GENERAL STUDIES: NATURAL SCIENCES OR MATHEMATICS - PATTERN II

The Associate in Arts in General Studies Pattern II with an emphasis in Natural Sciences or Mathematics is intended for students who are planning to transfer to a four-year university in high-unit majors or where completion of CSU GE-Breadth or IGETC is not appropriate or advisable. Independent or out-of-state universities may also fall in this category. See www.assist.org (http://www.assist.org/) or a counselor for guidance.

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. Select and complete courses from the general education of a transfer institution to include, at a minimum, the following Title 5 requirements:
   a. Natural Sciences (3 units)
   b. Social and Behavioral Sciences (3 units)
   c. Arts and Humanities (3 units)
   d. Language and Rationality – English Composition (3 units)
   e. Communication and Analytical Thinking (3 units)
   f. Three additional units from any of the above areas (3 units)
2. Complete local graduation requirements to include:
   a. **Health Education** (one course/no unit minimum): **HED** R101, R102, R103, R104, R105, R107, R113, R114; **EMT** R109, R169; **FT** R090; **KIN** R100
   b. **Physical Education/Kinesiology** (one course/no unit minimum): **DANC** R102A, R102B, R104A, R104B, R110A, R1110B, R112A, R112B; **FT** R073, any Kinesiology (KIN) activity course, or any 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.

Students must complete at least 12 semester units in residence at Oxnard College in order to receive a degree from Oxnard College. The same policy applies to all colleges in the district: a minimum of 12 semester units must be completed at the college granting the degree.

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	Introduction to Biological Anthropology	3
ANTH R101H	Honors: Introduction to Biological Anthropology	3
ANTH R101L	Introduction to Biological Anthropology Lab	1
AST R101	Introduction to Astronomy	3
AST R101L	Astronomy 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
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
ESRM R100	Introduction to Environmental Science	3
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 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	5
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**
Title 5 Minimum General Education		18
Double-counted Units		- 3-6
Free Electives Required		27-30
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.