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| PHOT 100 | Elementary Photography | 3 |
| CE 100 | Cooperative Education | 1, 2, 3, 4 |
| TOTAL UNITS | | 45 |

Illustration A.A. Degree Major is also listed in Art.

COURSE OFFERINGS

ARTI 100 Introduction to Illustration (3)
 1½ hours lecture - 4½ hours laboratory
Transfer acceptability: CSU
 A course on proportion and structure, quick sketching, gesture, and contour drawing. Included is the study of perspective and drawing of mechanical and natural forms by the use of line and value. Emphasis is placed on the evolutionary development of visual ideas.

ARTI 200 Rendering (3)
 1½ hours lecture - 4½ hours laboratory
Prerequisite: A minimum grade of 'C' in ARTI 100
Note: May be taken 2 times
Transfer acceptability: CSU
 Application of various media and techniques for illustrating known products and services or the illustration of design ideas for students in design and architecture. Emphasis is on the development of proficiency and the encouragement of comparison of student work with current professional work.

ARTI 210 Illustration I – Traditional Techniques (3)
 1½ hours lecture - 4½ hours laboratory
Prerequisite: A minimum grade of 'C' in ARTI 100
Transfer acceptability: CSU
 Course work that 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 Accurate analysis, historical reference, oral and graphic presentation of ideas, sketches and finished art will be stressed.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
Note: May be taken 2 times
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
Note: May be taken 3 times
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
Note: May be taken 3 times
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
Note: May be taken 3 times
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
Note: May be taken 2 times
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 Arts Degrees -

AA 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 or contact the planetarium at 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.A. 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

The fundamental nature of the night sky as understood by pre 20th century scientists. Properties of the solar system, stars, black holes, galaxies, and extragalactic objects. Interstellar communication and extraterrestrial life.

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.

Note: May be taken 4 times

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

Note: May be taken 4 times for a maximum of 6 units

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

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

Athletics and Competitive Sports (ACS)

Contact the Athletics Program for further information.

(760) 744-1150, ext. 2460

Office: O-10

Palomar College offers intercollegiate sports for men and women. They include softball, basketball, golf, tennis, soccer, volleyball, swimming and diving, water polo, football, wrestling, cross country, and baseball. Teams will compete in one of four

conferences: Mission Conference, Orange Empire Conference, South Coast Conference, and Pacific Coast Conference. Member colleges are located in the Los Angeles, Orange County, Riverside, and San Diego areas. In order to participate in intercollegiate athletics a student must fulfill the following requirements:

1. Obtain a physical clearance by the team physician.
2. Enroll in 12 units. Students are encouraged to register for a minimum of 9 units in courses other than Physical Education activity classes or Athletics and Competitive Sports classes.
3. Successfully complete 24 units prior to a second season of participation. A minimum of 18 units must be completed in courses other than Physical Education activity classes or Athletics and Competitive Sports classes.
4. Maintain a 2.0 or higher grade point average in all course work.
5. Participate in the Palomar College matriculation program which includes English, math and reading skills assessment.
6. Participate in the Palomar College Athletic Academic Advisement Program which includes:
 - a. Establishment of an Individual Education Plan prior to second semester of enrollment.
 - b. Academic assessment of course progress following the 4th, 8th, and 12th week of each semester.
 - c. Fulfilling tutorial or study hall requirements as assigned by the instructor advisor.

INTERCOLLEGIATE ATHLETIC COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

ACS 50 Introduction to Collegiate Athletics (1)

1 hour lecture

Program for matriculation, eligibility rules, exploring and identifying major emphasis of study, academic success skills, educational planning as it relates to transfer as a student athlete.

ACS 55 Cheerleading (2)

6 hours laboratory

Prerequisite: Enrollment subject to audition

Recommended preparation: Previous cheerleading experience

Note: This is a TBA class and will require travel away from the college on weekends and other dates; may be taken 4 times

Designed to teach the fundamentals of cheerleading. Explores practical and theoretical aspects of competitive and non-competitive cheerleading. Students will acquire knowledge of, and respect for, the skills needed to perform at college events and competition.

ACS 101 Intercollegiate Softball (2)

A minimum of 175 hours (laboratory) of student participation is required.

Note: May be taken 3 times

Transfer acceptability: CSU; UC - max credit combined with PE activity courses, 4 units

Provides women with the opportunity to develop advanced skills and strategies in intercollegiate softball which will be applied to competitive situations.

ACS 110 Intercollegiate Basketball (2)

A minimum of 175 hours (laboratory) of student participation is required.

Note: May be taken 3 times

Transfer acceptability: CSU; UC - max credit combined with PE activity courses, 4 units

Provides men and women with the opportunity to develop advanced skills and strategies in intercollegiate basketball which will be applied to competitive situations.

ACS 115 Intercollegiate Golf (2)

A minimum of 175 hours (laboratory) of student participation is required.

Note: May be taken 3 times

Transfer acceptability: CSU; UC - max credit combined with PE activity courses, 4 units

Provides students with the opportunity to develop advanced skills and strategies in intercollegiate golf which will be applied to competitive situations.