

PASADENA CITY COLLEGE  
CURRICULUM AND INSTRUCTION COMMITTEE  
MINUTES OF MEETING  
THURSDAY, NOVEMBER 8, 2018

CALLED TO ORDER: 1:23 p.m.

CO-CHAIRPERSONS: Sharon Bober  
Tamara Knott-Silva

The following Curriculum and Instruction Committee members were present:

FACULTY CHAIRPERSONS  
Sharon Bober

INSTRUCTIONAL UNITS  
Kimberly Shediak, Business & Computer Technology  
Rohan Desai, Counseling and Career Services  
Wendy Lucko, Engineering & Technology  
Kirsten Ogden, English  
Sebrenia Law, Health Sciences  
Lindsey Ruiz, Languages  
Walter Butler, Library  
Richard Abdelkerim, Mathematics and Computer Science  
John Hanley, Natural Sciences  
Henry Shin, Performing & Communication Arts  
Andrea Murray, Social Sciences  
Masood Kamandy, Visual Arts and Media Studies

*In accordance with the Ralph M. Brown Act and SB 751, the minutes of the Curriculum and Instruction Committee of Pasadena City College record the votes of all committee members as follows: (1) Members not present are presumed not to have voted; (2) the names of members of minority or abstaining votes are recorded; (3) all other members are presumed to have voted in the majority.*

## DIVISION DEANS

Joseph Futtner  
Sonia Wurst  
Natalie Russell  
Dyan Miller

## STUDENTS

Andrew Mendoza, ASB Representative

## MEMBERS EX-OFFICIO

Homa Nelson, Classified Senate  
Sharis Amirian, Articulation Officer

## VISITORS

Seung Yang  
Saeed Abedzadeh  
Alejandro Javier Ortega

### I. WELCOME

Self-introductions were made.

### II. PUBLIC COMMENT

None.

### III. APPROVAL OF MINUTES

Meeting Minutes for November 1, 2018.

ON MOTION by Joseph Futtner and seconded by Andrew Mendoza, the committee voted to approve the minutes of meeting 10.

### IV. COMMITTEE DISCUSSION

ON MOTION by Joseph Futtner and seconded by Sonia Wurst, the committee voted unanimously to approve the modification of ELTY 251.

ON MOTION by Sonia Wurst and seconded by Richard Abdelkerim, the committee voted unanimously to approve the modification of AUTO 204.

ON MOTION by Richard Abdelkerim and seconded by Kimberley Shediak, the committee voted unanimously to approve the modification of the AUTOMOTIVE TECHNOLOGY - ALL AUTOMOTIVE AS/Certificate of Achievement.

ON MOTION by Wendy Lucko and seconded by Richard Abdelkerim, the committee voted unanimously to approve the deletions of AUTO 208A and 208B.

ON MOTION by Rohan Desai and seconded by Masood Kamandy, the committee voted unanimously to approve the deletion of the DESIGN TECHNOLOGY PATHWAY.

ON MOTION by Rohan Desai and seconded by Richard Abdelkerim, the committee voted to unanimously approve the modification of the AUTOMOTIVE TECHNOLOGY – ENGINE PERFORMANCE TECHNICIAN AS/Certificate of Achievement.

ON MOTION by Andrew Mendoza and seconded by Natalie Russell, the committee voted unanimously to approve the modification of the AUTOMOTIVE TECHNOLOGY – UNDERCAR AS/Certificate of Achievement.

ON MOTION by Richard Abdelkerim and seconded by Sonia Wurst, the committee voted unanimously to approve the modification of the CAD DESIGNER – ARCHITECTURE/ENGINEERING/CONSTRUCTION Occupational Skills Certificate.

ON MOTION by Joseph Futtner and seconded by Wendy Lucko, the committee voted unanimously to approve as amended the modification of DESIGN TECHNOLOGY – MECHANICAL + MANUFACTURING AS/Certificate of Achievement.

ON MOTION by Richard Abdelkerim and seconded by Masood Kamandy, the committee voted unanimously to approve the modifications of ENGL 001B, 001BH, 001C, and 001CH.

ON MOTION by Walter Butler and seconded by Richard Abdelkerim, the committee voted unanimously to approve the modifications of Distance Education to ENGL 001B and 001C.

ON MOTION by Kimberley Shediak and seconded by Richard Abdelkerim, the committee voted unanimously to approve the modification of MRKT 132.

ON MOTION by Walter Butler and seconded by Richard Abdelkerim, the committee voted unanimously to approve the modifications of Distance Education to MRKT 132.

ON MOTION by Masood Kamandy and seconded by Kimberley Shediak, the committee voted unanimously to approve the modification of the COMPUTER INFORMATION SYSTEMS – CYBERSECURITY AS/Certificate of Achievement (formerly known as Computer Information Systems – IT Technician).

ON MOTION by Sonia Wurst and seconded by Natalie Russell, the committee voted unanimously to approve the modification of the COMPUTER INFORMATION SYSTEMS – HELP DESK/USER SUPPORT AS/Certificate of Achievement..

ON MOTION by Masood Kamandy and seconded by Kimberley Shediak, the committee voted unanimously to approve the modification of the COMPUTER INFORMATION SYSTEMS – SYSTEM AND NETWORK ADMINISTRATOR AS/Certificate of Achievement.

ON MOTION by Richard Abdelkerim and seconded by Andrew Mendoza, the committee voted unanimously to approve the modification of the FIRE TECHNOLOGY AS/Certificate of Achievement.

ON MOTION by John Hanley and seconded by Walter Butler, the committee voted unanimously to approve the modification of MA 110.

ON MOTION by Richard Abdelkerim and seconded by Joseph Futtner, the committee voted unanimously to approve the modification of ART 034A.

ON MOTION by Andrew Mendoza and seconded by Masood Kamandy, the committee voted unanimously to approve the modification of ART 034B.

ON MOTION by Richard Abdelkerim and seconded by Masood Kamandy, the committee voted unanimously to approve as amended the addition of the ASSOCIATE IN ARTS IN ECONOMICS FOR TRANSFER DEGREE.

The committee discussed ADTs and what the possibilities are if technical reviewers see other courses that may be applicable.

The committee also discussed the impact on students, particularly those on financial aid (74% of PCC students), when the units of a course are increased and when prereqs are added.

#### V. ANNOUNCEMENTS

None.

#### VI. ADJOURNMENT

The meeting adjourned at 4:02 p.m.

## ADDENDUM

### BUSINESS

MODIFICATION – Modify Distance Education, TOP code – Effective Summer 2019

#### MRKT 132 RETAIL MANAGEMENT

3 units

Principles and practices in the management and merchandising of retail stores. Includes critical buying function, merchandising, promotional techniques, site selection, layout, staffing, market positioning and customer service. Total of 54 hours of lecture.

Grade Mode: L, A

Rationale: Update of Form D. Uncheck of ITV box. Course has never been offered via instructional TV. TOP code changed from 050500 Business Administration to 050650 Retail Store Operations and Management.

MODIFICATION – Courses – Effective Summer 2019

#### FIRE TECHNOLOGY – AS/Certificate of Achievement

41 units

The curriculum prepares students to seek employment in fire protection and related fields in federal, state, local and private fire protection agencies. Instruction is offered in all phases of the fire service and provides the student with a thorough understanding of fire science and the fireground.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

#### Required Courses

##### Semester I

FIRE 110 – Introduction to Fire Technology (3)

FIRE 112 – Fundamentals of Fire Behavior and Control (3)

TECH 107A – Technical Calculations (3)

ENGL 001A – Reading and Composition (4)

or ENGL 001AH – Honors Reading and Composition (4)

##### Semester II

FIRE 114 – Fundamentals of Fire Prevention (3)

FIRE 116 – Fire Fighting Tactics and Strategy (3)

FIRE 120A – Hazardous Materials (3)

SPCH 001 – Fundamentals of Speech (3)

or SPCH 001H – Honors Fundamentals of Speech (3)

or SPCH 010 – Interpersonal Communication (3)

##### Semester III

FIRE 128 – Fundamentals of Fire Protection Equipment and Detection (3)

FIRE 120B – Hazardous Materials (3)

KINA 037 – Police-Fire Agility Training (1)

##### Semester IV

FIRE 115 – Fundamentals of Personal Safety and Emergency Action (3)

FIRE 142 – Building Construction for Fire Protection (3)

## FIRE 146 – Fire Investigation (3)

### Recommended Electives

BLDG 213 – Building Construction Codes and Standards (3)

ELTY 217 – Electrical Inspection and Codes (2)

Rationale: Replacing Fire 124 (Applied Chemistry) with Fire 120B (Hazardous Materials). Fire 120B is an existing approved elective class in the Fire Technology program and is listed as a recommended elective. The goal of the Fire Technology program is to prepare the students to either enter a fire academy or to enter a fire department as a trainee. While the Fire 124 class is not without merit, it is an advanced skill more in line with a firefighter with 3-5 years on duty and either joining a formal Hazardous Materials Response Unit or promoting to a higher rank. To improve the program for the students, replacing Fire 124 with Fire 120B in the certificate requirements will be a better fit with the program goals. It will also make the difficulty of the class more in line with the other classes. This will also have the added benefit of making it easier to find replacement instructors. More experienced firefighters or hazardous materials responders should have the technical knowledge to teach Fire 120B. Also adding SPCH 001H as another approved option for SPCH001.

MODIFICATION – Title (formerly known as COMPUTER INFORMATION SYSTEMS – IT TECHNICIAN), catalog description, SLOs – Effective Summer 2019

COMPUTER INFORMATION SYSTEMS – CYBERSECURITY – AS/Certificate of Achievement  
21-23 units

This cybersecurity program prepares students with necessary skills to seek employment in the field of Information Technology to administer enterprise network security. Instruction includes training in basic enterprise system and network administration with an emphasis on system and network security, and computer forensics. Students are exposed to a wide variety of security analysis/defensive tools, and students implement these tools. Upon completion of coursework, students will have the foundation needed to pursue industry certifications such as CompTIA Network+, CompTIA Security+, EC-Council Certified Ethical Hacker, Cisco CCENT, Cisco CCNA CyberOps, and Microsoft MCSA Windows Server or CompTIA Linux+/LPI Linux Administrator.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

### Required Courses

CIS 040 – UNIX/LINUX Administration (3)

or CIS 045 – MCSA: Microsoft Windows System Administration 1 (4)

CIS 041 – CCNA R&S: Introduction to Networks (3)

CIS 042 – CCNA R&S: Routing and Switching Essentials (3)

CIS 061 – Introduction to Information Systems Security (3)

CIS 063 – Introduction to Cybersecurity: Ethical Hacking (3)

CIS 065 – Computer Forensics Fundamentals (3)

## Required Electives

Select 1 course

- CIS 011 – Information and Communication Technology Essentials (4)
- CIS 012 – Introduction to Programming Concepts and Methodologies Using Python (3)
- CIS 014 – C++ Programming (3)
- CIS 016 – Java Programming (3)
- CIS 031 – Introduction to Database Management Systems (3)
- CIS 036 – Visual Basic .Net Programming (3)
- CIS 040 – UNIX/LINUX Administration (3)
- CIS 045 – MCSA: Microsoft Windows System Administration 1 (4)
- CIS 151 – VCP-DCV: VMWare Vsphere Administration (3)
- CIS 163 – CCNA R&S: Scaling Networks (3)
- CIS 164 – CCNA R&S: Connecting Networks (3)
- CIS 169A – CCNA Security (4)
- CIS 192 – Introduction to Web Development (3)
- CIS 193 – Web Development Using Javascript (3)
- CIS 197 – Web Development Using PHP and MYSQL (3)
- CIS 199 – Web Development Using Ruby On Rails (3)

Rationale: Formerly known as COMPUTER INFORMATION SYSTEMS – IT TECHNICIAN. Currently this program has only required courses. To serve students' diverse interests in information technology, this proposal adds required electives and updates title, description, and SLOs.

MODIFICATION – Catalog description, courses, units (from 23 to 19-21), SLOs – Effective Summer 2019  
COMPUTER INFORMATION SYSTEMS – HELP DESK / USER SUPPORT – AS/Certificate of Achievement

19-21 units

This help desk / user support program prepares students with necessary skills to seek employment in help desk / user support in the field of Information Technology. Instruction includes training in computer hardware, software, Microsoft Windows server operating systems and Microsoft Windows client operating systems in a networked environment with an emphasis on Local Area Networks (LANs) and network security. Upon completion of coursework, students will have the foundation needed to pursue industry certifications such as CompTIA Network+, CompTIA Security+, Cisco CCENT, Cisco CCNA CyberOps, and Microsoft MCSA Windows Server.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

## Required Courses

- CIS 041 – CCNA R&S: Introduction to Networks (3)
- CIS 042 – CCNA R&S: Routing and Switching Essentials (3)
- CIS 045 – MCSA: Microsoft Windows System Administration 1 (4)
- CIS 061 – Introduction to Information Systems Security (3)

## Required Electives

Select 2 courses

- CIS 011 – Information and Communication Technology Essentials (4)
- CIS 012 – Introduction to Programming Concepts and Methodologies Using Python (3)

CIS 031 – Introduction to Database Management Systems (3)  
CIS 040 – UNIX/LINUX Administration (3)  
CIS 063 – Introduction to Cybersecurity: Ethical Hacking (3)  
CIS 065 – Computer Forensics Fundamentals (3)  
CIS 146 – MCSA: Microsoft Windows System Administration 2 (4)  
CIS 151 – VCP-DCV: VMware Vsphere Administration (3)  
CIS 163 – CCNA R&S: Scaling Networks (3)  
CIS 164 – CCNA R&S: Connecting Networks (3)

Rationale: Currently this program has only required courses. To serve students' diverse interests in information technology, this proposal adds required electives and updates description, SLOs, and required units (from 23 to 19-21).

MODIFICATION – Catalog description, courses, SLOs – Effective Summer 2019  
COMPUTER INFORMATION SYSTEMS – SYSTEM AND NETWORK ADMINISTRATOR –  
AS/Certificate of Achievement  
18-20 units

This system and network administrator program prepares students with necessary skills to seek entry-level employment in the field of Information Technology to administer an enterprise network infrastructure and/or a network operating system infrastructure. Instruction includes training in installing, configuring, maintaining, and troubleshooting network devices and end devices with an emphasis on Cisco enterprise network infrastructure administration. Upon completion of coursework, students will have the foundation needed to pursue industry certifications such as CompTIA Network+, Cisco CCNA Routing and switching, Cisco CCNA Cyber Ops, and Microsoft MCSA Windows Server or CompTIA Linux+/LPI Linux Administrator.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

#### Required Courses

CIS 040 – UNIX/LINUX Administration (3)  
or CIS 045 – MCSA: Microsoft Windows System Administration 1 (4)  
CIS 041 – CCNA R&S: Introduction to Networks (3)  
CIS 042 – CCNA R&S: Routing and Switching Essentials (3)  
CIS 163 – CCNA R&S: Scaling Networks (3)  
CIS 164 – CCNA R&S: Connecting Networks (3)

#### Required Electives

Select 1 course (3-4 units)

CIS 011 – Information and Communication Technology Essentials (4)  
CIS 012 – Introduction to Programming Concepts and Methodologies Using Python (3)  
CIS 031 – Introduction to Database Management Systems (3)  
CIS 040 – UNIX/LINUX Administration (3)  
CIS 045 – MCSA: Microsoft Windows System Administration 1 (4)  
CIS 061 – Introduction to Information Systems Security (3)  
CIS 063 – Introduction to Cybersecurity: Ethical Hacking (3)  
CIS 065 – Computer Forensics Fundamentals (3)  
CIS 137 – MCSA: Microsoft Windows Client Operating Systems (3)  
CIS 146 – MCSA: Microsoft Windows System Administration 2 (4)  
CIS 151 – VCP-DCV: VMware Vsphere Administration (3)



CIS 165 – CCNP R&S Route: Implementing IP Routing (4)  
CIS 167 – CCNP R&S Switch: Implementing Cisco IP Switched Networks (4)  
CIS 168 – CCNP R&S Tshoot: Troubleshooting and Maintaining IP Networks (4)  
CIS 169A – CCNA Security (4)

Rationale: Currently this program has only required courses. To serve students' diverse interests in information technology, this proposal adds required electives and updates description, and SLOs.

## ENGLISH

MODIFICATION – SLOs, SPOs, MOIs, MOEs, assignments, catalog description – Effective Summer 2019  
ENGL 001B READING AND COMPOSITION

4 units

Prerequisites: One of the following: (1) ENGL 001A or ENGL 001AH or ENGL 001AS; (2) score of 3 on Advanced Test given by the College Entrance Examination Board.

Application of critical thinking methods to literary interpretation. Critical analysis, interpretation, and evaluation of literary works including consideration of primary and secondary sources. Students will analyze and evaluate fiction, poetry, and drama through study of literary conventions, inductive and deductive logic, and fallacies. No credit if taken after ENGL 001BH. Total of 72 hours lecture.

Transfer Credit: CSU; UC. \*C-ID: ENGL 120 (ENGL-LIT 100)

Grade Mode: L, A, P

Rationale: This proposal modifies the course to meet IGETC requirements for critical thinking. Thus, the authors have revised SLOs, SPOs, CCOs, MOIs, MOEs, Assignments, and Catalog Description to emphasize focus on cultural diversity and reasoning. With the course modifications, we would like this course to be submitted for C-ID ENGL 110.

MODIFICATION – SLOs, SPOs, CCOs, MOIs, MOEs, assignments, catalog description – Effective Summer 2019  
ENGL 001BH HONORS READING AND COMPOSITION

4 units

Prerequisites: One of the following: (1) ENGL 001A or ENGL 001AH or ENGL 001AS; (2) score of 3 on Advanced Placement Test given by the College Entrance Examination Board.

Application of critical thinking methods to literary interpretation. Critical analysis, interpretation, and evaluation of literary works including consideration of primary and secondary sources. Students will analyze and evaluate fiction, poetry, and drama through study of literary conventions, inductive and deductive logic, and fallacies. This enriched course is designed for the Honors Program allowing more extensive writing assignments. No credit if taken after ENGL 001B. Total of 72 hours lecture.

Transfer Credit: CSU; UC \*C-ID: ENGL 120 (ENGL-LIT 100)

Grade Mode: L, A, P

Rationale: This proposal modifies the existing ENGL 001BH course to meet IGETC requirements for critical thinking. Thus, the authors have revised SLOs, SPOs, CCOs, MOIs, MOEs, Assignments, and Catalog Description to emphasize focus on cultural diversity and reasoning. With the course modifications, we would like this course to be submitted for C-ID ENGL 110.

MODIFICATION – SLOs, SPOs, MOEs, course outline, texts, addition of Distance Education – Effective Summer 2019  
ENGL 001C INTERMEDIATE COMPOSITION-CRITICAL THINKING AND ARGUMENT

4 units

Prerequisites: One of the following: (1) ENGL 001A or ENGL 001AH or ENGL 001AS; (2) score of 3 on Advanced Placement Test given by the College Entrance Examination Board.

Principles of critical thinking applied to writing and reading on complex issues which incorporate logic, inductive and deductive reasoning, the critique of logical fallacies, persuasion, analysis and evaluation of appropriate prose models, including those employing argument, other rhetorical modes, and critical thinking strategies specific to various modes of thought; selective use of citation and documentation. No credit if taken after ENGL 001CH. Total of 72 hours lecture.

Transfer Credit: CSU; UC. C-ID: ENGL 105

Grade Mode: L, P

Rationale: Add Form D and update English 1C course outline, specifically updating texts, revising SLOs and SPOs. Modification to MOEs.

MODIFICATION – SLOs, MOEs, MOIs, CCOs, assignments, texts – Effective Summer 2019

ENGL 001CH HONORS INTERMEDIATE COMPOSITION-CRITICAL THINKING AND ARGUMENT

4 units

Prerequisites: One of the following: (1) ENGL 001A or ENGL 001AH or ENGL 001AS; (2) score of 3 on Advanced Placement Test given by the College Entrance Examination Board.

Principles of critical thinking applied to writing and reading on complex issues which incorporate logic, inductive and deductive reasoning, the critique of logical fallacies, persuasion, analysis and evaluation of appropriate prose models, including those employing argument, other rhetorical modes, and critical thinking strategies specific to various modes of thought; selective use of citation and documentation. This enriched course is designed for the Honors Program allowing more student-directed discussions and more extensive writing assignments. No credit if taken after ENGL 001C. Total of 72 hours lecture.

Transfer Credit: CSU; UC \*C-ID: ENGL 105

Grade Mode: L, P

Rationale: Update to English 001CH course outline, specifically updating texts and SLOs. Modification of MOEs, MOIs, CCOs, and assignments.

## ENGINEERING AND TECHNOLOGY

MODIFICATION – units (from 5 to 6), catalog description, contact hours, SPOs, SLOs – Effective Summer 2019

AUTO 204 AUTOMOTIVE SUSPENSION & STEERING

6 units

Prerequisite: Enrollment in or completion of AUTO 205.

Enrollment Limitations: Must possess a valid driver's license. DMV print out showing valid driver's license is required. Must be able to stand for long periods of time and work on cutting equipment at a height of 3 ft or more while standing. Must lift and manipulate 50 lbs or more in a safe manner.

Theory of operation, diagnosis, service and repair of suspension and steering systems. Wheel alignment on Hunter and John Beam Equipment, tire service and repair, tire diagnosis including wheel balancing. This course pertains to the Snap-On Industrial Certification in Wheel Service which includes alignment. NATEF Tasks are the basis of all lab work and ASE Student Certification Exam is required in course. No credit if taken after AUTO 225. Total of 63 hours lecture and 135 hours laboratory.

\*C-ID: AUTO 140X

Grade Mode: L, A

Rationale: Adding 1 unit to effectively perform Snap-on/ National Coalition of Certification Centers (NC3) training and certification testing for EHP systems V tire and wheel service, Pro 42 wheel alignment, and B2000P wheel balancing. SPO's and SLO's will be added. Nine hours of lecture time needed to cover the material provided by NC3 for all three machines. This would add 18 homework hours so the student can do the NC3 modules. 27 hours of lab time needed to cover the hands-on training required by NC3. To help with update training the students will be allowed to audit this class.

MODIFICATION – SPOs, CCOs, MOIs, MOEs, catalog description, grade mode, NCN – Effective Summer 2019

#### ELTY 251 PHOTOVOLTAIC THEORY AND INSTALLATION TECHNIQUES

4 units

Prerequisites: ELTY 250.

Preparation for entry level employment in photovoltaic (PV) industry. Instruction includes solar electricity fundamentals, PV safety, site analysis, PV system sizing and design, required component and equipment. Product installation, troubleshooting, net metering laws and National Electrical Code for PV requirements. Successful participants will be qualified to sit for the North American Board of Certified Energy Practitioners (NABCEP) "PV Installer Entry Level Certificate of Knowledge" examination. Instructional trips may be required. Total of 54 hours lecture and 54 hours laboratory.

Grade Mode: L

Rationale: Modification to CCOs, SPOs, assignments, MOIs, MOEs, catalog description, grade mode changed to L (from L, A). Reduce the NCN to 16 for the following reasons: 1 It is very hard for one instructor to attend and assess more than 16 students during the lab experiments. Maximum of 16 students will provide a much better learning environment and SLOs. 2. Some of the labs will be utilizing 120/208 VAC power source and needs constant monitoring of the students' activities for safety and assessment. 3. Due to limited number of space and equipment, the lab activities cannot be done in groups of more than four students. 4. For some of the hands-on projects, the students will be divided in to two groups. By having maximum of 16 students, each group will be limited to eight students. Please note that more than two groups are not feasible with one instructor in the lab. 5. There are only 12 computers in the room with room for 4 additional computers. 6. Currently Classroom IT 230 is utilized for both lab and lecture for this course. Most of the room is occupied with students' desks and lab equipment. Less than 100 ft<sup>2</sup> is available for students' lab activities. This will give approximately 6 ft<sup>2</sup> per student during lab activities. Removing Audit as a grading mode.

MODIFICATION – units (from 50 to 47), courses – Effective Summer 2019

#### AUTOMOTIVE TECHNOLOGY – ALL AUTOMOTIVE SYSTEMS – AS/Certificate of Achievement

47 units

The curriculum prepares students for entry-level employment in automotive areas such as an apprentice mechanic, assistant technician, mechanic's helper, predelivery technician, installer, service technician, service attendant, or smog technician trainee. Students in the Automotive Technology program gain valuable hands-on experience in diagnosis and repair of vehicles while using the National Education Technicians Foundation (NATEF) task list as a guide. Instruction includes automotive engines, transmissions and drive lines (RWD & FWD) for both automatic and manual systems, suspension systems, braking systems (including ABS), air conditioning systems, and engine performance including most state and federally mandated requirements. Upon successful completion of the curriculum, students receive credit for one year of work experience when applying for certification by the National Institute of Automotive Service Excellence (ASE). This Certificate prepares students for the ASE 1-8 Professional Exams. ASE Student Examinations are administered within program courses.

This program has lab fees, uniform, and DMV requirements. This curriculum is National Technicians Education Foundation (NATEF) approved and renewed in 2016.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

#### Required Courses

AUTO 200 – Automotive Fundamentals for Technicians (4)  
AUTO 206A – Basic Automotive Electrical Systems (4)  
AUTO 201 – Engine Operation & Testing (6)  
AUTO 206B – Automotive Electrical Systems (4)  
AUTO 202 – Automatic Transmission and Transaxles (5)  
AUTO 203 – Manual Transmission, Transaxle, and Drivetrain (5)  
AUTO 205 – Automotive Brake Systems (4)  
AUTO 204 – Automotive Suspension & Steering (6)  
AUTO 208 – Engine Performance (6)  
AUTO 207 – Automotive Heating & Air Conditioning (3)

#### Recommended Electives

BUS 011A – Business Communications (3)  
BUS 160 – Sales and Customer Service (3)  
MIT 101 – Introduction to Robotics (4)

Rationale: Due to changes in AUTO 204 going up one (1 unit), creation of AUTO 208 (6 units), and deletion of 208A and 208B (10 units) the total units for the All systems certificate went down to 47 units from 50.

MODIFICATION – units (from 28 to 24), courses – Effective Summer 2019

AUTOMOTIVE TECHNOLOGY – ENGINE PERFORMANCE TECHNICIAN – AS/Certificate of Achievement  
24 units

The curriculum prepares the student for entry-level employment as a diagnostician or for various manufacturer training courses. Students will gain valuable hands-on experience in diagnosing and repairing automotive engine driveability problems. Fuel injection, ignition and emission systems testing, and applicable laws will also be covered. Use of precision equipment including lab scopes, engine and emission analyzers and other specialty tools is emphasized. Students are encouraged to take the Automotive Service Excellence (ASE) Exams for Engine Performance (A8) Professional Examinations. ASE Student Certification Examinations are administered in these courses.

This program has lab fees, program uniform, and driver license requirements. This curriculum is National Automotive Technicians Education Foundation (NATEF) approved and renewed in 2016.

A Certificate of Achievement is awarded upon successful completion of all required courses with a grade of C or better.

#### Required Courses

AUTO 200 – Automotive Fundamentals for Technicians (4)  
AUTO 201 – Engine Operation & Testing (6)  
AUTO 206A – Basic Automotive Electrical Systems (4)  
AUTO 206B – Automotive Electrical Systems (4)  
AUTO 208 – Engine Performance (6)

Rationale: Addition of AUTO 208 (6 units) and the removal of AUTO 208A and 208B (5 units each). Unit change from 28 to 24.

MODIFICATION – units (from 17 to 18), catalog description – Effective Summer 2019

AUTOMOTIVE TECHNOLOGY – UNDERCAR TECHNICIAN – AS/Certificate of Achievement  
18 units

The curriculum prepares students for entry-level employment in brake system service, suspension inspections and repair, and tire and wheel repair including 4 wheel alignment. Systems of both foreign and domestic vehicles and a wide variety of vehicle models are covered. Antilock brake systems (ABS) are discussed and service procedures are demonstrated. The use of precision equipment such as computerized alignment machines, brake disc and drum lathes, and diagnostic scan tools keep students current with the latest industry standards. All applicable machining procedures and technical calculations are covered. Students are encouraged to take the Automotive Service Excellence (ASE) exams for Suspension and Steering (A4), and Brakes (A5). ASE Student Certification Examinations are administered within the program courses.

This program requires a lab fee, program uniform, and a valid driver's license. Tools are provided and are not required for the program.

A Certificate of Achievement is awarded upon successful completion of all required courses with a grade of C or better.

Required Courses

AUTO 200 – Automotive Fundamentals for Technicians (4)

AUTO 204 – Automotive Suspension & Steering (6)

AUTO 205 – Automotive Brake Systems (4)

AUTO 206A – Basic Automotive Electrical Systems (4)

Rationale: Due to changes in AUTO 204 going up one (1) unit, the certificate must be modified.

MODIFICATION – units (from 13 to 12) – Effective Summer 2019

CAD DESIGNER – ARCHITECTURE/ENGINEERING/CONSTRUCTION – Occupational Skills Certificate  
12 units

The curriculum prepares students to be advanced users of three dimensional Computer-Aided Design – CAD and Building Information Modeling – BIM systems to solve building and construction design problems using the principles and standards of Sustainable Technology. A CAD Designer leads design activities with knowledge of sustainable production processes and industry standards. Job functions include interpreting building codes, LEED and current industry sustainability standards, formulas or data for engineering design, geometric problem solving, presentations of design reviews, and collaborating in design projects. This course of study prepares participants for successful completion of LEED accreditation at the Associates Level.

An Occupational Skills Certificate is awarded upon completion of all required courses with a grade of C or better.

Required Courses

DT 017 – Building Construction Technical Graphics (3.0 Units)

DT 118 – A/E/C Modeling (3.0 Units)

DT 114 – Building Information Modeling Design (BIM Design) (3.0 Units)

DT 110 – Sustainable Technologies (3.0 Units)

Rationale: We are modifying the units for the capstone DT114 to 3 units from 4.

MODIFICATION – units (from 20-28 to 18-29.5), courses – Effective Summer 2019

DESIGN TECHNOLOGY – MECHANICAL + MANUFACTURING – AS/Certificate of Achievement  
18 – 29.5 units

The Design Technology Mechanical + Manufacturing program prepares students to work in mechanical design, industrial design, or manufacturing areas as entry level designers, virtual and rapid prototype builders, or ComputerAided Design (CAD)/ComputerAided Manufacturing (CAM) technicians. The program builds on the CAD Technician – Mechanical Design + Manufacturing Occupational Skills Certificate and leads to the Associate of Arts Degree in Engineering and Technology, as well as providing a transfer pathway to Baccalaureate programs in Engineering Technology.

The emphasis is on creating original solutions to engineering design technology problems through rigorous design and prototyping processes, using digital rapid prototyping technologies, within a collaborative, project-based environment consistent with advanced manufacturing industry demands of a globalized, sustainable economy.

With a focus on communication skills and creative critical thinking, entry level students develop engineering design solutions through research, prototyping, analysis and evaluation in an iterative process involving preliminary sketching, 2D and 3D CAD drawing and parametric modeling, rapid prototyping using 3D printing, laser and plasma cutting, CNC milling and forming, micro controllers and mechatronics. Advanced students develop complex design solutions integrating multiple technologies and procedures for real world application in competitions, entrepreneurial ventures and startups in an industry incubator model.

The program includes integrated, contextualized academics, industry credentialing, interdisciplinary collaboration, professional development and work experience opportunities to develop long term transferable skills sets aligned to work force needs evidenced through advisory groups and industry engagement. Graduating students work under the supervision of qualified engineers, industrial designers, product designers or advanced manufacturing technicians at professional offices meeting customer requirements and deadlines by realizing products in a production system.

This program prepares students for entry into high demand fields in advanced manufacturing, industrial design, engineering and specialized fabrication areas from aerospace to entertainment and medical technology.

A Certificate of Achievement is awarded upon completion of all courses with a grade of C or better.

#### Required Courses

DT 008A – Introduction to Digital Design and Fabrication (3)

DT 008B – Intermediate Digital Design and Fabrication (3)

DT 008C – Advanced Systems Design and Fabrication (4)

Select one course from the following:

ENGL 001A – Reading and Composition (4)

SPCH 001 – Fundamentals of Speech (3)

SPCH 010 – Interpersonal Communication (3)

Select one course from the following

TECH 107A – Technical Calculations (3)  
or MATH 131 – Intermediate Algebra for Stem (5.5)

#### Required Electives

Select 2-3 units to meet 18 unit requirement

DT 110 – Sustainable Technologies (3)  
DT 105 – Emerging Applied Technologies (2)  
MIT 101 – Introduction to Robotics (4)  
ART 033A – Product Design Application (3)  
MACH 101 – Beginning Metalworking Skills (3)  
WELD 200A – Introduction to Welding (10)  
ELTN 130 – Introduction to Electronics (3)  
ARCH 014 – Materials and Processes of Construction (2)  
ART 036A – Jewelry/Metal Fabrication (3)  
FASH 001A – Fashion Survey (3)  
DT 101 – Fabrication Laboratory (2)

Rationale: The DT Mechanical + Manufacturing COA included two basic skills courses as the required courses for the major (English 100 + Math 125). We are modifying the requirement of English 100 to a selection of course substitutions, which include the following (English 1A, Speech 001, Speech 10). Communication and creative critical thinking skills are also integrated within the project-based curriculum throughout the design process with rigorous presentations and portfolio development. We have updated Math requirement to be either Tech 107A or Math 131 or higher to meet AB705 and program requirements. We have added a new labeling for elective courses to communicate that students need to take 1 or more electives to achieve a total unit count of 18 units or higher.

#### DELETIONS – Effective Summer 2019

##### AUTO 208A ENGINE PERFORMANCE

5 units

Rationale: Deletion due to the creation of 208 with lower units and alignment with CID descriptor and ASE A8 test.

##### AUTO 208B ADVANCED ENGINE PERFORMANCE

5 units

Rationale: Deletion due to the creation of 208 with lower units and alignment with CID descriptor and ASE A8 test.

##### DESIGN TECHNOLOGY PATHWAY – Occupational Skills Certificate

15 units

Rationale: We are deleting/archiving this certificate as we are no longer a specific pathways program. This was developed for incoming high school students serving the needs of basic skills development with blocked contextualized classes (basic skills math and English). Due to the changes in AB705 and with Design Technology no longer engaging in a in-coming high school cohort pathway model, we do not need this certificate. We have several occupational skills certificates that facilitate entry into our program for all student levels.

## HEALTH SCIENCES

MODIFICATION – SLOs, SPOs, CCOs, MOIs, MOEs, assignments, catalog description, addition of enrollment limitation, textbooks – Effective Summer 2019

### MA 110 MEDICAL OFFICE MICROCOMPUTER MANAGEMENT APPLICATIONS

1 unit

Enrollment Limitations: Acceptance into Medical Assisting Program.

Introduction to concepts and skills needed in the medical office through spreadsheets, accounts receivable, insurance entry, patient demographic entry, and scheduling systems through hands-on computer simulations. Total of 9 hours lecture and 27 hours laboratory.

Grade Mode: L

Rationale: Course has not been updated in over 10 years. Modifications made to: SLOs, SPOs, CCOs, MOIs, MOEs, assignments, catalog description, addition of enrollment limitation, and update textbook.

## SOCIAL SCIENCES

ADDITION – Effective Summer 2019

### ASSOCIATE IN ARTS DEGREE IN ECONOMICS FOR TRANSFER

Economics is a social science discipline concerned chiefly with description, theory and analysis of production, distribution, and consumption of goods and services. Economics is concerned with rational consumers making choices under conditions of scarcity. Students will be introduced to concepts and tools of economic analysis including theory of demand and supply, national income accounting, economic growth and business cycle. Students will have the ability to analyze fiscal, monetary and trade policies. In addition, students will be introduced to the theory of consumer behavior, the theory of firms under various market structures and the theory of resource markets. The Associate in Arts in Economics for the Transfer Degree is designed to prepare the student for seamlessly transferring to the CSU to earn a baccalaureate degree in economics and is designed to provide students a clear transfer pathway to the CSU and the completion of a baccalaureate degree, with guaranteed admission to a CSU to a similar major with junior standing, and the ability to complete their remaining requirements within 60 semester or 90 quarter units.

#### Associate Degree for Transfer Requirements

- 60 semester or 90 quarter CSU-transferable units.
- the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC for CSU) pattern.
- a minimum of 20 semester or 30 quarter units in the major or area of emphasis as determined by the community college district.
- obtainment of a minimum grade point average (GPA) of 2.0.
- earn a grade of C or better in all courses required for the major or area of emphasis.

#### REQUIRED COURSES (12-13 UNITS)

ECON 001A – Principles of Economics (3)

or ECON 001AH – Honors Principles of Macroeconomics

ECON 001B – Principles of Economics (3)

or ECON 001BH – Honors Principles of Microeconomics

STAT 050 – Elementary Statistics (4)

or STAT 050H – Honors Elementary Statistics (4)

or STAT 015 – Statistics for Business and Economics (4)

or STAT 018 – Statistics for Behavioral and Social Sciences (4)



BUS 014B – Mathematical Analysis for Business – Calculus (4)

or MATH 005A – Single Variable Calculus I (5)

or MATH 005AH – Honors Single Variable Calculus I (5)

LIST A: SELECT ONE COURSE (3 – 4 UNITS)

BUS 014A – Mathematical Analysis for Business – Finite (4)

MATH 005B – Single Variable Calculus II (5)

or MATH 005BH – Honors Single Variable Calculus II (5)

ACCT 001A – Financial Accounting (5)

ACCT 001B – Financial Accounting (4)

BIT 025 – Survey of Computer Technology (3)

BUS 011A – Business Communication (3)

LIST B: SELECT ONE COURSE FROM BELOW OR FROM ANY LIST A COURSE NOT USED (3 – 4 UNITS)

MATH 005C – Multivariable Calculus (5)

or MATH 005BH – Honors Multivariable Calculus (5)

MATH 010 – Linear Algebra and Applications (5)

REQUIRED SUBTOTAL.....20-25

CSU General Education or IGETC Pattern..... 37-39

DEGREE TOTAL ..... 60

## VISUAL ARTS AND MEDIA STUDIES

MODIFICATION – Title, SLOs, SPOs, CCOs, MOIs, MOES, assignments, catalog description, grade mode, recommended preparation (addition of ART 031A), SAM code – Effective Summer 2019

ART 034A APPLIED DESIGN I – MATERIALS AND PROCESSES

3 units

Recommended Preparation: ART 031A.

Introduction to traditional and contemporary concepts and processes in a variety of design media such as metal, wood/fiber, and glass/plexiglass. Emphasis is on design principles in the development of aesthetic forms based on function. Geared towards students with an interest in Jewelry, Product Design, Interior Design, and Sculpture. Total of 36 hours lecture and 72 hours laboratory.

Transfer Credit: CSU. C-ID: ARTS 280

Grade Mode: L

Rationale: Renaming the course title to better reflect the SLOs and SPOs, which will enhance the class enrollment and student expectations of the course. Added ART 031A as recommended preparation. SAM code change. Modification to SLOs, SPOs, CCOs, MOIs, MOES, assignments, catalog description. Removed audit from grade mode.

MODIFICATION – title, SLOs, SPOs, CCOs, MOIs, MOES, assignments, catalog description, grade mode – Effective Summer 2019

ART 034B APPLIED DESIGN II – MATERIALS AND PROCESSES

3 units

Prerequisites: ART 034A.

Intermediate experiences and research in wood, glass, and metal. Total of 36 hours lecture and 72 hours laboratory.

Transfer Credit: CSU

Grade Mode: L

Rationale: Renaming the course title to better reflect the SLOs and SPOs, which will enhance the class enrollment and student expectations of the course. Modification of SLOs, SPOs, CCOs, MOIs, MOEs, assignments. Grade mode changed from L, A, to L only.