 60 transferable units.
5. Complete competency requirements in Mathematics and English
6. Complete requirements in scholarship (2.0 minimum cumulative degree-applicable GPA)
7. Complete residency requirements. For students in the Ventura County Community College District, a minimum of 12 semester units must be completed in residence within the district.

Students will select a minimum of 18 units from the courses below, with a minimum of 6 units in a single discipline. For purposes of this degree,

ANAT, BIOL, MICR, and PHSO are all considered to be within the single discipline of Biological Sciences.

Course ID	Title	Units/Hours
ANAT R101	General Human Anatomy	4
ANTH R101 & R101L	Introduction to Biological Anthropology and Introduction to Biological Anthropology Lab	4
ANTH R101H	Honors: Introduction to Biological Anthropology	3
AST R101 & R101L	Introduction to Astronomy and Astronomy Laboratory	4
BIOL R120 & R120L	Principles of Biology I and Principles of Biology I Lab: Intro to Cellular and Molecular Biology	4
BIOL R122 & R122L	Principles of Biology II and Principles of Biology II Laboratory	4
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
ENGR R148	Programming and Problem-Solving in MATLAB	3
ESRM R100	Introduction to Environmental Science	3
ESRM R100L	Introduction to Environmental Science Laboratory	1
GEOG R101 & R101L	Elements of Physical Geography and Physical Geography Laboratory	4
GEOG R103	Introduction to Weather and Climate	3
GEOL R101 & R101L	Physical Geology and Physical Geology Laboratory	4
GEOL R103 & R103L	Introduction to Oceanography and Introduction to Oceanography Laboratory	4
GEOL R114 & R114L	Historical Geology and Historical Geology Laboratory	4
GEOL R121	Earth Science with Laboratory	4
GEOL R130	Environmental Geology	3
MATH R105	Introductory Statistics	4
MATH R105H	Honors: Introductory Statistics	4
MATH R106	Business Calculus	4
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
MATH R122	Calculus with Analytic Geometry III	5
MATH R134	Linear Algebra	3
MATH R143	Differential Equations	3

MATH R148	Programming and Problem-Solving in MATLAB	3
MICR R100 & R100L	Principles of Microbiology and Principles of Microbiology Laboratory	4
PHSO R101	Human Physiology	5
PHYS R101 & R101L	College Physics 1 and College Physics 1 Laboratory	5
PHYS R102 & R102L	College Physics 2 and College Physics 2 Laboratory	5
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
Total Required Major Units		18
CSU GE-Breadth		39
Health (can be taken in CSU GE area E)		3
Kinesiology Activity		1
Ethnic/Gender Studies (can be taken in CSU GE area F)		3
Double-counted Units		- 3-13
Free Electives Required		0-9
Total Units Required for the A.A. Degree		60
OR		
Total Required Major Units		18
IGETC		37
Health		3
Kinesiology Activity		1
Ethnic/Gender Studies (can be taken in IGETC area 7)		3
Double-counted Units		- 3-13
Free Electives Required		1-11
Total Units Required for A.A. Degree		60

Upon successful completion of this program, students will be able to:

- 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.