

**EL CAMINO COLLEGE
MINUTES OF THE COLLEGE CURRICULUM COMMITTEE
NOVEMBER 11, 2008**

Present: F. Arce, J. Davidson, A. Himsel, R. Hughes, L. Kjeseth, M. Lipe, V. Lloyd,
E. Martinez, C. Mosqueda, V. Rapp, C. Somin, J. Thompson, J. Young

Absent: S. Panski

Ex-Officio Members Present: Q. Chapman, D. Charles, J. Harmon, M. Odanaka, L. Suekawa

Ex-Officio Members Absent: C. Brinkman, M. Hall, R. Smith, Terrence Stewart

Also Present: E. Carlson, C. Fitzsimons, B. Jaffe, D. McPatchell, S. Rodriguez, D. Shan,
R. Way, K. Williams

CALL TO ORDER

Chair Young called the College Curriculum Committee (CCC) meeting to order at 2:30 p.m.

APPROVAL OF MINUTES

The minutes from the October 28, 2008 meeting were approved by email.

CHAIR'S REPORT

- Chair Young reported that she attended the Academic Senate Plenary session with Academic Senate President, P. Marcoux, President Elect, D. Vakil, Legislative Action Chair, C. Wells, and Board Member R. Gen.
- Break out sessions included a history of the passage of AB1725, Overview of Title 5 Changes, defining A.A. and A.S. Degrees and Non-credit Course and Programs.
- The Senate was scheduled to vote on a resolution to recommend a change in Title 5 to define the A.A. and A.S. degrees, as the regulations currently only refer to associates degrees in general terms.
- There was also a resolution proposed recommending that the System Office postpone the new regulations for classes with a TBA (to be announced) hours until more research can be made into the ramifications of the changes.
- Chair Young will keep the Committee updated on related issues.
- Chair Young also reported that she informed the ECC Academic Senate of the changes to the A.S. degree voted on at the last CCC meeting. The Senate had no questions or concerns.

CURRICULUM REVIEW

Behavioral and Social Sciences Proposals

- Dean G. Miranda took the podium to present proposals for revision - History 32 (122), the History A.S. degree, Human Development 10, and Psychology 3.
- G. Miranda began with a review of History 32 (122) for course review. There were no questions.
- She proceeded to discuss revisions to the History major and fielded a question from the Committee. G. Miranda explained the purpose of the major here at El Camino.
- The Committee's discussion turned to a debate on whether or not students are being properly informed in the college catalog of transfer institution requirements.
- C. Mosqueda explained to the Committee how students receive credit for courses at El Camino and how they can also receive credit for the same courses at their transfer institutions. She also stated that the first four courses in the History major are core courses for transfer, and students can choose courses to meet transfer requirements.
- G. Miranda continued her presentation with Human Development 10 and introduced faculty member, Kristie Daniel-DiGregorio to the Committee. G. Miranda fielded questions on sections IV and V.B. of the course outline of record.
- G. Miranda took this opportunity to thank L. Suekawa, Articulation Office, for UC transfer advisement.
- Lastly, G. Miranda discussed Psychology 3. She acknowledge committee member, A. Himsel who worked on the course revision. A. Himsel fielded questions about the prerequisite statement and the descriptive title. No changes were made to those two areas. It was determined that the Psychology department will conduct another review of the course and address the proposed descriptive title change. A. Himsel made revisions to section III of the course outline of record.
- Chair Young advised the Committee to keep Psychology 3, which will be brought back for a review of the descriptive title.
- Chair Young asked for a motion to approve the Behavioral and Social Sciences proposals. V. Rapp moved, M. Lipe seconded, and the motion carried.
- Chair Young asked for a motion to approve the conditions of enrollment. V. Rapp moved, M. Lipe seconded, and the motion carried.
- Chair Young asked for a motion to approve the Distance Education course version for History 122 (formerly History 32). V. Rapp moved, M. Lipe seconded, and the motion carried.

Humanities Proposals

- C. Fitzsimons took the podium to present Chinese 21ab for course review. She distributed an errata sheet and discussed each section where revisions were made. Revisions were made to the catalog description, and course section III of the course outline of record.
- Chair Young called for a motion to approve the Humanities proposal. C. Somin moved, A. Himsel seconded, and the motion carried.
- Chair Young asked for a motion to approve the conditions of enrollment. C. Somin moved, L. Kjeseth seconded, and the motion carried.

Business Proposals

- Dean V. Rapp took the podium to present proposals for the Computer Information Systems Major, Computer Information System Certificate of Achievement – Microcomputer Applications option, Microcomputer Support and Network Management option, and the Web Programming option. She distributed an errata sheet and discussed the revisions.
- V. Rapp also took this time to thank committee member, J. Thompson and Dr. Vacca for assisting with proposals revisions.
- Chair Young called for a motion to approve the Business proposals. J. Thompson moved, M. Lipe seconded, and the motion carried.

Industry and Technology Proposals

- Faculty member, Patricia Gebert, took the podium as proposal revisions were being distributed for the Cosmetology Certificate of Achievement, and a new Certificate of Accomplishment. P. Gebert discussed each section where revisions were made to the existing certificate. She also explained the new certificate being proposed.
- The Committee began a discussion on the unit criteria for a certificate of accomplishment. It was determined by Chair Young and Q. Chapman that we will need to get clarification from the System Office and bring the proposals back to the Committee for review.
- P. Gebert introduced Ken Williams from the International School of Cosmetology who reiterated the importance of our Cosmetology certificates, and is in full support.
- Dean S. Rodriguez took the podium to present new course proposals – Engineering Technology 10A, Engineering Technology 10B, Engineering Technology 12A, Engineering Technology 12B, Engineering Technology 14A, Engineering Technology 14B, Engineering Technology 16A, Engineering Technology 16B, Engineering Technology 18A, Engineering Technology 18B, Manufacturing Technology 75A, and Manufacturing Technology 75B. Also, revisions to the Engineering Technology A.S. Degree and Certificate, and Machine Tool Technology 11abcd.
- S. Rodriguez discussed each section where revisions were made. Section I of the course outline of record for Engineering Technology 10A was revised and she accepted the Committee's recommendation for section III.
- S. Rodriguez also accepted the Committee's recommendation for section V.A. of the course outline of record for Engineering Technology 14A.
- The Committee agreed that course outlines of record should not have acronyms without complete terms for the acronyms.
- S. Rodriguez fielded a question from the Committee on the conditions of enrollment for Engineering Technology 10A, 12A, 14A, 10B, 12B, and 14B. It was confirmed that these are stand-alone topics and the conditions of enrollment are appropriate for each course.
- S. Rodriguez ended her presentation with a review of the Engineering Technology Major and Certificate of Achievement. There were no further questions.
- Chair Young asked for a motion to approve the Industry and Technology proposals. R. Hughes moved, A. Himsel seconded, and the motion carried.

- Chair Young asked for a motion to approve the conditions of enrollment. R. Hughes moved, A. Himsel seconded, and the motion carried.

PROPOSALS REVIEWED BY ARCE AND YOUNG

- Today's packet included consent agenda items for 42 Cooperative Career Education (CCE) courses that had undergone course review, and four inactivations from the Business division.
- Chair Young thanked V. Rapp and Tom Jackson for their assistance during the course review process. V. Rapp and Tom Jackson provided their expertise to ensure that the Cooperative Work Experience Education courses, formerly known as CCE courses, meet current guidelines and regulations.
- Chair Young then called for a motion to approve the consent agenda items. V. Rapp moved, L. Kjeseth seconded, and the motion carried.

GENERAL STUDIES MAJOR

- Chair Young acknowledged L. Suekawa, Articulation Office and committee member, for her continued work on the major.
- Chair Young advised CCC Representatives to review with other faculty and bring back any questions or concerns to the Committee.
- The Committee will continue the discussion at our November 25th meeting and possibly vote on the revised major which will be forwarded to the System Office.

CURRICULUM REVIEW PROCESS

- The Committee began a discussion on our current review process.
- Chair Young gave a brief overview of the current curriculum review process and how we might seek to improve the process in the future.
- B. Jaffe, Interim Associate Dean of Academic Affairs, addressed the Committee with a recommendation that will allow CCC Representatives to review all proposals earlier, make recommendations, and give faculty sufficient time to make necessary changes before each CCC meeting.
- Chair Young advised the Committee that we will be adjusting our CCC Timeline in the spring semester and we are hopeful that the change will benefit all involved.

ANNOUNCEMENTS

- L. Kjeseth announced that he will be holding open forums about the curriculum process in preparation for CurricUNET.
- As we transition to CurricUNET, we will also review CCC Representative duties, review cycles, and processes.

ADJOURNMENT

Chair Young called for a motion to adjourn the meeting. C. Somin moved, V. Rapp seconded, and the motion carried. The meeting was adjourned at 4:00 p.m.

**EL CAMINO COLLEGE
COLLEGE CURRICULUM COMMITTEE**

**Proposed Curriculum Changes
November 11, 2008**

BEHAVIORAL AND SOCIAL SCIENCES DIVISION

COURSE REVIEW; CHANGES IN DESCRIPTIVE TITLE, CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation), CATALOG DESCRIPTION

1. Anthropology 96abcd – Cooperative Career Education
1. Child Development 95/96abcd – Cooperative Career Education
3. Human Development 95ab – Cooperative Career Education
1. Psychology 96abcd – Cooperative Career Education
2. Sociology 96abcd – Cooperative Career Education

COURSE REVIEW; CHANGES IN NUMBER, CATALOG DESCRIPTION

Current Status/Proposed Change

1. History ~~32~~ 122 – United States Social History: Cultural Pluralism in America
This course surveys the role and contributions of ethnic groups and racial minorities to United States history. Emphasis is placed on these groups' cultural interaction with the American way of life from colonial times to the present. Focus will also be given to the ways that race and ethnicity have shaped personal lives, communities, the nation, and international relations.

Recommendation:

History 122 – United States Social History: Cultural Pluralism in America
This course surveys the role and contributions of ethnic groups and racial minorities to United States history. Emphasis is placed on these groups' cultural interaction with the American way of life from colonial times to the present. Focus will also be given to the ways that race and ethnicity have shaped personal lives, communities, the nation, and international relations.

NEW DISTANCE EDUCATION COURSE VERSION FOR EXISTING COURSE

1. History 122 – United States Social History: Cultural Pluralism in America (Online)

CHANGE IN MAJOR

1. History

Current Status/Proposed Change

History 1A, 1B, ~~3140, 4141~~; three courses from: History 5A, 5B, 8, 9, 12A, 12B, 14A, 14B, 16A, 16B, 17, 18A, 18B, 19, 22, 25, 27, 30, ~~32, 37, 122, 152, 178~~, Political Science ~~1, 2, 3, 5, 6~~

Total Units: 21

Recommendation:

History 1A, 1B, 140, 141; three courses from: History 5A, 5B, 8, 9, 12A, 12B, 14A, 14B, 16A, 16B, 17, 18A, 18B, 19, 22, 25, 27, 30, 37, 122 152, 178, Political Science 1

Total Units: 21

COURSE REVIEW; CHANGES IN DESCRIPTIVE TITLE, TRANSFER STATUS, CATALOG DESCRIPTION

Current Status/Proposed Change

1. Human Development 10 – Strategies for Creating Success in College and in Life

~~No Transfer UC~~ Transfer UC

~~This course will provides students with the knowledge, skills and personal/interpersonal awareness necessary for an exploration of cognitive, psychological, social and physical factors influencing success in college and in life. The students will be assisted in the establishment of realistic academic and vocational/career goals and the development of a~~ Topics include personal education plan based on assessment data, self-examination, and knowledge of programs and services provided by the college responsibility, critical thinking, motivation, self-efficacy, self-awareness, lifelong learning, self-management, health and wellness, interpersonal communication in a diverse world, and educational planning.

Recommendation:

Human Development 10 – Strategies for Creating Success in College and in Life

Transfer UC

This course provides an exploration of cognitive, psychological, social and physical factors influencing success in college and in life. Topics include personal responsibility, critical thinking, motivation, self-efficacy, self-awareness, lifelong learning, self-management, health and wellness, interpersonal communication in a diverse world, and educational planning.

DISTANCE EDUCATION COURSE VERSION UPDATE

1. Human Development 10 – Strategies for Creating Success in College and in Life (Online)

COURSE REVIEW; CHANGE IN CATALOG DESCRIPTION

1. Psychology 3 – The Psychology of Thinking

Current Status/Proposed Change

~~This course focuses on the psychological study of the nature of thinking. Its emphasis is on the progressive development and refinement of critical thinking and writing skills. These skills are expressed through the reading and writing of analytic and argumentative essays. Principles are applied from such areas as psycho-physiology, psycho-linguistics, and cognitive related to psychology. The In addition to learning basic skills of logic, students will also learn about the logic of the scientific method and the analysis of experimental designs are also addressed. The key components of common errors of human cognition that impede critical thinking. Emphasis is placed on the application of critical thinking skills to writing effective arguments, are studied as well as various forms of fallacies in reasoning. Formal logic is addressed in the form of categorical syllogisms and conditional logic analyzing the writings of others, and understanding contemporary controversies in psychology.~~

Recommendation:

This course focuses on the development of critical thinking skills related to psychology. In addition to learning basic skills of logic, students will also learn about the logic of the scientific method and the common errors of human cognition that impede critical thinking. Emphasis is placed on the application of critical thinking skills to writing effective arguments, analyzing the writings of others, and understanding contemporary controversies in psychology.

DISTANCE EDUCATION COURSE VERSION UPDATE

1. Psychology 3 – The Psychology of Thinking (Online)

BUSINESS DIVISION**INACTIVATE CERTIFICATE OF ACHIEVEMENT**

1. Computer Information Systems, Windows Networking Option

INACTIVATE COURSES

1. Computer Information Systems 46 – Local Area Network System
2. Computer Information Systems 47 – Microsoft Windows Advanced Administration
3. Computer Information Systems 48 – Network Infrastructures in a Windows Environment
4. Computer Information Systems 49 – Directory Services Infrastructures in a Windows Environment

5. Computer Information Systems 83 – Database Administration Using Oracle

COURSE REVIEW; CHANGES IN DESCRIPTIVE TITLE, CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation), CATALOG DESCRIPTION

1. Business 95abcd – Cooperative Career Education (Banking and Finance)
2. Business 95/96abcd – Cooperative Career Education (Business Management/Marketing)
3. Business 95abcd – Cooperative Career Education (Office Administration)
1. Business 95/96abcd - Cooperative Career Education (Accounting)
2. Business 96abcd - Cooperative Career Education (Business Administration)
3. Computer Information Systems 95/96abcd - Cooperative Career Education
4. Law 95abcd - Cooperative Career Education (Legal Assistant)
4. Real Estate 95/96abcd - Cooperative Career Education

CHANGE IN MAJOR (description is different in the catalog)

1. Computer Information Systems
Current Status/Proposed Change
Computer Information Systems 13, 18, 19; one of the following groups: Computer Information Systems 26 and 28 ~~OR 46 and 47~~ OR 140 and 141; two of the following courses: Computer Information Systems 16, ~~17~~, 27, 29, 30, 80, ~~83~~, 133, 134, 142, 143
Total Units: 21-22

Recommendation:

Computer Information Systems 13, 18, 19; one of the following groups: Computer Information Systems 26 and 28 OR 140 and 141; two of the following courses: Computer Information Systems 16, 27, 29, 30, 80, 133, 134, 142, 143
Total Units: 21-22

CHANGE IN CERTIFICATE OF ACHIEVEMENT

1. Computer Information Systems
Current Status/Proposed Change
Microcomputer Applications Option:
A minimum of 12 Computer Information Systems units must be completed at El Camino College and a grade point average of 3.0 (B) is necessary in the required 30-34 units.
Computer Information Systems 13, 18, 26, 28, 40; one course from: Computer Information Systems 16, 133; ~~three~~ two courses from: Computer Information Systems

27, 29, ~~46, 80, 83, 133~~, 134; ~~one~~ two courses from: Business 55, Computer Information Systems 11, 19, 30
 Total Units: 30-~~33~~ 34

Recommendation:

Microcomputer Applications Option:

A minimum of 12 Computer Information Systems units must be completed at El Camino College and a grade point average of 3.0 (B) is necessary in the required 30-34 units.

Computer Information Systems 13, 18, 26, 28, 40; one course from: Computer Information Systems 16, 133; two courses from: Computer Information Systems 27, 29, 133, 134; two courses from: Business 55, Computer Information Systems 11, 19, 30

Total Units: 30-34

Microcomputer Support and Network Management Option:

A minimum of 12 Computer Information Systems units must be completed at El Camino College and a grade point average of 3.0 (B) is necessary in the required 33-34 units.

Computer Information Systems 13, 19, 40, 140, 141, 142, 143; four courses from the following: Computer Information Systems 16, 18, 28, 29, 80, ~~83~~; ~~one of the following groups: Computer Information Systems 140, 141, 142, and 143 OR Computer Information Systems 46, 47, 48, and 49~~

Total Units: 33-34

Recommendation:

Microcomputer Support and Network Management Option:

A minimum of 12 Computer Information Systems units must be completed at El Camino College and a grade point average of 3.0 (B) is necessary in the required 33-34 units.

Computer Information Systems 13, 19, 40, 140, 141, 142, 143; four courses from the following: Computer Information Systems 16, 18, 28, 29, 80

Total Units: 33-34

Web Programming Option:

A minimum of twelve Computer Information Systems units must be completed at El Camino College and a grade point average of 3.0 (B) is necessary in the required 17-18 units.

Computer Information Systems 30, 133, 134; two courses from: Business 12, Computer Information Systems 28, Law 4 or 5 or 31

Total Units: 17-18

Recommendation:

Web Programming Option:

A minimum of twelve Computer Information Systems units must be completed at El Camino College and a grade point average of 3.0 (B) is necessary in the required 17-18 units.

Computer Information Systems 30, 133, 134; two courses from: Business 12, Computer Information Systems 28, Law 4 or 5 or 31

Total Units: 17-18

FINE ARTS DIVISION

COURSE REVIEW; CHANGES IN DESCRIPTIVE TITLE, CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation), CATALOG DESCRIPTION

1. Art 96abcd - Cooperative Career Education
2. Dance 96abcd - Cooperative Career Education
3. Film/Video 95abcd - Cooperative Career Education
4. Music 96abcd - Cooperative Career Education
5. Theatre 95abcd - Cooperative Career Education

HEALTH SCIENCES AND ATHLETICS DIVISION

COURSE REVIEW; CHANGES IN DESCRIPTIVE TITLE, CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation), CATALOG DESCRIPTION

1. Contemporary Health 96abcd - Cooperative Career Education
2. Nursing 95/96abcd - Cooperative Career Education
3. Respiratory Care 95/96abcd - Cooperative Career Education
4. Recreation 96abcd - Cooperative Career Education
5. Radiologic Technology 96abcd - Cooperative Career Education
6. Sign Language/Interpreter Training 95abcd - Cooperative Career Education

HUMANITIES DIVISION

COURSE REVIEW; CHANGE IN CATALOG DESCRIPTION

1. Chinese 21ab – Beginning Conversational Chinese
This course is designed to develop competency in oral expression, oral comprehension, and conversational strategies. Students will learn how to converse in various situations such as business, travel, and dining within the context of Chinese culture.

Recommendation:

This course is designed to develop competency in oral expression, oral comprehension, and conversational strategies. Students will learn how to converse in various situations such as business, travel, and dining within the context of Chinese culture.

COURSE REVIEW; CHANGES IN DESCRIPTIVE TITLE, CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation), CATALOG DESCRIPTION

1. Journalism 96abcd – Cooperative Career Education

INDUSTRY AND TECHNOLOGY DIVISION

COURSE REVIEW; CHANGES IN DESCRIPTIVE TITLE, CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation), CATALOG DESCRIPTION

1. Administration of Justice 95/96abcd - Cooperative Career Education
2. Air Conditioning and Refrigeration 95abcd - Cooperative Career Education
3. Architecture 96abcd - Cooperative Career Education
4. Automotive Collision Repair/Painting 95abcd - Cooperative Career Education
5. Automotive Technology 95abcd - Cooperative Career Education
6. Computer Aided Design/Drafting 95abcd - Cooperative Career Education
7. Cosmetology 95abcd - Cooperative Career Education
8. Construction Technology 95abcd - Cooperative Career Education
9. Electronics and Computer Hardware Technology 95abcd - Cooperative Career Education
10. Environmental Technology 95abcd - Cooperative Career Education
11. Fashion 95abcd - Cooperative Career Education
12. Fire and Emergency Technology 95abcd - Cooperative Career Education
13. Machine Tool Technology 95abcd - Cooperative Career Education
14. Quality Assurance 95abcd - Cooperative Career Education

15. Welding 95abcd - Cooperative Career Education

NEW COURSES

1. Engineering Technology 10A – Principles of Engineering Technology I
 Units: 1.5 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the first of two courses in which students will explore technology systems and engineering processes to learn how math, science, and technology impact our society. The topics introduced include the design process, communication, documentation, and engineering systems.
 Note: The two course sequence Engineering Technology 10A and Engineering Technology 10B is the same as Engineering Technology 10.

2. Engineering Technology 10B – Principles of Engineering Technology II
 Units: 1.5 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Recommended Preparation: Engineering Technology 10A
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the second of two courses in which students will explore technology systems and engineering processes to learn how math, science, and technology impact our society. The topics introduced include statics, properties of materials, quality assurance, materials testing, and engineering for reliability.
 Note: The two course sequence Engineering Technology 10A and Engineering Technology 10B is the same as Engineering Technology 10.

3. Engineering Technology 12A – Introduction to Engineering Design I
 Units: 1.5 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the first of two courses in which students will gain a basic understanding of the design process used in engineering fields and the application of computer modeling software. Emphasis is placed on the design process, geometric relationships, visualization, and technical sketching.
 Note: The two course sequence Engineering Technology 12A and Engineering Technology 12B is the same as Engineering Technology 12.

4. Engineering Technology 12B – Introduction to Engineering Design II
 Units: 1.5 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Recommended Preparation: Engineering Technology 12A
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the second of two courses in which students will gain a basic understanding of the design process used in engineering fields and the application of computer modeling software. Emphasis is placed on, modeling, model documentation, assemblies, and production processes.
 Note: The two course sequence Engineering Technology 12A and Engineering Technology 12B is the same as Engineering Technology 12.

5. Engineering Technology 14A – Electronics for Engineering Technologists I
 Units: 1.5 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the first of two courses in which students are introduced to the application of electronics in engineering technology. The topics studied include safety, Ohm's Law, engineering notation, DC circuits, capacitance, inductance, reactance, and impedance. Techniques in computer simulation and electrical measurements will be stressed.
 Note: The two course sequence Engineering Technology 14A and Engineering Technology 14B is the same as Engineering Technology 14.

6. Engineering Technology 14B – Electronics for Engineering Technologists II Units: 1.5
 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Recommended Preparation: Engineering Technology 14A
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the second of two courses in which students are introduced to the application of electronics in engineering technology. The topics studied include safety, analog and digital waveforms, basic motors, number systems, logic gates, Boolean algebra, flip-flops, shift registers, and micro-processors. Techniques in computer simulation and electrical measurements will be stressed.
 Note: The two course sequence Engineering Technology 14A and Engineering Technology 14B is the same as Engineering Technology 14.

7. Engineering Technology 16A – Computer Integrated Manufacturing I
 Units: 1.5 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Recommended Preparation: Engineering Technology 10 or 10A and 10B, Engineering Technology 12 or 12A and 12B
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the first of two courses that cover the integration of engineering technology principles and automation in manufacturing environments. The topics covered include machine tool operations, simulations, and robotics.
 Note: The two course sequence Engineering Technology 16A and Engineering Technology 16B is the same as Engineering Technology 16.

8. Engineering Technology 16B – Computer Integrated Manufacturing II
 Units: 1.5 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Recommended Preparation: Engineering Technology 10 or 10A and 10B, Engineering Technology 12 or 12A and 12B, Engineering Technology 16A
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the second of two courses that cover the integration of engineering technology principles and automation in manufacturing environments. Students will create three-dimensional designs with modeling software and produce actual components of their designs on computer numerically controlled (CNC) machine tools. Additional topics covered include simulations, rapid prototyping (RP), and manufacturing systems.
 Note: The two course sequence Engineering Technology 16A and Engineering Technology 16B is the same as Engineering Technology 16.

9. Engineering Technology 18A – Engineering Design and Development I
 Units: 1.5 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Prerequisite: Engineering Technology 12 or 12A and 12B, Engineering Technology 14 or 14A and 14B, and Engineering Technology 16 or 16A and 16B with a minimum grade of C
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the first course in a two course sequence that covers engineering design and development concepts. In this capstone course, teams of students will work together to design and construct solutions to engineering problems. Emphasis will be placed on research methods, design problem statements, continuous improvement, cost analysis, and prototyping. Knowledge gained will be applied to a design solution of a problem assigned in the capstone project.
 Note: The two course sequence Engineering Technology 18A and Engineering Technology 18B is the same as Engineering Technology 18
10. Engineering Technology 18B – Engineering Design and Development II
 Units: 1.5 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Prerequisite: Engineering Technology 18A with a minimum grade of C
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the second course in a two course sequence that covers engineering design and development. In this capstone course, teams of students will work together to design and construct solutions to engineering problems. Emphasis will be placed on testing methods, project construction, project presentation, and professional peer review.
 Note: The two course sequence Engineering Technology 18A and Engineering Technology 18B is the same as Engineering Technology 18
11. Manufacturing Technology 75A – Integrated Robotic and Automated Technologies I
 Units: 1.5 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Recommended Preparation: Electronics and Computer Hardware Technology 11, Manufacturing Technology 70
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the first course in a two course sequence that covers robotic and automation applications with emphasis on electronics theory, electro-mechanical fabrication, motors, and drive trains. Students will construct, program, and test a vehicular or process robot.
 Note: The two course sequence Manufacturing Technology 75A and 75B is the same as Manufacturing Technology 75.
12. Manufacturing Technology 75B – Integrated Robotic and Automated Technologies II
 Units: 1.5 Lecture: 1 hour Lab: 2 hours Faculty Load: 16.67%
 Recommended Preparation: Electronics and Computer Hardware Technology 11, Manufacturing Technology 70, 75A
 Credit, degree applicable; Letter grade; Transfer CSU
 This is the second course in a two course sequence that covers robotic and automation applications with emphasis on imbedded electronics, micro-controller programming,

sensors, manufacturing materials and processes. Students will construct, program, and test a vehicular or process robot to satisfy instructor assigned goals or tasks.

Note: The two course sequence Manufacturing Technology 75A and 75B is the same as Manufacturing Technology 75.

COURSE REVIEW; CHANGES IN CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation), CATALOG DESCRIPTION

1. Machine Tool Technology 11abcd – Numerical Control Graphics Programming with CATIA

Current Status/Proposed Change

~~Prerequisite: Computer Aided Design/Drafting 31abcd with a minimum grade of C~~

Recommended Preparation: Computer Aided Design/Drafting ~~32abcd~~ 31abcd and Machine Tool Technology ~~13A~~ 101abcd

This is ~~an intermediate~~ a course in computer aided numerical control programming emphasizing interactive computer graphics with CATIA ~~*(registered trade mark of Dassault Systems)~~. Concepts explored include interactive geometry and surface construction, tool motion created using Prismatic Machining and Multi-Axis Surface Milling functions, graphic editing, graphic output, repetitive programming, and complex surface machining for three, four, and five axis machining centers.

Recommendation:

Recommended Preparation: Computer Aided Design/Drafting 31abcd and Machine Tool Technology 101abcd

This is a course in computer aided numerical control programming emphasizing interactive computer graphics with CATIA ~~*(registered trade mark of Dassault Systems)~~. Concepts explored include interactive geometry and surface construction, tool motion created using Prismatic Machining and Multi-Axis Surface Milling functions, graphic editing, graphic output, repetitive programming, and complex surface machining for three, four, and five axis machining centers.

DISTANCE EDUCATION COURSE VERSION UPDATE

1. Machine Tool Technology 11abcd – Numerical Control Graphics Programming with CATIA (Online)

CHANGE IN MAJOR

1. Engineering Technology

Current Status/Proposed Change

At least 50% of the requirements for the major must be completed at El Camino College.

Engineering Technician Option: (pending approval by the California Community Colleges System Office):

Engineering Technology 10 or 10A and 10B, 12 or 12A and 12B, 14 or 14A and 14B, 16 or 16A and 16B, Machine Tool Technology 101abcd, Technical Mathematics 1; three courses from the following: Engineering Technology 18 or 18A and 18B, Machine Tool Technology 16ab*, Computer Aided Design/Drafting 26abcd*, 27abcd*, 28abcd*, Electronics and Computer Hardware Technology 22, Manufacturing Technology 70, 75 or 75A and 75B, Welding 15ab* (*one semester of)
 Total Units: 25-28

Engineering Technology Option: (pending approval by the California Community Colleges System Office):
 Engineering Technology 10 or 10A and 10B, 12 or 12A and 12B, 14 or 14A and 14B, 16 or 16A and 16B, Chemistry 1A, Mathematics 190, Physics 2A; two courses from the following: Computer Information Systems 13, Electronics and Computer Hardware Technology 110, Engineering 1, 9, Engineering Technology 18 or 18A and 18B, Machine Tool Technology 101abcd, Manufacturing Technology 70, 75 or 75A and 75B
 Total Units: 30-33

Recommendation:
 At least 50% of the requirements for the major must be completed at El Camino College.
 Engineering Technician Option: (pending approval by the California Community Colleges System Office):
 Engineering Technology 10 or 10A and 10B, 12 or 12A and 12B, 14 or 14A and 14B, 16 or 16A and 16B, Machine Tool Technology 101abcd, Technical Mathematics 1; three courses from the following: Engineering Technology 18 or 18A and 18B, Machine Tool Technology 16ab*, Computer Aided Design/Drafting 26abcd*, 27abcd*, 28abcd*, Electronics and Computer Hardware Technology 22, Manufacturing Technology 70, 75 or 75A and 75B, Welding 15ab* (*one semester of)
 Total Units: 25-28

Engineering Technology Option: (pending approval by the California Community Colleges System Office):
 Engineering Technology 10 or 10A and 10B, 12 or 12A and 12B, 14 or 14A and 14B, 16 or 16A and 16B, Chemistry 1A, Mathematics 190, Physics 2A; two courses from the following: Computer Information Systems 13, Electronics and Computer Hardware Technology 110, Engineering 1, 9, Engineering Technology 18 or 18A and 18B, Machine Tool Technology 101abcd, Manufacturing Technology 70, 75 or 75A and 75B
 Total Units: 30-33

CHANGE IN CERTIFICATE OF ACHIEVEMENT

1. Engineering Technology
Current Status/Proposed Change
 A Certificate of Achievement will be granted to students completing the requirements in either the Engineering Technician or Engineering Technology options. At least 50% of the courses for the Certificate of Achievement must be completed at El Camino College.

Engineering Technician Option: (pending approval by the California Community Colleges System Office):

Engineering Technology 10 or 10A and 10B, 12 or 12A and 12B, 14 or 14A and 14B, 16 or 16A and 16B, Machine Tool Technology 101abcd, Technical Mathematics 1; three courses from the following: Engineering Technology 18 or 18A and 18B, Machine Tool Technology 16ab*, Computer Aided Design/Drafting 26abcd*, 27abcd*, 28abcd*, Electronics and Computer Hardware Technology 22, Manufacturing Technology 70, 75 or 75A and 75B, Welding 15ab* (*one semester of)

Total Units: 25-28

Engineering Technology Option: (pending approval by the California Community Colleges System Office):

Engineering Technology 10 or 10A and 10B, 12 or 12A and 12B, 14 or 14A and 14B, 16 or 16A and 16B, Chemistry 1A, Mathematics 190, Physics 2A; two courses from the following: Computer Information Systems 13, Electronics and Computer Hardware Technology 110, Engineering 1, 9, Engineering Technology 18 or 18A and 18B, Machine Tool Technology 101abcd, Manufacturing Technology 70, 75 or 75A and 75B

Total Units: 30-33

Recommendation:

At least 50% of the requirements for the major must be completed at El Camino College.

Engineering Technician Option: (pending approval by the California Community Colleges System Office):

Engineering Technology 10 or 10A and 10B, 12 or 12A and 12B, 14 or 14A and 14B, 16 or 16A and 16B, Machine Tool Technology 101abcd, Technical Mathematics 1; three courses from the following: Engineering Technology 18 or 18A and 18B, Machine Tool Technology 16ab*, Computer Aided Design/Drafting 26abcd*, 27abcd*, 28abcd*, Electronics and Computer Hardware Technology 22, Manufacturing Technology 70, 75 or 75A and 75B, Welding 15ab* (*one semester of)

Total Units: 25-28

Engineering Technology Option: (pending approval by the California Community Colleges System Office):

Engineering Technology 10 or 10A and 10B, 12 or 12A and 12B, 14 or 14A and 14B, 16 or 16A and 16B, Chemistry 1A, Mathematics 190, Physics 2A; two courses from the following: Computer Information Systems 13, Electronics and Computer Hardware Technology 110, Engineering 1, 9, Engineering Technology 18 or 18A and 18B, Machine Tool Technology 101abcd, Manufacturing Technology 70, 75 or 75A and 75B

Total Units: 30-33

NATURAL SCIENCES DIVISION

COURSE REVIEW; CHANGES IN DESCRIPTIVE TITLE, CONDITIONS OF ENROLLMENT (Prerequisite, Corequisite, Recommended Preparation, or Enrollment Limitation), CATALOG DESCRIPTION

1. Biology 96abcd - Cooperative Career Education
2. Horticulture 95abcd - Cooperative Career Education