

**FIRST SEMESTER**

CHEM 150	Introduction to Chemical Technology	2
CHEM 180	Computational Methods in Chemistry	2
MATH 122	Applied Calculus II (3) OR	3-4
MATH 251	Analytic geometry and Calculus II (4)	
PHYS 170	College Physics I (3) OR	3
PHYS 270	Principles of Physics I (3)	
PHYS 171	College Physics Laboratory I (1) OR	1
PHYS 271	Principles of Physics Laboratory I (1)	

**SECOND SEMESTER**

CHEM 190	Chemical Health and Safety	2
PHYS 172	College Physics II (3) AND	
PHYS 173	College Physics Laboratory II (1) OR	4
PHYS 272	Principles of Physics II (3) AND	
PHYS 273	Principles of Physics Laboratory II (1)	

**THIRD SEMESTER**

CHEM 240	Organic Chemistry I	5
CHEM 250	Analytical Chemistry	5

**FOURTH SEMESTER**

CHEM 160	Introductory Biochemistry	3
CHEM 242	Organic Chemistry II	5
CHEM 244	Organic Analysis and Spectroscopy	2

**Total units** **37-38**

# PHILOSOPHY

## SCHOOL OF LANGUAGE, LITERATURE, AND HUMANITIES

**DEAN:** Joel M. Levine, Ed.D., Office 430F, 619-482-6349

**FACULTY:** Peter Bolland, M.A., Alejandro Orozco, M.A.;  
Luke Cuddy, M.A.

**DEPARTMENT CHAIR:** Peter Bolland, M.A.

**GENERAL DESCRIPTION**

Philosophy, humanity's oldest intellectual discipline, explores fundamental questions about the nature of thought and existence from various perspectives. This discipline explores the scope and limits of human knowledge, the ultimate constituents of reality, the sources of value and obligation, and the nature of logic and correct reasoning. Through philosophy, one may think about and develop perspectives on topics as diverse as science, language, logic, truth, ethics, politics, and law.

**CAREER OPTIONS**

Below is a sample of the career options available for the philosophy major. A few of these require an associate degree, some require a bachelor's degree, and most require a graduate-level degree: lawyer, government administrator or personnel, labor relations specialist, minister, publisher, literary critic, research assistant, educational researcher, ethics specialist, high school or college instructor, writer, business manager, journalist, and educational broadcaster.

**DEGREE/CERTIFICATE OPTIONS****MAJOR CODE****Associate in Arts Degree: Transfer Preparation**

Philosophy	01830
Philosophy (SB1440)	01835

Consult with a counselor to develop a Student Education Plan (SEP), which lists the courses necessary to achieve your academic goal.

## ASSOCIATE IN ARTS DEGREE

## PHILOSOPHY

**ASSOCIATE IN ARTS DEGREE****TRANSFER PREPARATION \* (MAJOR CODE: 01830)**

The lower-division requirements give both the philosophy major and the general education student an excellent vehicle for refining his/her skills in critical reasoning and rational decision making. The application of philosophical ideas to the practical problems of life is an essential part of the curriculum. Philosophy majors who plan a career in teaching at the college or university level must complete a bachelor's degree and a graduate-level degree.

**Program Student Learning Outcome Statement:**

- Recognize, analyze, evaluate, and critique philosophical ideas and apply them in decision-making.

PHIL 101	Introduction to Philosophy	3
PHIL 103	Logic and Critical Thinking	3
PHIL 106	World Religions	3
PHIL 120	Ethics: Theory and Practice	3

**Complete 6 units from electives** **6**

**Total units** **18**

**Electives:** HUM 101 and 102 or HUM 104 and 140.

SDSU also requires three consecutive courses in a single foreign language as part of the requirement for the bachelor's degree. Foreign language competency may also be demonstrated by successfully completing four years of one foreign language in high school or by successfully completing a challenge examination. See a counselor for additional information.



To earn an associate degree, additional general education and graduation requirements must be completed. See page 64.

- \* Students planning to transfer to a four-year college or university should complete courses specific to the transfer institution of choice. University requirements vary from institution to institution and are subject to change. Therefore, it is important to verify transfer major preparation and general education requirements through consultation with a counselor in either the Counseling Center or Transfer Center. See catalog TRANSFER COURSES INFORMATION section on page 45 for further information.

## ASSOCIATE IN ARTS FOR TRANSFER

### PHILOSOPHY

**STUDENT TRANSFER  
ACHIEVEMENT REFORM (STAR)  
ACT (SB1440)**

**ASSOCIATE IN ARTS DEGREE  
TRANSFER PREPARATION \* (MAJOR CODE: 01835)**



Associate Degree  
for Transfer  
*A Degree with a Guarantee.™*

Philosophy, humanity's oldest intellectual discipline, asks fundamental questions about the nature of thought and existence from various perspectives. This discipline explores the scope and limits of human knowledge, the ultimate constituents of reality, the sources of values and obligation, and the nature of logic and correct reasoning. Through philosophy, one may think about and develop perspectives on topics as diverse as science, religion, language, logic, truth, ethics, politics, and law. The lower-division requirements give both the philosophy major and the general education student an excellent vehicle for refining his/her skills in critical reasoning and rational decision making. The application of philosophical ideas to the practical problems of life is an essential part of the curriculum. Philosophy majors who plan a career in teaching at the college or university level must complete a bachelor's degree and a graduate-level degree.

**REQUIRED CORE: select two (6 units)** **6**

- |          |                                 |
|----------|---------------------------------|
| PHIL 103 | Logic and Critical Thinking (3) |
| PHIL 101 | Introduction to Philosophy (3)  |
|          | OR                              |
| PHIL 120 | Ethics: Theory and Practice (3) |

**LIST A: select one course below or any course from Required Core not already used (3 units)** **3**

- |          |                                 |
|----------|---------------------------------|
| PHIL 101 | Introduction to Philosophy (3)  |
|          | OR                              |
| PHIL 120 | Ethics: Theory and Practice (3) |

**LIST B: select two courses (6 units)** **6**

- |          |                             |
|----------|-----------------------------|
| HIST 104 | Western Civilization I (3)  |
| HIST 105 | Western Civilization II (3) |
| PHIL 106 | World Religions (3)         |
| PHIL 107 | Asian Philosophy (3)        |

**LIST C: select one course (3–6 units)**

- |           |  |
|-----------|--|
| HIST 106  | World History I (3)  |
| HIST 107  | World History II (3)   |
| HUM 101   | Humanities through the Arts I (3)                                      |
| HUM 102   | Humanities through the Arts II (3)                                     |
| HUM 112   | Culture and the Media (3)  |
|           | OR   |
| TELE 112  | Culture and the Media (3)  |
| HUM 104   | Introduction to Humanities: Arts and Ideas (3)                         |
| HUM 140   | World Mythology (3)  |
| ENGL 270  | Multicultural Literature (3)   |
| ENGL 271  | Latin American Literature (3)  |
| ENGL 272  | Chicano Literature (3)   |
| ENGL 273  | African American Literature (3)  |
| ENGL 274  | Literature of the U.S.–Mexico<br>Borderlands and Baja California (3)   |
| ENGL 280  | Literature By Women (3)  |
| ASL 120   | American Sign Language I (4)   |
| CHIN 101  | Mandarin Chinese I (5)   |
| FREN 101  | Elementary French I (5)  |
| ITAL 101  | Elementary Italian I (5)   |
| JPN 101A  | Introductory Elementary Japanese (3)                                   |
|           | AND  |
| JPN 101B  | Continuation of Elementary Japanese (3)                                |
| JPN 101   | Beginning Japanese I (5)   |
| FIL 101   | Elementary Filipino I (5)  |
| PORT 101  | Elementary Portuguese I (5)  |
| SPAN 101A | Introduction to Elementary Spanish (3)                                 |
|           | AND  |
| SPAN 101B | Continuation of Elementary Spanish (3)                                 |
| SPAN 101  | Elementary Spanish I (5)   |
| ASL 130   | American Sign Language II (4)  |
| CHIN 102  | Mandarin Chinese II (5)  |
| FREN 102  | Elementary French II (5)   |
| ITAL 102  | Elementary Italian II (5)  |
| JPN 102   | Beginning Japanese II (5)  |
| FIL 102   | Elementary Filipino II (5)   |
| PORT 102  | Elementary Portuguese II (5)   |
| SPAN 102  | Elementary Spanish II (5)  |
| FREN 201  | Intermediate French I (5)  |
| ITAL 201  | Intermediate Italian I (5)   |
| JPN 201   | Intermediate Japanese I (5)  |
| FIL 201   | Intermediate Filipino I (5)  |
| SPAN 201  | Intermediate Spanish I (5)   |
| FREN 202  | Intermediate French II (5)   |
| ITAL 202  | Intermediate Italian II (5)  |
| JPN 202   | Intermediate Japanese II (5)   |
| SPAN 202  | Intermediate Spanish II (5)  |
| SPAN 215  | Spanish for Bilinguals I (5)   |
| SPAN 216  | Spanish for Bilinguals II (5)  |
| SPAN 221  | Introduction to Literature for Bilinguals (5)                          |
| SPAN 225  | Intermediate Conversation and Writing on<br>Spanish Culture (3)        |
| SPAN 226  | Intermediate Conversation and<br>Writing on Latin American Culture (3) |

**Total units**

**18–21**



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# PHYSICAL SCIENCE

## SCHOOL OF MATHEMATICS, SCIENCE, AND ENGINEERING

**DEAN:** Michael Odu, Ph.D., Office 215A, 619-482-6344

**FACULTY:** Ken Yanow, M.S., M.A.

**DEPARTMENT CHAIR:** Jeffrey Veal, Ph.D.

### GENERAL DESCRIPTION

The physical science program is an interdisciplinary approach to the study of science that stresses the interrelationship of chemistry and physics, as well as geology, biology, astronomy, earth science, and mathematics. Learning in this department offers a broad academic background and facility in analytic thinking requisite for advanced study in any of the sciences while providing a greater diversity of knowledge than is possible with study in a single science.

### CAREER OPTIONS

The usual career goal of the physical science major is to become a teacher in high school. Upon completion of the bachelor's degree in physical science and other requirements for a single subject credential, graduates will be able to teach the following subjects in California high schools: chemistry, general science, physics, and physical science. Jobs for physical science teachers are becoming more plentiful with an increasing need for instructors in high school during the next ten years. Minority students or those proficient in Spanish are particularly in demand.

### DEGREE/CERTIFICATE OPTIONS

### MAJOR CODE

#### Associate in Science Degree: Transfer Preparation

Physical Science

01670

Consult with a counselor to develop a Student Education Plan (SEP), which lists the courses necessary to achieve your academic goal.

*The program below is undergoing modification and the modification will be placed into an addendum upon Chancellor's Office approval - see your counselor for further information and visit the college website under <http://www.swccd.edu/catalog> link for the latest addenda updates.*

## ASSOCIATE IN SCIENCE DEGREE

### PHYSICAL SCIENCE



#### ASSOCIATE IN SCIENCE DEGREE TRANSFER PREPARATION \* (MAJOR CODE: 01670)

Lower-division requirements are not the same for all universities. The curriculum is designed for students who intend to transfer to a four-year college or university, such as SDSU, to earn a Bachelor of Science degree in order to become a high school science teacher. The State of California does not offer separate credentials in either chemistry or physics.

#### Program Student Learning Outcome Statement:

- Students should be able to demonstrate broad science content knowledge in the physical sciences such as the nature and structure of matter, Earth's place in the Universe, and the conservation of energy and matter.
- Students should be able to demonstrate the application of quantitative skills (such as statistics, mathematics and the interpretation of numerical graphical data) to physical science problems.
- Students should be able to demonstrate a general understanding of the nature of science, the methods applied in scientific investigations, and the value of those methods in developing a rigorous understanding of the physical world. Students should be able to identify the difference between science and other fields of knowledge.

