# 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; **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 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 & 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 |
| 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 | | 3 |
| Double-counted Units | | - 3-10 |
| Free Electives Required | | 0-6 |
| **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 | | 3 |
| Double-counted Units | | - 3-10 |
| Free Electives Required | | 1-8 |
| **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.