**EL CAMINO COLLEGE**
**MINUTES OF THE COLLEGE CURRICULUM COMMITTEE**
**May 23, 2017**

**CALL TO ORDER**
Meeting called to order at 2:33 p.m. by Chair Carr.

**Recorder**:  Cindy Escutia

**Members:**
*Present:* Michael Anderson, Monica Chaban, Rebecca Donegan, Dia Eldanaf, Essie French-Preston, Laurie Houske, Jon Minei, Stephanie Rodriguez, Jean Shankweiler, Adrienne Sharp, Claudia Striepe
*Absent:* Sandra Bartiromo, Kelsey Iino

**Ex-Officio Members:**
*Present:* Linda Clowers, Janet Young
*Absent:* Abiodun Osanyinpeju, Lori Suekawa, LaShanta Young

**Guests:** Walter Cox, Judy Kasabian, David Mussaw, Jackie Sims, Susie Tummers

I.  **APPROVAL OF MINUTES**

Chair Carr asked for a motion to approve the May 9 minutes.  It was moved by J. Minei, L. Houske seconded.  The motion carried.

Chair Carr asked the committee to review the March 28 minutes.  C. Striepe noted that she was marked as absent although she had been in attendance.  Noting this correction, Chair Carr asked for a motion to approve the March 28 minutes.  It was moved by M. Chaban, S. Rodriquez seconded.  The motion carried.

II.  **CURRICULUM REVIEW**

A.  **Full Course Review**
The committee reviewed the following courses, which are ready for final action:
1.   Administration of Justice 170 (AJ 170)
2.   Architecture 119 (ARCH 119)
3.   Art 106 (ART 106)
4.   Computer Information Systems 122 (CIS 122)
5.   Computer Science 12 (CSCI 12)
6.   Fire and Emergency Technology 113B (FTEC 113B)
7.   Mathematics 115 (MATH 115)
8.   Mathematics 116 (MATH 116)
9.   Welding 1A (WELD 1A)
10.  Welding 20A (WELD 20A)

B. **Full Program Review**
   The committee reviewed the following programs, which are ready for final action:
   1. Administration of Justice: Homeland Security and Emergency Management Certificate of Achievement
   2. Air Conditioning and Refrigeration: Energy Efficiency Certificate of Achievement
   3. Air Conditioning and Refrigeration: Energy Management and System Controls Certificate of Achievement
   4. Art: Visual Communications Certificate of Achievement
   5. Business: Marketing A.S. Degree
   6. Business: Office Administration: Management Option A.S. Degree
   7. Computer Information Systems: Computer Systems Applications Certificate of Achievement
   8. Cosmetology A.S. Degree
   9. Cosmetology Level II (formerly Level III) Certificate of Achievement
   10. Engineering Technology: Electrical and Electronics Engineering Technician Certificate of Accomplishment
   11. Engineering Technology: Mechanical Engineering Design Technician Certificate of Accomplishment
   12. Fire and Emergency Technology: Fire Academy Certificate of Achievement

C. **Consent Agenda Proposals**
   The committee reviewed the following courses, which are ready for final action:
   1. Architecture 119 (ARCH 119)
   2. Art 133 (ART 133)
   3. Art 146 (ART 146)
   4. Art 205B (ART 205B)
   5. Automotive Technology 42 (ATEC 42)
   6. Computer Information Systems 136 (CIS 136)
   7. Electronics and Computer Hardware Technology 140 (ECHT 140)
   8. Electronics and Computer Hardware Technology 142 (ECHT 142)
   9. Electronics and Computer Hardware Technology 144 (ECHT 144)
   10. Electronics and Computer Hardware Technology 146 (ECHT 146)
   11. Electronics and Computer Hardware Technology 148 (ECHT 148)
   12. Educational Development 33 (EDEV 33)
   13. Engineering Technology 15 (ETEC 15)
   14. Engineering Technology 15A (ETEC 15A)
   15. Engineering Technology 15B (ETEC 15B)
   16. Fashion 11 (FASH 11)
   17. Fashion 26B (FASH 26B)
   18. Fashion 44 (FASH 44)
   19. Law 11 (LAW 11)
   20. Law 12 (LAW 12)
   21. Machine Tool Technology 10J (MTT 10J)
   22. Paralegal Studies 1 (PARA 1)

**CURRICULUM DISCUSSION**

A.  **Full Course Review**

**Mathematical Sciences Division**

Curriculum Review began with the math proposals. Math faculty Judy Kasabian, Susie Tummers and Dean J. Sims were present.

Math 115 Probability and Statistics for Prospective Elementary School Teachers was presented for course review. There were no questions from the committee.

Math 116 Geometry and Measurements for Prospective Elementary School Teachers was presented for course review. The articulation officer, L. Suekawa had asked if the faculty would be willing to provide a justification for textbooks with a publication date of more than five years and note if there are discipline standards. Faculty agreed.

CSCI 12 Programming for Internet Applications Using PHP, JavaScript, and XHTML was presented for course review. M. Chaban asked if removing the "X" from XHTML is a more appropriate title. She will check with the course author. A. Carr tabled the proposal until the June 6 meeting.

It was moved by D. Eldanaf to approve Math 115 and 116, L. Houske seconded. The motion carried.

**Business Division**

CIS 122 Ethical Hacking, new course proposal. Suggested minor change was made. M. Chaban noted that this course will be part of a certificate.

It was moved by M. Chaban to approve, S. Rodriquez seconded. The motion carried.

**Industry and Technology Division**

AJ 170 Constitutional Law for Criminal Justice was presented for CTE course two-year review. Minor typos were addressed.

Architecture 119 Computer Aided Architectural Drafting was presented for CTE course two-year review.

A Carr reminded the committee that the CCC does not "touch" SLOs – we just make sure they are included on the proposals. It's okay to report typos.

Fire Tech 113B Fire Apparatus Driver/Operator—Pumping Apparatus (Pumping), course reactivation. S. Rodriquez stated that additional courses will be forthcoming and that the changes reflected in the curriculum is based on the State Fire Marshall requirements and prescribed curriculum. The program is being designed for fire fighters who wish to advance in the field.

A. Carr noted that there is a glitch in CurricUNET with the justification on the course review page. She is working to correct it.

Welding 1A Introduction to Multi-Process Welding, new course proposal. It was noted that the 2012 textbook is the most recent available.

Welding 20A Flux Core and Gas Metal Arc Welding, new course proposal. No questions from the committee.

It was moved by E. French-Preston to approve the courses, M. Chaban seconded. The motion carried.

**Fine Arts Division**

Art 106 Cross-Cultural Art was presented for course review. A question about changing a prerequisite was addressed. There were no other comments or concerns.

It was moved by J. Minei to approve the course, L. Houske seconded. The motion carried.

B. **Full Program Review**

**Fine Arts Division**

Visual Communications Certificate of Achievement was presented for program revision. Art 195 was added as a capstone course.

It was moved by A. Sharp to approve, L. Houske seconded. The motion carried.

**Industry and Technology Division**

The Administration of Justice Homeland Security and Emergency Management Certificate of Achievement was submitted for program revision. S. Rodriguez noted that two courses were removed as they were deemed unnecessary.

The Air Conditioning and Refrigeration Energy Efficiency Certificate of Achievement was presented. A. Carr noted that the rationale for this new certificate was well drafted.

The Air Conditioning and Refrigeration Management and System Controls Certificate of Achievement was presented. A. Carr read the justification to the committee noting that this certificate aids students in becoming job ready and staying current in the field.

Cosmetology A.S. Degree was submitted for program revision. COSM 2D, which had been previously approved, was added. This course prepares students for State Boards.

Cosmetology Level II Certificate of Achievement (Formerly Level III) was submitted for program revision. There were no questions.

Engineering Technology Electrical and Electronics Engineering Technician and Mechanical Engineering Design Technician Certificates of Accomplishment were presented. There were no questions.

Fire and Emergency Technology Fire Academy Certificate of Achievement was submitted for program revision to include current courses. Unit value remained the same.

It was moved by S. Rodriquez, seconded by M. Chaban, that the committee approve the program review proposals for the Industry and Technology Division. The motion carried.

### Business Division

CIS Computer Systems Applications Certificate of Achievement was submitted for program revision to include new course titles and revised course requirements.

Business Marketing A.S. Degree was submitted for program revision. Updates were made to the program description and a digital marketing course was added.

Office Administration: Management Option A.S. Degree was presented. There were no questions.

It was moved by C. Striepe, seconded by M. Chaban, that the committee approve the program review proposals for the Business Division. The motion carried.

### C.    Consent Agenda Proposals

It was moved by C. Striepe, seconded by M. Chaban, that the committee approve the consent agenda proposals. The motion carried.

## III.  VICE PRESIDENT'S REPORT

Vice President of Academic Affairs – Dr. Jean Shankweiler

- J. Shankweiler stated that interviews for the Curriculum Advisor are scheduled for June 2 and that this person is likely to be on the June Board agenda. She thanked everyone for keeping us going during these challenging times.

## IV.  CHAIR'S REPORT

College Curriculum Committee (CCC) Chair – A. Carr

- Chair Carr noted, that although it may have seemed that we are moving quickly through the certificates during this meeting, they had been thoroughly reviewed by faculty and the past Curriculum Advisor. They were in the queue in CurricUNET ready to be moved forward to the CCC.

- Chair Carr asked that members who are not continuing as CCC reps next semester, to please send her an email along with the person who will be replacing them. This way we can have them all set up at the beginning of the semester. She also mentioned that D. Mussaw and J. Young are finalizing the fall schedule.

- A. Carr reminded the committee that their Curriculum Plans are due by Tuesday, June 6. She asked that they be emailed to acarr@elcamino.edu, jyoung@elcamino.edu, and cescutia@elcamino.edu.

- Training for CCC and DCC reps will take place in the fall. Details will be forthcoming.

- M. Chaban asked about the Spring Addendum in the hopes that two courses (Business 73 and a music course) which were not published in the catalog could be included. J. Young stated that she would find out the status and timeline for the addendum and inform faculty.

- Chair Carr stressed that everyone should come to the final meeting on June 6 to make sure we have a quorum so we can approved the final list of courses for the semester.

## V.   CURRICULUM ADVISORS RPEPORT

- A. Carr demonstrated the "next steps" for curriculum approval after CCC approval in CurricUNET. Once proposals are CCC approved, she must mark the proposal "Implement in the Future." Once the proposal is Board approved, she can select the action of "Implement." However, she reminded us that unless the Board approval was granted prior to the catalog publication deadline, it cannot be offered until the following academic year. J. Shankweiler noted that curriculum is due one and a half weeks prior to the Board meeting.

## VI.   ANNOUNCEMENTS

- W. Cox announced that Willie Brownlee, the well-respected former CCC Chair and resident Title 5 expert, is retiring. He extended an invitation to Willie's retirement party on Tuesday, June 6 from 12:30 to 2:00 p.m. in the upstairs lobby of the Marsee Auditorium.

- CCC Meeting #8:  6/6/17 – 2:30-4:30 p.m., DE/Library 166

## VII.   ADJOURNMENT

Chair Carr called for a motion to adjourn the meeting. M. Chaban moved to adjourn, C. Striepe seconded, and the motion carried. Meeting was adjourned at 3:19 p.m.

## New Course

1.  Computer Information Systems 122 - Ethical Hacking
    Units: 3.0   Lecture Hours: 2.0   Lab hours: 3.0   Faculty Load: 28.33%
    Prerequisite:  Computer Information Systems 13 with a minimum grade of C or equivalent experience
    Grading Method:  Letter
    Credit Status:  Associate Degree Credit
    Proposed CSU Transfer
    Proposed UC Transfer

    This course introduces the principles and techniques associated with the cybersecurity practice known as penetration testing or ethical hacking. Topics covered will include planning, reconnaissance, scanning, exploitation, post-exploitation, and result reporting. Students will learn how system vulnerabilities are exploited and security problems can be avoided.

2.  Welding 1A - Introduction to Multi-Process Welding
    Units: 4.0   Lecture Hours: 2.5   Lab hours: 5.0   Faculty Load: 37.04%
    Grading Method:  Both
    Credit Status:  Associate Degree Credit
    Proposed CSU Transfer

    This course is designed to provide students with basic performance qualification skills needed for employment in manufacturing and the maintenance industry. Students are introduced to multiple processes with a primary focus on developing manipulative skills commonly used in manufacturing. Welding processes covered include oxy-acetylene cutting, plasma arc cutting, Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW), and Gas Metal Arc Welding (GMAW). The course also includes a study of occupational safety, weld symbols, and joint design.

3.  Welding 20A - Flux Core and Gas Metal Arc Welding
    Units: 4.0   Lecture Hours: 2.5   Lab hours: 5.0   Faculty Load: 41.67%
    Prerequisite:  Welding 10C or Welding 23 with a minimum grade of C
    Grading Method:  Both
    Credit Status:  Associate Degree Credit
    Proposed CSU Transfer

This course is designed to develop semiautomatic welding skills. Welding processes include Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW). The course offers an in-depth study into work procedure specifications, operation and maintenance of constant voltage welding machines, occupational safety, and D1.1 code semi-automatic classifications/specifications. Emphasis is placed on the theory and practice of joint preparation, complete joint penetration (CJP), and various cover pass processes utilizing semi-automatic arc welding.

## Course Review

1. Art 133 - Graphic Design
2. Art 205B - History of Asian Art - China, Korea, and Japan
3. Educational Development 33 - Specific Learning Strategies
4. Mathematics 116 - Geometry and Measurement for Prospective Elementary School Teachers

## Course Review; Change in Catalog Description

1. Mathematics 115 - Probability and Statistics for Prospective Elementary School Teachers
   *Current Status/Proposed Changes*
   This course is designed ~~for students who plan to become elementary school teachers and will emphasize group and hands-on activities, the use of computer software, and graphing calculators in the exploration of statistics and probability~~ <u>to provide a comprehensive and in-depth exploration of the concepts in probability and statistics</u>. Topics include creating and interpreting graphs, random variables and sampling, measures of central tendency and dispersion, analysis of experiments including hypothesis testing, design of experiments, and data gathering. In addition, basic laws of probability, logic and set theory including dependent, independent, and mutually exclusive events, odds, and expected values will be ~~explored~~ <u>examined</u>.

   *Recommendation*
   This course is designed to provide a comprehensive and in-depth exploration of the concepts in probability and statistics. Topics include creating and interpreting graphs, random variables and sampling, measures of central tendency and dispersion, analysis of experiments including hypothesis testing, design of experiments, and data gathering. In addition, basic laws of probability, logic and set theory including dependent, independent, and mutually exclusive events, odds, and expected values will be examined.

**Course Review; Changes in Conditions of Enrollment (Pre/Corequisite, Recommended Preparation or Enrollment Limitation), Catalog Description**

1.  Art 106 – Cross-Cultural Art
    *Current Status/Proposed Changes*
    Recommended Preparation:  ~~eligibility for~~ English ~~1A~~82

    This course covers the effects of cultural diffusion, cultural pluralism, and globalization on Western civilization as found in modern and contemporary art and popular culture. Topics include Orientalism, Japonisme, and Primitivism as well as postmodern multiculturalism. ~~Attendance may be required at selected events presented by El Camino College Center for the Arts and/or art exhibitions presented in the El Camino College Art Gallery or in the community~~.

    *Recommendation*
    Recommended Preparation:  English 82

    This course covers the effects of cultural diffusion, cultural pluralism, and globalization on Western civilization as found in modern and contemporary art and popular culture. Topics include Orientalism, Japonisme, and Primitivism as well as postmodern multiculturalism.


**CTE Two-Year Course Review**

1.  Architecture 119 - Computer Aided Architectural Drafting
2.  Art 146 - Designing for the World Wide Web
3.  Computer Information Systems 136 - Building Mobile Apps
4.  Electronics and Computer Hardware Technology 140 - Computer Systems and Hardware Technologies I
5.  Electronics and Computer Hardware Technology 142 - Computer Systems and Hardware Technologies II
6.  Electronics and Computer Hardware Technology 146 - CompTIA Network+ Certification Preparation for Computer Hardware Systems
7.  Electronics and Computer Hardware Technology 148 - CompTIA Security+ Certification Preparation for Computer Hardware Systems
8.  Fashion 11 - Clothing Construction II
9.  Fashion 44 - Fashion Show Production and Promotions
10. Law 11 - Introduction to Legal Research
11. Law 12 - Probate Procedures

**CTE Two-Year Course Review; Change in Catalog Description**

1. Automotive Technology 42 - Engine Repair
   *Current Status/Proposed Changes*
   This course covers the study of automotive engine construction and operation, diagnosis, and repair procedures of the following: cylinder head removal and valve grinding, camshaft and timing gear replacement, water pump replacement, oil, coolant and manifold (intake and exhaust) leaks, engine maintenance and the installation of long or short blocks ~~(no engine rebuilding)~~. <u>Replace pistons and/or connecting rods, piston rings, engine bearings, crankshaft seals, camshaft seals, oil pan gasket, valve/camshaft cover gaskets, flywheel, pulleys, crankshaft balancer and other engine repair items that would need to replaced or repaired</u>. Laboratory activities stress the proper use of equipment utilized in the field.

   *Recommendation*
   This course covers the study of automotive engine construction and operation, diagnosis, and repair procedures of the following: cylinder head removal and valve grinding, camshaft and timing gear replacement, water pump replacement, oil, coolant and manifold (intake and exhaust) leaks, engine maintenance and the installation of long or short blocks. Replace pistons and/or connecting rods, piston rings, engine bearings, crankshaft seals, camshaft seals, oil pan gasket, valve/camshaft cover gaskets, flywheel, pulleys, crankshaft balancer and other engine repair items that would need to replaced or repaired. Laboratory activities stress the proper use of equipment utilized in the field.

2. Electronics and Computer Hardware Technology 144 - CompTIA A+ Certification Preparation for Computer Hardware Systems
   *Current Status/Proposed Changes*
   This course is designed for the student pursuing a career as a computer service technician. Students will develop the skills and knowledge required for passing the CompTIA A+ Certification ~~Core Hardware~~ exam. Topics covered include safety, basics of electricity and electronics, microcomputer hardware and components, Complementary Metal Oxide Semiconductor (CMOS) settings, <u>operating systems,</u> printers, portable systems<u>,</u> <u>smartphones</u> and ~~network~~ <u>networking</u> hardware.

*Recommendation*

This course is designed for the student pursuing a career as a computer service technician. Students will develop the skills and knowledge required for passing the CompTIA A+ Certification exam. Topics covered include safety, basics of electricity and electronics, microcomputer hardware and components, Complementary Metal Oxide Semiconductor (CMOS) settings, operating systems, printers, portable systems, smartphones and networking hardware.

3. Engineering Technology 15 - Aerospace Engineering

   *Current Status/Proposed Changes*

   ~~In this course, students are introduced~~ <u>This course introduces student</u> to the various aspects of aerospace engineering. Through hands-on projects and problems, students will learn about aerodynamics, astronautics, space-life sciences and systems engineering.

   *Recommendation*

   This course introduces student to the various aspects of aerospace engineering. Through hands-on projects and problems, students will learn about aerodynamics, astronautics, space-life sciences and systems engineering.

4. Engineering Technology 15A - Aerospace Engineering I

   *Current Status/Proposed Changes*

   This is the first of two courses that introduces the various aspects of aerospace engineering. Through hands-on projects and problems, ~~students~~ <u>topics</u> will ~~learn about aerodynamics~~ <u>include aerodynamics</u> and astronautics.

   *Recommendation*

   This is the first of two courses that introduces the various aspects of aerospace engineering. Through hands-on projects and problems, topics will include aerodynamics and astronautics.

5. Engineering Technology 15B - Aerospace Engineering II

   *Current Status/Proposed Changes*

   This is the second of two courses that introduces the various aspects of aerospace engineering. Through hands-on projects and problems, ~~students~~ <u>topics</u> will ~~learn about~~ <u>include</u> astronautics, space-life sciences and systems engineering.

*Recommendation*
This is the second of two courses that introduces the various aspects of aerospace engineering. Through hands-on projects and problems, topics will include astronautics, space-life sciences and systems engineering.

6. Machine Tool Technology 10J - Numerical Control Graphics Programming
*Current Status/Proposed Changes*
This ~~basic~~ course covers Computer Aided Manufacturing (CAM), emphasizing interactive graphics programming for Numerical Control (NC) machines. Concepts studied will include interactive geometry construction, tool motion, machine functions, repetitive programming, graphic output and graphic editing. ~~Students will process programs using~~ <u>Programs will be compiled using</u> interactive graphics computer systems.

*Recommendation*
This basic course covers Computer Aided Manufacturing (CAM), emphasizing interactive graphics programming for Numerical Control (NC) machines. Concepts studied will include interactive geometry construction, tool motion, machine functions, repetitive programming, graphic output and graphic editing. Programs will be compiled using interactive graphics computer systems.

**CTE Two-Year Course Review; Change in Conditions of Enrollment (Pre/Corequisite, Recommended Preparation or Enrollment Limitation)**

1. Fashion 26B - Basic Dress Design through Draping Process
*Current Status/Proposed Changes*
Prerequisite: ~~one semester of~~ Fashion ~~10AB~~ <u>10</u> with a minimum grade of C or equivalent

*Recommendation*
Prerequisite: Fashion 10 with a minimum grade of C or equivalent

2. Paralegal Studies 1 - Introduction to Paralegal Studies
*Current Status/Proposed Changes*
Recommended Preparation: ~~eligibility for English 1A~~ <u>English 84 AND English A</u>

*Recommendation*
Recommended Preparation: English 84 AND English A

**CTE Two-Year Course Review; Changes in Descriptive Title, Conditions of Enrollment (Pre/Corequisite, Recommended Preparation or Enrollment Limitation), Catalog Description**

1. Administration of Justice 170 – Laws of Arrest, Search and Seizure
   *Current Status/Proposed Changes*
   Descriptive Title: ~~Laws of Arrest, Search and Seizure~~ <u>Constitutional Law for Criminal Justice</u>

   Recommended Preparation: English ~~84~~<u>A</u>

   In this course, students examine the history and development of the ~~laws and customs of arrest, search and seizure, and the "Exclusionary Rule."~~ <u>United States Constitution and related case law decisions.</u> Emphasis is given to the application of ~~these procedures as they relate to law enforcement officers and others in the apprehension of criminals and the procuring of evidence.~~ <u>the Constitution as it relates to the administration of justice including free speech, free assembly, use of force, laws of arrest, search, seizure, right to counsel, and due process.</u>

   *Recommendation*
   Descriptive Title: Constitutional Law for Criminal Justice

   Recommended Preparation: English A

   In this course, students examine the history and development of the United States Constitution and related case law decisions. Emphasis is given to the application of the Constitution as it relates to the administration of justice including free speech, free assembly, use of force, laws of arrest, search, seizure, right to counsel, and due process.

**Course Reactivation; CTE Two-Year Course Review; Changes in Descriptive Title, Units, Lecture Hours, Lab Hours, Faculty Load, Conditions of Enrollment (Pre/Corequisite, Recommended Preparation or Enrollment Limitation), Catalog Description**

*Current Status/Proposed Changes*

1. Fire and Emergency Technology 113B - Fire Apparatus Driver/ ~~Operator 1B~~ Operator-Pumping Apparatus (Pumping)
   Units: ~~1.5~~ 1.0    Lecture Hours: ~~30~~ 1.0    Lab Hours: ~~10.0~~ 0    Faculty Load: 6.67%
   Prerequisite:
   1. Fire Apparatus Driver/Operator 1A (2008 or 2015 version)
   2. Successfully completed Office of the State Fire Marshal Fire Fighter 1
   3. Hold a valid Class C Firefighter Endorsed driver's license
   NOTE: These are State Fire Marshal requirements.

   Recommended Preparation: Fire and Emergency Technology 1 ~~AND Fire and Emergency Technology 9 or current employment in the field~~

   Grading Method: Pass /No Pass
   Credit Status: Associate Degree Credit
   Proposed CSU Transfer

   This course provides ~~the student with information, theory, methods and techniques for operating fire service pumps. Topics covered include types of pumps, engine and pump gauges, maintenance, unsafe plumbing conditions, pressure relief devices, cooling systems, water supplies, drafting, field hydraulics, and pumping operations. This course applies to certification requirements for Driver/Operator as established by the California State Board of Fire Service.~~ information on pumping apparatus preventive maintenance and operations. Topics include routine tests, inspections, and servicing functions; producing hand, master, and foam fire streams, relay pump operations; and supplying water to fire sprinkler and standpipe systems. This course is based on the 2014 edition of National Fire Protection Association 1002 "Standards for Fire Apparatus Driver/Operator Professional Qualifications."

   *Recommendation*
   Descriptive Title:   Fire Apparatus Driver/Operator-Pumping Apparatus (Pumping)
   Units: 1.0    Lecture Hours: 1.0    Lab Hours: 0    Faculty Load: 6.67%
   Prerequisite:
   1. Fire Apparatus Driver/Operator 1A (2008 or 2015 version)
   2. Successfully completed Office of the State Fire Marshal Fire Fighter 1

3. Hold a valid Class C Firefighter Endorsed driver's license
NOTE: These are State Fire Marshal requirements.

Recommended Preparation: Fire and Emergency Technology 1
Grading Method: Pass /No Pass
Credit Status: Associate Degree Credit
Proposed CSU Transfer

This course provides information on pumping apparatus preventive maintenance and operations. Topics include routine tests, inspections, and servicing functions; producing hand, master, and foam fire streams, relay pump operations; and supplying water to fire sprinkler and standpipe systems. This course is based on the 2014 edition of National Fire Protection Association 1002 "Standards for Fire Apparatus Driver/Operator Professional Qualifications."

## New Distance Education Online/Hybrid Course Version

1. Fire and Emergency Technology 113B - Fire Apparatus Driver/Operator-Pumping Apparatus (Pumping)

## NEW PROGRAMS

1. Air Conditioning and Refrigeration: Energy Efficiency Certificate of Achievement

   A Certificate of Achievement will be granted upon completion of all program requirements. At least 50 percent of the courses required for the certificate must be completed at El Camino College.

| Certificate Requirements | Units |
| --- | --- |
| ACR 21 Air Conditioning Fundamentals | 4 |
| ACR 23 Commercial Refrigeration Applications | 4 |
| ACR 25 Energy Efficient Residential, Commercial and Industrial Air Conditioning | 4 |
| ACR 27 Heating Technologies | 4 |
| ACR 30 Electric Controls | 2 |
| **Total Units: 18** | |

2. Air Conditioning and Refrigeration: Energy Management and System Controls Certificate of Achievement

A Certificate of Achievement will be granted upon completion of all program requirements. At least 50 percent of the courses required for the certificate must be completed at El Camino College.

| Certificate Requirements | Units |
|---|---|
| ACR 25 Energy Efficient Residential, Commercial and Industrial Air Conditioning | 4 |
| ACR 30 Electric Controls | 2 |
| ACR 31 HVAC Electronics | 2 |
| ACR 61 Fundamentals of Automation Systems | 3 |
| ACR 62 Energy Control and Optimization Systems | 4 |

**Total Units: 15**


3. Engineering Technology: Electrical and Electronics Engineering Technician Certificate of Accomplishment

The Engineering Technology Program at El Camino College provides students with the theory, practical knowledge, hand-on experience and skills necessary for employment as an engineering technology technician. Through the completion of this program, students are able to gain employment to assist engineers in researching, developing, manufacturing, servicing, and maintaining a wide variety of electrical and electronic products. This program also provides a "pathway" from our partner high schools offering an engineering technology program.

A Certificate of Accomplishment will be granted upon completion of all program requirements. At least 50% of the courses required for the Certificate of Accomplishment must be completed at El Camino College.

**Certificate Requirements**
Required Core: 12 units                                                     **Units**

| | |
|---|---|
| ETEC 10 Principles of Engineering Technology | 3 |
| or | |
| ETEC 10A Principles of Engineering Technology I | 1.5 |
| and | |
| ETEC 10B Principles of Engineering Technology II | 1.5 |
| | |
| ETEC 12 Introduction to Engineering Design | 3 |
| or | |

| | |
|---|---|
| ETEC 12A Introduction to Engineering Design I | 1.5 |
| and | |
| ETEC 12B Introduction to Engineering Design II | 1.5 |
| | |
| ETEC 14 Electronics for Engineering Technologists | 3 |
| or | |
| ETEC 14A Electronics for Engineering Technologists I | 1.5 |
| and | |
| ETEC 14B Electronics for Engineering Technologists II | 1.5 |
| and | |
| CADD 5 Introduction to Mechanical Drafting | 3 |

2-3 units from:
| | |
|---|---|
| ECHT 22 Basic Electronic Fabrication | 3 |
| ECHT 95 Cooperative Work Experience Education | 2 |

**Total Units: 14-15**

4. Engineering Technology: Mechanical Engineering Design Technician Certificate of Accomplishment

Mechanical Engineering Design Technician Certificate of Accomplishment
The Engineering Technology Program at El Camino College provides students with the theory, practical knowledge, hand-on experience and skills necessary for employment as an engineering technology technician. Through the completion of this program, students are able to gain employment to assist engineers in researching, developing, manufacturing, servicing, and maintaining a wide variety of mechanical and mechanical products. This program also provides a "pathway" from our partner high schools offering an engineering technology program.

A Certificate of Accomplishment will be granted upon completion of all program requirements. At least 50% of the courses required for the Certificate of Accomplishment must be completed at El Camino College.

**Certificate Requirements**

| Required Core: 9 units | **Units** |
|---|---|
| | |
| ETEC 10 Principles of Engineering Technology | 3 |
| or | |
| ETEC 10A Principles of Engineering Technology I | 1.5 |
| and | |
| ETEC 10B Principles of Engineering Technology II | 1.5 |
| ETEC 12 Introduction to Engineering Design | 3 |

or

| | |
|---|---|
| ETEC 12A Introduction to Engineering Design I | 1.5 |

and

| | |
|---|---|
| ETEC 12B Introduction to Engineering Design II | 1.5 |
| ETEC 18 Engineering Design and Development | 3 |

or

| | |
|---|---|
| ETEC 18A Engineering Design and Development I | 1.5 |

and

| | |
|---|---|
| ETEC 18B Engineering Design and Development II | 1.5 |

3-4 units from:

| | |
|---|---|
| CADD 5 Introduction to Mechanical Drafting | 3 |
| ETEC 14 Electronics for Engineering Technologists | 3 |
| ETEC 14A Electronics for Engineering Technologists I | 1.5 |
| ETEC 14B Electronics for Engineering Technologists II | 1.5 |
| ETEC 15 Aerospace Engineering | 3 |
| ETEC 15A Aerospace Engineering I | 1.5 |
| ETEC 15B Aerospace Engineering II | 1.5 |
| ETEC 16 Computer Integrated Manufacturing | 3 |
| ETEC 16A Computer Integrated Manufacturing I | 1.5 |
| ETEC 16B Computer Integrated Manufacturing II | 1.5 |
| MTT 101 Introduction to Conventional and CNC Machining | 4 |
| WELD 15 Basic Welding for Allied Fields | 3 |

**Total Units: 12-13**

## Change in Certificate; Course Requirements

*Current Status/Proposed Changes*

1. Administration of Justice: Homeland Security and Emergency Management Certificate of Achievement

A Certificate of Achievement will be granted upon completion of all program requirements.

| **Certificate Requirements** | **Units** |
|---|---|
| AJ 10 Introduction to Homeland Security | 3 |
| AJ 11 Intelligence and Security Management | 3 |
| AJ 12 Transportation and Border Security Management | 3 |
| AJ 21 Introduction to Emergency Management | 3 |

AJ 26 Introduction to Terrorism and Counterterrorism 3

AJ 100 Introduction to Administration of Justice 3

~~AJ 130 Criminal Procedures~~ 3

~~AJ 135 Report Writing~~ 3

**Total Units:  18**


2. Art: Visual Communications Certificate of Achievement
   *Current Status/Proposed Changes*

   A Certificate of Achievement will be granted upon completion of all program requirements. A minimum of 12 units required for the Certificate of Achievement must be completed at El Camino College.

   **Certificate Requirements**

   | Required Core: 18 units | **Units** |
   | --- | --- |
   | ART 130  Two-Dimensional Design I | 3 |
   | ART 131 Lettering and Typography I | 3 |
   | ART 132 Advertising Design I | 3 |
   | ART 133Graphic Design | 3 |
   | ART 141 Digital Art | 3 |
   | ART 146 Designing for the World Wide Web | 3 |

   | 3 units from: | |
   | --- | --- |
   | ART 143 Digital Design and Publishing | 3 |
   | ART 145 Multimedia Design | 3 |
   | ART 231 Lettering and Typography II | 3 |
   | ART 232 Advertising Design II | 3 |
   | ART 233 Graphic Design II | 3 |

   | 3-4 units from: | |
   | --- | --- |
   | BUS 12 Advertising | 3 |
   | BUS 14 Marketing | 3 |
   | BUS 24 Introduction to Small Business Entrepreneurship | 3 |
   | CIS 30 Introduction to eCommerce | 3 |
   | CIS 133 Mashup JavaScript, jQuery and AJAX | 4 |
   | CIS 136 Building Mobile Apps | 3 |
   | COMS 1 Public Speaking | 3 |

2-3 units from:

| | |
|---|---|
| ART 129 Fundamentals of Color | 3 |
| ART 142 Digital Photography | 3 |
| ART 147 Motion Graphics | 3 |
| ART 153 Illustration I | 3 |
| JOUR 6 Basic Photojournalism | 2 |
| or | |
| PHOT 10 Basic Photojournalism | 2 |

6-7 units from capstone courses:

| | |
|---|---|
| ART 96ABCD Cooperative Work Experience Education | 2-4 |
| ART 99 Independent Study | 1-3 |
| ART 195 Portfolio and Career Planning for Artists and Designers | 3 |

Note: Students may select one 3 unit course from the above lists of electives to complete required capstone units.

Recommended Preparation:

| | |
|---|---|
| ART 110 Drawing Fundamentals I | ~~2~~ 3 |

**Total Units: 32-35**


3. Computer Information Systems Computer Systems Applications
Certificate of Achievement
*Current Status/Proposed Changes*

 A Certificate of Achievement will be granted upon completion of all program requirements. A minimum of 15 units must be completed at El Camino College. ~~and a grade point average of "B" is necessary in the required 21-22 units.~~

**Certificate Requirements**

| Required Core: 15 units | **Units** |
|---|---|
| CIS 13 Computer Information Systems | 3 |
| CIS 18 Systems Analysis and Design | 3 |
| CIS 19 Internet, Security, and the Web | 3 |
| CIS 26 Using Microsoft Excel | 3 |
| CIS 28 Database Management Using Microsoft Access | 3 |

Programming: 3-4 units

| | |
|---|---|
| CIS 16 Application Development and Programming Using Visual Basic.Net | 3 |
| CIS 133Mashup JavaScript, jQuery and AJAX | 4 |
| CIS 134ASP.NET with C# Business Web Programming | 4 |
| CIS 136Building Mobile Apps | 3 |

User Support: 3 units

| | |
|---|---|
| CIS 11Help Desk Operations | 3 |
| ~~CIS 30 Introduction to Electronic Commerce~~ | 3 |
| <u>CIS 40 Personal Computer Support and Networking</u> | 3 |

**Total Units: 21-22**

4. Cosmetology: Cosmetology Level II (formerly Level III) Certificate of Achievement
*Current Status/Proposed Changes*

A Certificate of Achievement will be granted upon completion of the program requirements. At least 50% of the courses required for the Certificate of Achievement must be completed at El Camino College.

**Certificate Requirements**

| | **Units** |
|---|---|
| Completion of Level I: 13 units | |
| COSM 1 Introduction to Cosmetology Procedures | 13 |
| or | |
| COSM 10 Introduction to Cosmetology I | 6.5 |
| and | |
| COSM 11 Introduction to Cosmetology II | 6.5 |
| | |
| Complete 28-29 units from: | |
| COSM 2A Intermediate Cosmetology | 8 |
| COSM 2B Advanced Cosmetology | 8 |
| COSM 2C Advanced Cosmetology and State Board Review | 8 |
| <u>COSM 2D Advanced Preparation for State Board Review</u> | 8 |
| COSM 3 Advanced Cosmetology Applications | 5 |
| or | |
| COSM 4 Cosmetology Practicum | 4 |

**Total Units: 41-42**

5. Fire and Emergency Technology Fire Academy Certificate of Achievement
*Current Status/Proposed Changes*

| Certificate Requirements | Units |
|---|---|
| FTEC 1 Fire Protection Organization | 3 |
| FTEC 6 Building Construction for Fire Protection | 3 |
| FTEC 144 Emergency Medical Technician | 6 |
| FTEC 15 Fire Academy | 15 |
| or | |
| FTEC 13A Fire Academy: Part-Time A | 8 |
| and | |
| FTEC 13B Fire Academy: Part-Time B | 7 |
| **Total Units: 27** | |

## Change in Major; Course Requirements

1. Business: Marketing A.S. Degree
*Current Status/Proposed Changes*
The program is designed to provide students with the opportunity to obtain a degree or certificate in marketing.  The student will explore opportunities in the marketing field, acquire basic marketing terminology, applying marketing concepts to the role of marketing in society and in the business firm, and balance factors that influence marketing decision-making in the global economy.  Competency will be measured by examinations, projects, and case problems.

A minimum of 12 units must be completed at El Camino College.

| Major Requirements | Units |
|---|---|
| BUS 1A Financial Accounting | 4 |
| or | |
| BUS 11 Accounting for Small Business | 3 |
| BUS 12 Advertising | 3 |
| or | |
| BUS 24 Introduction to Small Business Entrepreneurship | 3 |
| BUS 14 Marketing | 3 |
| BUS 22  Human Relations in Business | 3 |
| BUS 25 Introduction to Business | 3 |
| BUS 27 Effective English for Business | 3 |
| or | |
| BUS 28  Written Business Communications | 3 |

| | |
|---|---|
| ~~BUS 29 Oral Business Communications~~ | ~~3~~ |
| BUS 74 Digital Marketing | 3 |
| <u>CIS13 Computer Information Systems</u> | 3 |
| LAW 5 Contract, Sales, and Commercial Paper | 3 |

6-7 units from:

| | |
|---|---|
| <u>BUS 1A Financial Accounting</u> | 4 |
| <u>or</u> | |
| <u>BUS 11 Accounting for Small Business</u> | 3 |
| <u>BUS 19 Principles of Retailing Management</u> | 3 |
| <u>or</u> | |
| <u>BUS 24 Small Business Entrepreneurship</u> | <u>3</u> |

~~Recommended Electives:~~
~~Business 17~~
~~Business 20~~
~~Business 21~~
~~Computer Information Systems 13~~
**Total Units: 24-25**

2. Business Office Administration:  Management Option A.S. Degree
   *Current Status/Proposed Changes*

Office Administration: Management Option A.S. Degree Launched)
Business emphasis in Office Administration) – The degree and certificate programs in office administration include options in office systems, management, bookkeeping, computer applications, and office clerk. <u>Upon completion of the requirements, students will be able to operate office equipment appropriate to their specialty, apply American business office procedures, and understand information management principles, operations, and organization.</u> Competency will be assessed regularly through examinations and projects.

18 units of the major requirements must be completed at El Camino College.

| **Major Requirements** | **Units** |
|---|---|
| BUS 1A Financial Accounting | 4 |
| or | |
| BUS 11Accounting for Small Business | 3 |
| BUS 20 Business Management | 3 |
| BUS 22 Human Relations in Business | 3 |
| BUS 25 Introduction to Business | 3 |

| | |
|---|---:|
| BUS 27 Effective English for Business | 3 |
| BUS 28 Written Business Communications | 3 |
| BUS 29 Oral Business Communications | 3 |
| BUS 43 Office Procedures | 3 |
| CIS 2 Office Applications | 3 |
| CIS 13 Introduction to Computers | 3 |

**Total Units: 30-31**

3. Cosmetology: Cosmetology A.S. Degree Program Revision
*Current Status/Proposed Changes*

The cosmetology program offers students the option to gain proficiency in hair cutting, coloring, permanent waving, chemical relaxing, manicuring, pedicuring, and facials. After completing introduction to cosmetology, Cosmetology Level I Certificate of Accomplishment), students will have the basic skills for entry-level positions as specified by the State Board of Cosmetology. Cosmetology Level II Certificate of Achievement) will give the student intermediate skills to work in the cosmetology industry. Completion of Cosmetology Level III Certificate of Achievement) will give students 1600 hours and prepares them to take the California State Board of Cosmetology Examination. Competencies are assessed regularly in compliance with the California State Board of Cosmetology criteria. After successful completion of the California State Board of Cosmetology Examination, students will have a state license to embark on their new career.

**Major Requirements**
Completion of 41-42 units (1,600 hours) from the following:

| 13 units from: | **Units** |
|---|---:|
| COSM 1   Introduction to Cosmetology Procedures | 13 |
| or | |
| COSM 10 Introduction to Cosmetology I | 6.5 |
| COSM 11 Introduction to Cosmetology II | 6.5 |
| | |
| 28-29 units from: | |
| COSM 2A Intermediate Cosmetology | 8 |
| COSM 2B Advanced Cosmetology | 8 |
| COSM 2C Advanced Cosmetology and State Board Review | 8 |
| COSM 2D Advanced Preparation for State Board Review | 8 |
| COSM 3 Advanced Cosmetology Applications | 5 |
| or | |
| COSM 4 Cosmetology Practicum | 4 |

**Total Units: 41-42**