

**ARTD 150 Digital Concepts and Techniques in Art (3)**

1½ hours lecture - 4½ hours laboratory

**Prerequisite:** A minimum grade of 'C' in ARTD 100**Transfer acceptability:** CSU; UC

An overview of vector based and pixel based computer applications, and how they are used in a creative environment. Understanding of the underlying logic of computer software will be taught with an emphasis on the role of the computer in all forms of modern art-making. Students will learn how to use the computer as a tool effectively while developing their own method of creating digital artwork. Cross-platform issues will be addressed, as well as file preparation for various output media.

**ARTD 200 Graphic Design II – Lettering and Layout (3)**

1½ hours lecture - 4½ hours laboratory

**Prerequisite:** A minimum grade of 'C' in ARTD 100**Recommended preparation:** ARTD 150**Transfer acceptability:** CSU

The study of the historical roots and nomenclature of lettering forms and the development of grid systems to aid in the development of successful layout designs. Design and assembly utilizing both hand skills and computer software will be taught.

**ARTD 210 Typography Design (3)**

1½ hours lecture - 4½ hours laboratory

**Recommended preparation:** ARTD 150**Transfer acceptability:** CSU

Introduction to the historical roots and contemporary technology of typography. Provides a critical analysis of technical processes and elements through assignments that define its symbolic and communicative aspects.

**ARTD 220 Motion Design (3)**

1½ hours lecture - 4½ hours laboratory

**Transfer acceptability:** CSU

An introduction to the concepts and techniques of animation and multimedia for personal computers using After Effects. Emphasis will be placed on the role of the artist and in the development process and as a key link in determining the success of the final project.

**Art - Illustration (ARTI)**

Contact the Art Department for further information.

(760) 744-1150, ext. 2302

Office: D-14

**Associate in Science Degrees -**

AS Degree requirements are listed in Section 6 (green pages).

- Illustration

**PROGRAMS OF STUDY****Illustration**

Provides students with specific skills necessary to prepare a portfolio for application to Illustration programs at 4-year schools. In addition develops creative conceptual and illustrative skills for use in advertising and story illustration.

**A.S. DEGREE MAJOR**

Program Requirements	Units
ART 104 Design and Composition	3
ART 120 Foundations of Life Drawing	3
ART 166 History of Art II	3
ART 200 Color Theory	3
ARTD 150 Digital Concepts and Techniques in Art	3
ARTD 220 Motion Design	3
ARTI 100 Concept Sketching	3
ARTI 210 Illustration I	3
ARTI 220 Illustration II, Digital Techniques	3
ARTI 246 Digital 3D Design and Modeling	3
Final Art Portfolio Review	0

**Electives (Select 3 units)**

ART 121 Intermediate Life Drawing	3
ART 125 Introduction to Portraiture	3
ART 235 Watercolor Painting I	3
ARTD 100 Graphic Design I	3
ARTI 247 Digital 3D Design and Animation	3
BMGT 105 Small Business Management	3

**TOTAL UNITS 36**

Illustration A.S. Degree Major is also listed in ART.

**COURSE OFFERINGS**

Individual courses are not repeatable. State Regulations (Title 5, Sections 55040-55041) also limit the number of times a student may take courses with related content and similar primary educational activities. Therefore, some combinations of course work in Art – Illustration have limitations on the number of times a student may enroll. Specific information about enrollment limitations for Art – Illustration classes is available at <http://www.palomar.edu/schedule/restrictions.htm>

**ARTI 100 Concept Sketching (3)**

1½ hours lecture - 4½ hours laboratory

**Transfer acceptability:** CSU

Visual concept development through dynamic sketching, ranging from preparatory to presentation drawings. Included is the study of perspective and drawing of mechanical and natural forms and environments by the use of line and value. Emphasis is placed on the progressive development of visual ideas.

**ARTI 210 Illustration I - Rendering Techniques (3)**

1½ hours lecture - 4½ hours laboratory

**Prerequisite:** A minimum grade of 'C' in ARTI 100**Transfer acceptability:** CSU

Content reflects the types of assignments an illustrator may encounter in the industry, using a variety of traditional media and techniques. Contemporary principles of concept development and problem solving will be explored, using stylization, design, composition and color as methods of communication. Accurate analysis, historical reference, oral and graphic presentation of ideas, sketches and finished art will be stressed.

**ARTI 220 Illustration II – Digital Techniques (3)**

1½ hours lecture - 4½ hours laboratory

**Prerequisite:** A minimum grade of 'C' in ARTI 210**Transfer acceptability:** CSU

A course for advanced illustration students that focuses on creating non-traditional professional level commercial artwork. Media experimentation, and combination of traditional methods with digital applications is used to create finished pieces that are conceptually and visually interesting and strong. Students are encouraged to develop and strengthen personal and distinctive approaches to illustration. Portfolio preparation for admission to high quality 4-year art and design programs, or for entry into to the work force will be examined and applied. Students will also gain insight into self-promotion and marketing strategies. Contracts, self-employment issues and billing procedures will be explained.

**ARTI 230 Illustration III – Experimental Techniques (3)**

1½ hours lecture - 4½ hours laboratory

**Prerequisite:** A minimum grade of 'C' in ARTI 220**Transfer acceptability:** CSU

Course work will reflect advanced illustration concepts, conceptually and technically. Students will combine experimental traditional and digital techniques to create projects that reflect a professional level of finish and format. Projects will focus on conceptual content and process, and represent a range of possible industry application, such as entertainment design, editorial illustration and illustrations for an interactive environment.

**ARTI 246 Digital 3D Design and Modeling (3)**  
 1½ hours lecture - 4½ hours laboratory  
**Recommended preparation:** ARTD 150  
**Transfer acceptability:** CSU  
 Fundamentals of computerized 3-D modeling and Design. Hands on experience with modeling, lighting, developing texture maps and rendering.

**ARTI 247 Digital 3D Design and Animation (3)**  
 1½ hours lecture - 4½ hours laboratory  
**Recommended preparation:** ARTD 220  
**Transfer acceptability:** CSU  
 Concepts and techniques of 3-dimensional animation using Maya software. The course will provide an understanding of the production, animation and postproduction process.

**ARTI 248 Digital 3D Design and Sculpture (3)**  
 1½ hours lecture - 4½ hours laboratory  
**Transfer acceptability:** CSU  
 Concepts and techniques of digital sculpting using ZBrush software. The course will provide an understanding of high detail polygon modeling and the use of mapping techniques to transfer detail to low polygon models.

## Astronomy (ASTR)

Contact the Earth, Space, and Aviation Sciences Department for further information.

(760) 744-1150, ext. 2512

Office: NS-110G

For transfer information, consult a Palomar College Counselor.

### Associate in Science Degrees -

AS Degree requirements are listed in Section 6 (green pages).

- Astronomy

### Certificates of Achievement -

Certificate of Achievement requirements are listed in Section 6 (green pages).

- Astronomy

### Planetarium

The Planetarium is part of the Earth, Space, and Aviation Sciences Department at Palomar College. Several types of planetarium programs are offered for the community including school programs for area elementary and secondary schools. The planetarium also offers evening shows throughout each month, open to students of Palomar College and the general public. For further information, visit [www.palomar.edu/planetarium](http://www.palomar.edu/planetarium) or contact the planetarium at [planetarium@palomar.edu](mailto:planetarium@palomar.edu) or (760) 744-1150, ext. 2833.

## PROGRAM OF STUDY

### Astronomy

Provides the student with sufficient background to begin upper division course work. Transfer students should consult the four year college or university catalog for specific requirements or see a Palomar College counselor. Students pursuing a major in Astronomy at San Diego State University must complete a minor in Mathematics.

## A.S. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements	Units
ASTR 100 Principles of Astronomy	3
ASTR 105L Introduction to Astronomy Laboratory	1
ASTR/GEOL 120 Planets, Moons and Comets	3
MATH 140 Calculus/Analytic Geometry, First Course	5
MATH 141 Calculus/Analytic Geometry, Second Course	4
MATH 205 Calculus/Analytic Geometry, Third Course	4

PHYS 230	Principles of Physics	5
PHYS 231	Principles of Physics	5
PHYS 232	Principles of Physics	4

**TOTAL UNITS 34**

Recommended Electives: ASTR 210, 295

## COURSE OFFERINGS

**ASTR 100 Principles of Astronomy (3)**

3 hours lecture

**Transfer acceptability:** CSU; UC

An introduction to the science of astronomy and the nature of the universe. Topics include observation and movements of celestial bodies, exploration of celestial phenomena, the physics of light, and the nature of stars and galaxies.

**ASTR 105L Introduction to Astronomy Laboratory (1)**

3 hours laboratory

**Prerequisite:** A minimum grade of 'C' in ASTR 100 or 120, or concurrent enrollment in ASTR 100 or 120

**Transfer acceptability:** CSU; UC

Exploration of the techniques used in astronomy to determine the physical properties of stars and galaxies. The physical nature of light and the optical principles of a telescope are also explored. Measurements of planetary and stellar phenomena are used to investigate the astronomical methods of determining the size, composition and age of the universe.

**ASTR 120 Planets, Moons, and Comets (3)**

3 hours lecture

**Note:** Cross listed as GEOL 120

**Transfer acceptability:** CSU; UC

The astronomy and geology of the solar system, observations, dynamics relativistic ideas, including theories of formation and evolution. Comparative survey of the atmospheres, surface features and interiors of planets and satellites. Minor objects, such as comets and asteroids, will be included.

**ASTR 197 The Universe: Contemporary Topics in the Space Sciences (1-3)**

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture and/or laboratory may be scheduled by the department. Refer to Class Schedule.

**Transfer acceptability:** CSU; UC - Credit determined by UC upon review of course syllabus.

Selected topics in astronomy and space sciences, emphasizing current research and discoveries. Refer to the Class Schedule for specific topics covered.

**ASTR 210 Life in the Universe (3)**

3 hours lecture

**Prerequisite:** A minimum grade of 'C' in ASTR 100 or 120

**Transfer acceptability:** CSU

A scientific exploration of life in the universe using the findings of astronomy biology, and chemistry. Topics include the development of life and its environments on Earth, the search for life in the cosmos, interstellar communications and travel, and the effects of contact.

**ASTR 295 Directed Study in Astronomy (1, 2, 3)**

Arrange 3, 6, or 9 hours laboratory with department chairperson

**Prerequisite:** A minimum grade of 'C' in ASTR 100 or 120

**Transfer acceptability:** CSU; UC - Credit determined by UC upon review of course syllabus.

Individual study in field, library, or laboratory for interested students.