

Norco College

2022-2023 Catalog Addendum



This addendum to the 2022-2023 Norco College Catalog contains changes that offer new educational opportunities for students or informational corrections. These updates were approved after the 2022-2023 Catalog was published.

Although every effort has been made to ensure accuracy of the information, students and others who use the catalog and addendum should consult with a counselor, dean, department chair or program director for any additions, deletion or changes.

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INFORMATIONAL CORRECTIONS

General Education Requirements

(August 2022 Addendum)

Page 13 – New Section: CLERY ACT link needs to be listed under Career Center: CLERY ACT

The RCCD publishes an annual Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Report (Annual Clery Report) that includes important information about safety, security policies implemented to protect the welfare of the RCCD community, along with including three (3) years' worth of crime and specific arrest statistics for the main college campuses, District offices and other locations. This report has been prepared in accordance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act of 1998 ("Clery Act"), 20 U.S.C. § 1092(f), Title 34 U.S. Code of Federal Regulations Section 668.46, and the California Education Code, Sections 67380-67385.

Clery Reports can be found here: <https://www.rccd.edu/police/Pages/clery.aspx>

Page 40

The following language was erroneously omitted from the RCCD General Education pattern for Area A – Natural Sciences. See correction below:

NOTE: Waiver for the Natural Sciences requirement will be granted for Cosmetology 60C and Electronics 21.

The following courses were omitted as options from the RCCD General Education pattern after the catalog production deadline. See correction below:

Plan A

- ADJ-9H is approved for Area B2 – Social and Behavioral Sciences
- ESL-49 and ESL-50 have been approved as options to fulfill the RCCD General Education pattern, Area C – Humanities.
- SPA-1H is approved for Area C – Humanities
- MAT-9 is approved for RCCD GE Area D2: Communication and Analytical Thinking.

The following courses were omitted as options from the RCCD General Education pattern after the catalog production deadline. See correction below:

Page 42

Communication, Media and Languages - NAA495/NAA495B/NAA495C

- ENG-38A, ENG-38B, and ENG-38C are approved options for the program.

Fine and Applied Arts - NAA496/NAA496B/NAA496C

- PHO-17 was erroneously included as an option under included courses. This course is no longer offered by the district and should not have been listed.
- ENG-38A, ENG-38B, and ENG-38C are approved options for the program.

Page 44

Kinesiology, Health and Wellness - NAA498/NAA498B/NAA498C

BIO-6 was erroneously included as an option under Elective Courses. This was a typo, and should have instead listed BIO-16.

Course Corrections

(August 2022 Addendum)

DFT-63 listed the prerequisites in the advisory field in error in the 22/23 course catalog. Below is the corrected course record.

DFT-63

Advanced Fusion 360

3 Units

CSU

Prerequisite: DFT-62 or DFT-42 or ENE-42

Description: Provides theory and hands-on application of the design process, 3D modeling, prototyping, and manufacturing to students with prior modeling experience or coursework. Building upon drafting fundamentals, students develop skill in computer aided solid modeling, additive manufacturing, and conventional machining processes. Students develop and refine modeling skills, produce prototypes, enhance presentation models, and use simulation and 3D printing tools to solve design problems individually and in teams. Additional topics include problem identification, concept generation, project management, risk reduction, file translation, virtual/augmented reality (VR/AR), quality control, and Computer Numerical Control (CNC). 27 hours lecture and 90 hours lab. (Letter grade or Pass/No Pass option.)

EAR-25 had a course description change. Below is the updated language.

EAR-25: Teaching in a Diverse Society

3 Units

(C-ID: ECE 230)

UC, CSU

Prerequisite: None

Description: Examines the impact of various societal influences on children's development, personal and social identity, and school experiences. Becoming aware of difference and diversity to become culturally competent members of a diverse society. Covers developmentally appropriate, inclusive, culturally relevant, linguistically appropriate and anti-bias, anti-racist approaches. Self-examination and reflection on issues related to social identity, stereotypes, and bias will be explored. 54 hours lecture. (Letter Grade)

The prerequisites for ESL-47, 48, 49, 50, 847, 848, 849, and 850 erroneously omitted the option of "qualifying placement." The complete course information is below:

ESL-47

Low-Intermediate American College English

5 Units

Prerequisite: ESL-46 or ESL-846 or qualifying placement.

Description: Designed for non-native speakers of English. Develops writing, reading, and oral language expression in academic American English language at a low-intermediate level to prepare students to enter ESL 48. Students will produce a minimum of 1,750 words of instructor-evaluated writing with an emphasis on academic paragraph writing in response to reading. 90 hours lecture. (Letter Grade or Pass/ No Pass Option.)

ESL-48**Intermediate American College English****5 Units**

Prerequisite: ESL-47 or ESL-847 or qualifying placement.

Description: Designed for non-native speakers of English. Develops writing reading, and oral language expression in academic American English language at an intermediate level to prepare students to enter ESL 49. Students will produce a minimum of 3,000 instructor evaluated writing with an emphasis on basic essay writing in response to reading. Classroom instruction integrates writing lab activities. 90 hours lecture and 18 hours laboratory. (TBA option) (Letter Grade only)

ESL-49**High-Intermediate American College English****5 Units****UC, CSU**

Prerequisite: ESL-48 or ESL-848 or qualifying placement.

Description: Designed for non-native speakers of English. Develops writing, reading, and oral language expression in academic American English language at an intermediate level to prepare students to enter ESL 50. Students will produce a minimum of 4,500 words of instructor-evaluated writing with an emphasis on essay writing in response to reading. Classroom instruction integrates writing lab activities. 90 hours lecture and 18 hours laboratory. (TBA option) (Letter Grade only)

ESL-50**Advanced American College English****5 Units****UC, CSU**

Prerequisite: ESL-49 or ESL-849 or qualifying placement.

Description: Designed for non-native speakers of English. Develops writing, reading, and oral language expression in academic American English language at an advanced level to prepare students to enter English 1A. Students will produce a minimum of 6,000 words of instructor-evaluated writing with an emphasis on expository essay writing in response to advanced readings from various sources and a novel. Classroom instruction integrates writing lab activities. 90 hours lecture and 18 hours laboratory. (TBA option) (Letter grade only)

ESL-847**Low-Intermediate American College English****0 Units**

Prerequisite: ESL-846 or ESL-46 or qualifying placement.

Description: Designed for non-native speakers of English. Develops writing, reading, and oral language expression in academic American English language at a low-intermediate level to prepare students to enter ESL 848. Students will produce a minimum of 1,750 words of instructor-evaluated writing with an emphasis on academic paragraph writing in response to reading. 90 hours lecture. (Letter grade or Pass/ No Pass Option)

ESL-848**Intermediate American College English****0 Units**

Prerequisite: ESL-47 or ESL-847 or qualifying placement.

Description: Designed for non-native speakers of English. Develops writing reading, and oral language expression in academic American English language at an intermediate level to prepare students to enter ESL 849. Students will produce a minimum of 3,000 instructor evaluated writing with an emphasis on basic essay writing in response to reading. Classroom instruction integrates writing lab activities. 90 hours lecture and 18 hours laboratory. (Letter grade or Pass/No Pass option)

ESL-849**High-Intermediate American College English****0 Units**

Prerequisite: ESL-48 or ESL-848 or qualifying placement.

Description: Designed for non-native speakers of English. Develops writing, reading, and oral language expression in academic American English language at an intermediate level to prepare students to enter ESL 850. Students will produce a minimum of 4,500 words of instructor-evaluated writing with an emphasis on essay writing in response to reading. Classroom instruction integrates writing lab activities. 90 hours lecture and 18 hours laboratory. (TBA option) (Letter grade only)

ESL-850: Was listed as *ESL-85* on page 238 and missing the zero (0). Below is the corrected course listing.

ESL-850**Advanced American College English****0 Units**

Prerequisite: ESL-49 or ESL-849 or qualifying placement.

Description: Designed for non-native speakers of English. Develops writing, reading, and oral language expression in academic American English language at an advanced level to prepare students to enter English 1A. Students will produce a minimum of 6,000 words of instructor-evaluated writing with an emphasis on expository essay writing in response to advanced readings from various sources and a novel. Classroom instruction integrates writing lab activities. 90 hours lecture and 18 hours laboratory. (TBA option) (Letter grade only)

SCA-2 Industrial Automation for 4 Units is listed in the 22/23 catalog in error. Not an active course.

Course Corrections

(September 2022 Addendum)

CHE-2A is approved for the C-ID CHEM 101. Below is the corrected course record.

CHE-2A**Introductory Chemistry, I**

(C-ID CHEM 101)

MAT-1A Calculus I, Added MAT-9 and MAT-36 prerequisites. The updated list is as follows:

Prerequisite: MAT-10 or MAT-23 or MAT-9 and MAT-36 or qualifying placement. Added MAT-9 and MAT-36 prerequisites.

MAT-1AH Honors Calculus I, Added MAT-9 and MAT-36 prerequisites. The updated list is as follows:

Prerequisite: MAT-10 or MAT-23 or MAT-9 and MAT-36 or qualifying placement

PSY-11 is approved for the C-ID PSY 130. Below is the corrected course record.

PSY-11**Psychology of Human Sexuality**

(C-ID PSY 130)

Course Corrections

(October 2022 Addendum)

ART-25B is listing the wrong course title. It should also have the CSU designation. It should be listed as follows:

ART-25B Watercolor – Intermediate
CSU

3 Units

New Courses

(August 2022 Addendum)

The following courses are part of the 22/23 catalog:

ADJ-801 Community Emergency Response Team (CERT) 24.00 - 28.00 hours

Prerequisite: None

Description: The Community Emergency Response Team (CERT) training is consistent with a nationwide approach designed for individuals and businesses to understand the hazards that may impact their home, community and workplace in the event of a disaster. Recognized and supported by the Federal Emergency Management Agency (FEMA) and professional first responders, this training equips individuals with the knowledge and skills that will educate them in disaster preparedness at home, in the community, or the workplace, and be more resilient when an incident occurs. Emergency response training to support and enhance your community and workplace will be provided through team building, collaboration, and other hands-on activities. (Pass/No Pass)

ARA-1 Arabic 1 5 Units
CSU/UC

Prerequisite: None

Description: Develops basic skills in listening, reading, speaking and writing. Emphasis on acquisition of vocabulary, structures and grammatical patterns necessary for comprehension of native spoken and written Arabic at the beginning level. Includes discussion of Arabic culture and daily life. 90 hours lecture and 18 hours laboratory. (TBA option) (Letter Grade, or Pass/No Pass option.)

ARE-824 Revit I-Architectural Drafting 0 Units

Prerequisite: ENE-21 or DFT-21 or ENE-30 or DFT-30

Description: Introduction to methods and techniques used in the development of architectural construction documents for light frame structures (Type V construction) including construction theory, notation, materials symbols, drawing format and general practice. Using Computer-Aided Drafting (CAD) and Building Information Modeling (BIM-Revit I), this course will focus on the drawing of a set of plans to include a plot plan, foundation plan, floor plan(s), sections, exterior and interior elevations, electrical plan and basic structural details. Sketching techniques will also be covered. 27 hours lecture and 90 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ARE-825 Revit II-Advanced Architectural Drafting 0 Units

Prerequisite: ARE-824 or ARE-24 or DFT-24

Description: Advanced study of architectural detailing and construction methods, including the preparation of working drawings. Other topics include the development of construction documents, study of the Uniform Building Code, and practice from site selection to completion using advanced Computer Aided Design tools (CAD-Revit II). A completed portfolio is a requirement of the course. 27 hours lecture and 90 hours laboratory. (Letter Grade, or Pass/No Pass option.)

ARE-863 3D Tour, Virtual, Mixed, Augmented and Extended Reality 0 Units

Prerequisite: None

Advisory: ARE-824 or ARE-24 or CON-62

Description: Introduces concepts of Building Information Modeling (BIM), virtual reality (VR), augmented reality (AR), mixed reality (MR) and extended reality (XR) technologies, to build basic 3D models, scan objects, 360 degree space photography, design and edit 3D tours from various spaces inside and outside buildings as a tool for visual communication, prepare virtual field trip, walkthrough and fly for presentation, and show existing spaces using, scanner, camera, drone, current 3D and BIM software to architects, contractors, realtors, clients, or game developers. 27 hours lecture and 90 hours laboratory. (Letter grade or Pass/No Pass option)

ASL-1 American Sign Language 1 4 Units
CSU/UC

Prerequisite: None

Description: Focus on developing basic principles and skills of American Sign Language (ASL) through cultural appreciation and non-verbal instruction. Emphasis is placed on Deaf culture and Deaf people in history, visual training, sign vocabulary acquisition, comprehension and communicative skills development, as well as basic structural and grammatical patterns of ASL discourse at the beginning level. 72 hours lecture and 18 hours laboratory. (TBA Option)

CIS-61 Introduction to Database Theory 3 Units
CSU

Prerequisite: None

Advisory: CIS-3 and CAT-30 or CAT-30A

Description: An introduction to the core concepts in data and information management. It is centered around the core skills of identifying organizational information requirements, modeling them using conceptual data modeling techniques, converting the conceptual data models into relational data models and verifying its structural characteristics with normalization techniques, and implementing and utilizing a relational database using an industrial-strength database management system. The course will also include coverage of basic database administration tasks and key concepts of data quality and data security. In addition to developing database applications, the course helps the students understand how large-scale packaged systems are highly dependent on the use of Database Management Systems (DBMSs). Building on the transactional database understanding, the course provides an introduction to data and information management technologies that provide decision support capabilities under the broad business intelligence umbrella. 54 hours of lecture and 18 hours laboratory. (TBA Option) (Letter grade or Pass/No Pass option) (Same as CSC-61)

CIS-63 Introduction to Structured Query Language (SQL) 3 Units
CSU

Prerequisite: None

Description: This course provides an introduction to the relational database management system industry standard - Structured Query Language (SQL). Students will analyze, design, and implement database schema using the SQL programming language. SQL will be utilized to develop a database structure (DDL). The student will use SQL to create both Select and action queries (DML). Joins, Unions, Differences and sub-query statements will be covered. Both the Access and Oracle SQL statements will be covered. 54 hours lecture and 18 hours laboratory. (TBA option)

CON-862 Print Reading for Construction 0 Units

Prerequisite: None

Course Credit Recommendation: Non-Credit

Description: An overview of construction print and specification reading, the relationship of drawings and specifications to the contract and responsibilities of the inspector in interpreting the contract documents and in the inspection of the work. 54 hours lecture. (Letter grade or pass/no pass).

CRP-402B Slabs/Interior-Exterior Footings**1 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Techniques and procedures used in the layout and setting of footing forms according to prints and shop drawings. Introduction of slab construction for casting tilt up panels will be discussed. Acceptable elevation tolerances, proper concrete placement, and slab leveling will be stressed. 20 hours lecture and 20 hours laboratory. (Letter Grade, or Pass/No Pass option)

CRP-403A Tilt-Up Introduction**1 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Familiarizes tilt-up students with basic panel types and typical construction methods used in the tilt-up industry. Identifies panel features, applications, specialty hardware, and provides an overview of the construction and placement of tilt-up panels. 20 hours lecture and 20 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-404 Lifting and Bracing Safety - Site Awareness**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Lifting procedures and accident prevention measures necessary to safely raise and place tilt-up panels. Students will be introduced to various types of bond breakers used in the industry.

Product catalogs will be used to review the proper use of each product. Safety practices on the connection points and bracing of wall panels will be discussed in detail. Manufacturers' specifications for specific hardware used to secure temporary braces will also be covered. Students will review all safety aspects of rigging and setting panels with the crane. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-404A Lifting and Bracing Safety - Lifting Awareness**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Lifting procedures and accident prevention measures necessary to safely raise and place tilt-up panels. Students will be introduced to various types of bond breakers used in the industry.

Product catalogs will be used to review the proper use of each product. Safety practices on the connection points and bracing of wall panels will be discussed in detail. Manufacturers' specification on specific hardware used to secure temporary braces will also be covered. Students will review all safety aspects of rigging and setting panels with the crane. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-404B Poured-in-Place Wall Forms**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Poured-in place wall systems highlighting decorative finish applications. Both basic formwork procedures and additional techniques to create embellished wall details on finished concrete surfaces will presented. Students will identify materials such as exposed aggregate, faux veneers, and various artistic impressions used to create architectural features as part of the finished surface design.

The importance of formwork alignment and reinforcement will be emphasized during manipulative exercises. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-404C Print Reading – Symbols

2 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Basic visualization skills needed for reading and interpreting construction prints. Views, elevations, and the role of specifications as they relate to insulation details on prints will be discussed. An awareness of sustainable and green building practices will be covered during the course. 36 hours lecture and 20 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-405A Wall-Column Forms/Cutting and Burning

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Forming methods and techniques used in the construction of reinforced concrete walls and columns. Form design, print reading, estimating, and hands-on projects for single and double waler forming systems will be included. Students will be introduced to safe operating and cutting procedures for the oxygen-acetylene torch. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-405B Site Work/Curb and Gutter

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Forming methods and techniques used in the construction of site work, curbs, and gutters. Site work layout, elevation, and construction practices will be presented. Jobsite safety, print interpretation, material identification, and site preparation will be included in the training. Students will construct sidewalk, curb, and gutter forms to print specifications. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-405C Specialized Forms and Rigging

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Construction of specialized forms used to create exterior architectural design features on tilt-up buildings. An emphasis will be placed on interpretation of design feature details on prints, location of rigging points, and building methods for selected forms. In addition to concrete calculations, practical assignments will focus on rigging safety, load formulas, lifting hardware and procedures. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-421A Orientation - Hand Tools Safety

2 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Overview of the construction industry, safety overview, with a focus on tool identification and use. Upon successful completion, students will receive OSHA 10 Hour and Powder Actuated Tool Certifications. 36 hours lecture and 10 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-421B Safety and Health Certifications - Hand & Power Tools Applications 2 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Hand/power tool and equipment skill development for various construction applications. Scaffold building and equipment operating procedures will also be covered. Financial and life skills relevant to surviving the construction industry will be presented. Upon successful completion, students will be issued United Brotherhood of Carpenters (UBC) Scaffold Erector-Welded Frame Qualification. 36 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-421C Basic Wall Framing

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Wall construction theory, methods, and procedures required to frame basic residential walls. Practical experience using proper tool techniques and appropriate materials will provide students with fundamental skill development. An introduction to print reading will prepare students to locate measurements for determining wall lengths and size of openings. Students will perform basic wall layout tasks, use plating procedures, and assemble and brace framing before aligning and completing the selected wall construction project to industry standards. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-421E Tool/Equipment Applications - Emergency Response Procedures 1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Hand/power tool and equipment skill development for various construction applications. Scaffold building and aerial lift safety and operating procedures will also be covered. Upon successful completion, students will be issued United Brotherhood of Carpenters (UBC) Aerial Lift and Scaffold Erector-Welded Frame Qualification Cards. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-422A Commercial Floor Framing

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Floor joist construction and the various installation techniques used in the commercial industry. Students will interpret floor plans for job planning, identify floor joist system, and calculate material take offs. Integration of wall plating, joist layout, and floor sheathing methods will be included. Instruction will incorporate measuring skills, use of math operations, specialty hardware applications, and identification of appropriate building codes. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-422B Basic Stairs

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Introduction to stair framing theory, terminology, and construction techniques. Students will interpret floor plans and drawing elevations for job planning, and to layout and detail stair stringers. Methods for calculating the number of stairs, landing height, stair threads, and riser dimensions will be presented and practiced. Instruction will include measuring skills, mathematical

principles, stair and handrail fabrication, assembly and installation. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-422D Exterior Finish Details

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Terminology, design considerations, and construction techniques for various types of exterior detail installations. Students will use plan views and drawing elevations for job planning activities, including calculating dimensions and materials, identifying wall covering types and other exterior construction details. Students will apply the construction techniques presented to complete various exterior detail installations to print specifications. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-422E Commercial Roof Framing

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Introduction to basic gable roof framing, terminology, and construction methods. Students will interpret plan and elevation views to determine rafter systems and layout details to complete project assignments. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-423B Basic Roof Framing

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Introduction to basic gable roof framing, terminology, characteristics, and construction methods. Students will interpret print views and drawing elevations for job planning, and to determine rafter systems and layout details. Basic rise, run, rafter angles and length calculations will be practiced. Framed wall construction will be incorporated to facilitate the gable roof assembly techniques and installation procedures that are the focus of this training. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-423C Advanced Roof Framing

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Advanced skills used to frame hip roof types, and includes terminology, roof characteristics, and construction methods. Students will interpret print views and elevations for job planning to determine hip roof rafter systems and layout details. Students will perform rise, run, rafter angles and length calculations. Framed wall construction will be incorporate to facilitate the hip roof assembly techniques and installation procedures that are the focus of this training. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-424A Basic Commercial Framing

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Introduction to basic wall framing theory and commercial construction techniques. Floor plan interpretation will be used by students for job planning, design recognition, and to determine materials. Students will layout and detail wall plates for locating basic wall components and door openings typically found on commercial projects. Instruction will include measuring skills,

mathematical principles, wall assembly and installation procedures, and detail how structural connections are made. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-424B Advanced Commercial Framing

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Advanced commercial wall framing theory and construction techniques with structural hardware and shear panel installation. Students will interpret floor plans for job planning to layout and detail plates for complex wall configurations, rake walls and wall openings. Instruction will include measuring skills, use of mathematical principles, wall construction, plywood shear panel installation, and structural hardware attachment. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.).

CRP-424C Panelized Roofing

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Structural components and building techniques associated with heavy timber construction and panelized roof systems. The advantages and types of manufactured wood used, and their load carrying strength, span, and spacing will be discussed. A distinction between standard post and beam, and heavy timber construction will be emphasized. Students will interpret floor plan, section views and drawing elevations for job planning to layout and construct a heavy timber post and beam supported panelized roof. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-424D Transit Level/Laser

2 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Terminology, optical principles, and operating procedures for the transit and laser levels. 36 hours lecture and 10 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-424E Total Station I

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Evolution of survey and layout instruments and the advantages of using a total station for building layout over traditional methods. Students will set up a total station and configure the software. Exercises will include working in teams to stake out points and record point data using the total station. Equipment maintenance and troubleshooting are also discussed. 30 hours lecture and 10 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-425 Welding Fabrication

1 Unit

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Introduction to the layout, cutting, and basic welding skills used in the fabrication process. The students will practice using oxy-acetylene equipment and accessories to setup, cut, shape, grind, weld, file, heat, and bend metal parts. Training will include fundamental arc welding techniques to fabricate project components. 20 hours lecture and 20 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-425A Foundations and Flatwork**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Design and function of several types of foundations and concrete flatwork. The methods, techniques, and procedures for formwork layout, elevation, and construction will be presented and applied by students during practical assignments. Jobsite safety, print interpretation, material identification, and basic use of the builders' level will be included in the training. Students will construct three selected formwork projects. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-425C Advanced Stairs**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Enhances existing skills in the construction of basic stairs. Students will interpret floor plans and drawing elevations for job planning, and to layout and construct complex stair designs. Stair calculations will be adapted to determine the number of stairs, landing height, stair thread and riser dimensions. In addition to measuring skills, mathematical principles, stair and handrail fabrication and assembly, the installation techniques required for circular and u-shaped stair configurations will be covered. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-425D Advanced Print Reading - Digital Planning**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Analyze multi-view drawings to determine construction type, locate benchmark and building elements; review codes, references, and perform calculations for construction planning. 30 hours lecture and 10 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-426A Tilt-Up Panel Construction**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Layout techniques and building procedures for commercial structures using the tilt-up panel construction method. Various wall types, position, and sequence for raising panels will be discussed. Students will be able to explain the importance of layout methods in squaring panel formwork. A focus will be placed on identifying specific types of openings and on the location of finish floor and roof lines on prints. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-426B Wall Forming**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Skills and procedures for forming reinforced concrete walls using single and double waler systems. Students will identify the characteristics and application of built-in-place, pre-fabricated, and specialty forms. Practical exercises will prepare students for locating wall forming information on project plans, calculating layout dimensions, and for estimating material requirements. Basic wall panel forming and reinforcement methods, material preparation, and hardware installation are included in training. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-426C Gang Forms/Columns**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Formwork types, applications, and construction methods for gang and column forms using built and manufactured forming systems. Discussions will cover heavy timber gang forms and use of taper ties, bracing, and bulkhead tables. The course project will include gang and column formwork construction, assembly, and hardware using selected manufactured products. Related safety, mathematics and print reading will be covered in the training. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-426D Abutments**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Formwork construction skills for the abutment support structure used in most bridges and heavy highway projects. Students will identify abutment anatomy and will be instructed on footing layout, form detailing, and construction techniques used in the industry. Terminology, components, form materials, building code requirements, and sequence of construction will be presented. Students will work collaboratively to complete an abutment formwork project including keyway, panel, head wall and wing wall construction. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-427C Beam and Deck Forming**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Introduces the use of various woods, and patented forming systems for construction of concrete beams and decks. Students will identify formwork types and installation techniques including calculating materials and setting beam & deck forms. Metal beam forms and capitals will be highlighted. Additionally, layout and builders level skills will be used in this class. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-427D Stairs and Ramp Forming**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Provides related and supplemental instruction for apprentice carpenters in the areas of the various techniques to form stairs and ramp structures; related safety, mathematics, and blueprint reading. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-428A Bridge Construction**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Overview of bridge types and the skills required to perform standard bridge construction tasks. Students will be able to describe the purpose and function of exterior and interior girders, edge forms, bulkheads, and hinge forms. Bridge formwork project will include panel construction, assembly, and hardware installation tasks. Related safety, math and print reading will be covered in the training. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-428C Intermediate Commercial Framing**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Enhances basic wall framing theory. Wall construction techniques are applied at increased skill levels. A review of basic wall framing and floor plans used for job planning, design recognition, and materials lists is included. Students will layout and detail wall plates for locating basic wall components and door openings. Instruction will include measuring skills, mathematical principles, wall assembly and installation procedures, and detail how structural connections are made. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-428E Bridge Falsework**1 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Bridge falsework construction. Techniques for bent assemblies, base sub-assemblies, deck soffits and hardware installation will be presented. Falsework tasks will include rigging and alignment techniques. Related safety, math and print reading will be covered in the training. 20 hours lecture and 20 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-429A Rigging**1.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Presents both lifting theory and practical rigging methods and procedures. The design, characteristics, and safety working load of lifting hardware will be discussed. Rigging attachment procedures, lifting equipment, limits of operation, and communication practices will be covered. Upon successful completion, students will be issued United Brotherhood Of Carpenters (UBC) Rigging Qualification Cards. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-429BJ Rigging Qualification Studies – Journey worker**0.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Overview of lifting theory and the practical rigging methods and procedures required to maintain industry credentials. Rigging standards, procedures, and communication practices will be covered. Upon successful completion, a student will be issued United Brotherhood of Carpenters (UBC) Rigging Qualification Cards. 9 hours lecture and no laboratory hours. (Letter Grade, or Pass/No Pass option.)

CRP-429C Solar Installer Level 1**1 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Industry overview and outlook for photovoltaic (renewable) energy production. Key terms and concepts of photovoltaic system operations will include solar cell technology, photovoltaic (PV) array configuration, series and parallel circuits, testing equipment, inspection, balance of system components, mounting methods, and applicable codes. Practical training will cover site analysis, system orientation based on site location, safety concerns, utilization of construction tools and skills for rooftop and ground mount system installations. Upon successful completion, students will receive a United Brotherhood of Carpenters (UBC) Solar Installer Level 1 Qualification Card. 20 hours lecture and 20 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-430A Standard First Aid**0.40 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Enables carpenters to cope with accidents and emergency situations with the goal of protecting and saving lives. American Red Cross certificate available upon successful completion. 7.2 hours lecture and 36 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-433A Cabinet Millwork and Assembly**1.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Cabinetry fabrication from design and function through the complete production process. An emphasis will be placed on print interpretation, job planning, and proper construction sequence. Countertops and hardware styles and types will be discussed. Students will use the methods and procedures presented to build a typical base unit. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-433B Cabinet Installation**1.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Cabinet installation from establishing the design layout to attaching countertops. To enhance student's skill level an emphasis will be placed on print interpretation, job planning and proper installation sequence. Students will use the methods and procedures presented to install typical upper and lower cabinetry units and countertops. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-433C Show Case and Loose Store Fixtures**1.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Basic cabinetmaking construction techniques for the installation of commercial store fixtures. Students' skill level will benefit from an emphasis placed on measuring, leveling, hand and power tool use, and safety. Students will interpret prints and material bills for the store fixture components included in the course project. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-433D Molding and Trims**1.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: How moldings and trims are utilized to finish exterior and interior construction design features. Product styles, characteristics, applications, and installation methods are included in the discussions. The tools techniques for cutting, coping and installing various molding and trim types are presented and practiced throughout the training. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-434A Plastic Laminates**1.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Installation of plastic laminates including function and design. Suitable materials, styles, and textures will be identified. Students will review prints to determine laminate type and calculate quantities. Installation methods and techniques for drop edge and back splash together with cleaning and repair will be emphasized. A countertop will be designed and installed to specifications. Correct use of tools and other equipment will be stressed. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-434B Solid and Stone Surfaces**1.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Basic and advanced assembly and installation techniques for solid surface, natural stone, and manufactured materials. Various products, designs, materials, accessories, and safety considerations will be included. Students will use the procedures presented to fabricate countertops with backsplash, and create a design inlay. Open Entry/Open Exit. Previous Title: Apprenticeship Carpentry 034B, Solid Surface and Stone Countertops (2017). 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-434C Stair Trim**1.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Various trims that are utilized to finish stair construction design features. Product styles, characteristics, applications, and installation methods are included in the discussions. The tools techniques for cutting and installing selected trim types are presented and practiced throughout the training. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-434D Doors and Door Hardware**1.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Installation process for several types of security and exit door hardware. Discussion of electrical and card reader systems will be included. An emphasis will be placed on print interpretation, codes, door schedules, symbols, and hardware recognition. Students will use the methods and procedures presented to install selected door and hardware systems. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-435C Exit and Electrical Security Devices**1.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Classification, types, models, codes, and uses for accident hazard exit (“panic”) devices. A range of security products and door hardware used in the industry such as crossbars, latches, flush bolts, and kick plates will be discussed. Proper selection, installation and adjustment techniques for selected devices will be covered. Students will complete installation and adjustment of two types of exit devices. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-440CJ Scaffold Erector, Standard 40 Hour – Journeyworker 1.50 Unit

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Basic techniques and procedures associated with frame, system, and tube and clamp scaffolds. Upon successful completion, a student will be issued a United Brotherhood Carpenters (UBC) Scaffold Qualification Card. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-440EJ Scaffold Erector, Systems Scaffold – Journeyworker 0.50 Unit

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Basic techniques and procedures associated with system scaffold components. Focus on terminology, component identification, construction practices, and safety considerations. Students will erect typical configurations to industry standards using system scaffold components. Upon successful completion, a student will be issued a United Brotherhood Carpenters (UBC) Scaffold Qualification Card. 10.8 hours lecture and 8 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-441A Powered Industrial Truck Operator - Rough Terrain 0.25 Unit

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: An overview for safe operation of rough terrain lift trucks for the construction industry, Code of Federal Regulations (CFR), and training requirements. Upon successful completion, students will be issued an United Brotherhood of Carpenters (UBC) Powered Industrial Truck Operator-Rough Terrain (RT) Qualification Card. 7.2 hours lecture and 2 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-441B Powered Industrial Truck Operator 0.25 Unit

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: An overview for safe operation of industrial lift trucks for the construction industry, Code of Federal Regulations (CFR) regulations, and training requirements. Upon successful completion, a student will be issued an United Brotherhood of Carpenters (UBC) Powered Industrial Truck Operator-Industrial Truck (IT) Qualification Card. 6 hours lecture and 2 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-461A Acoustical Ceilings 1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Introduction to basic acoustical ceiling installation. Acoustical theory, engineering, and applicable building and seismic codes requirements will be covered. Students will install acoustical ceilings to industry standards using the proper techniques and procedures. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-461B Advanced Acoustical Ceiling Layout**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Advanced layout methods used to complete complex acoustical system installations. Students will use the skills presented to complete selected multifaceted acoustical ceiling layout projects as part of this course. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-461C Advanced Acoustical Ceiling Installation**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Advanced layout methods used to complete complex acoustical system installations. Students will use the tool and framing techniques presented to complete selected multifaceted acoustical ceiling layout projects. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-462 Standard Acoustical Grids**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Various grid patterns considered as standard for acoustical ceilings in the interior system construction industry. The methods and procedures used to form the patterns are the key focus of the course. Students will install several standard acoustical grid patterns to print specifications using the proper techniques and procedures. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-463 Suspended Ceilings**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Installation of suspended ceilings in various configurations. Includes both radius and square wall drywall suspension methods. Students will complete selected suspended ceiling installations using the techniques presented. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-464 Acoustical Soffits**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Construction of acoustical soffits in various configurations. Includes square and slant faced, tapered, concealed, drywall suspension, and sloped soffits methods. Students will complete selected acoustical soffit installations using the techniques presented. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-465 Prefab/Sound Panels**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Technical knowledge and skills needed for the installation of prefabricated wall and ceiling panel systems. Students will use the proper techniques and manufacturers' guidelines to install

various types of prefabricated wall and ceiling panels. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-466 Concealed/Glue-Up/Staple-Up Systems

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Illustrates the design flexibility of concealed, semi-concealed ceilings and soffits using glue-up and staple-up systems. Students will employ the glue-up and staple-up techniques presented to install concealed grid ceiling system. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-467 Designer and Specialty Trims

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Specialty skills needed to produce professionally finished edges for designer ceiling installations. Students will use the techniques presented to produce multiple ceiling edge contours using the compasso trim system. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-468 Metal Pan and Security Systems

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Design, function, and installation of metal pan and security systems incorporated into construction of suspended ceilings. Students will demonstrate the ability to install these components to direct wire and indirect channel suspension ceiling grid systems. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-471A Orientation - Power Tools Safety

2 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Overview of the construction industry, safety overview, with a focus on tool identification and use. Upon successful completion, students will receive OSHA 10 Hour and Powder Actuated Tool Certifications. 36 hours lecture and 10 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-471B Safety and Health Certifications – Scaffold

2 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Hand/power tool and equipment skill development for various construction applications. Scaffold building and equipment operating procedures will also be covered. Financial and life skills will be presented to help them survive in the construction industry. Upon successful completion, students will be issued United Brotherhood of Carpenters (UBC) Scaffold Erector-Welded Frame Qualification Card. 36 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-471C Tool/Equipment Applications - Fall Protection 1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Safe and appropriate use of fall protection, and emergency response procedures. Tool applications presented in this training will provide opportunities for tool skill mastery and equipment operation. Upon successful completion, students will be issued an American Red Cross First Aid/CPR Certification Card, and United Brotherhood of Carpenters (UBC) Fall Protection Qualification Card. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-472A Basic Metal Framing 1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: An overview of the use of metal framing materials in the construction of building interiors. A comparison of metal framing and typical wood framing techniques will be presented. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-472B Basic Lathing 1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Basic framing and lathing methods used in the industry for exterior/interior installations. Focus on exterior waterproofing, lath, and trim installation procedures. Students will use the skills presented to complete an exterior lathing project as part of this course. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-472C Advanced Lathing 1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be registered State indentured apprentice.

Description: Advanced methods and application techniques for lath and trim products used on exterior-interior metal framing. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.).

CRP-473A Framing Ceilings and Soffits 1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Materials used and their application for various types of fire rated walls, ceilings and soffits. Presents methods and procedures used for layout and template development. Drywall and trim applications are discussed. The types of tools used and their associated safety, applied math and print reading fundamentals are reviewed. Students will use the skills presented to complete a ceiling and soffit project as part of this course. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-473B Framing Suspended Ceilings**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Installation of circular ceilings with drops, and drywall suspension in both square and circular grids. Students will complete selected suspended ceiling installations using the techniques presented. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-473C Framing Curves and Arches**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Framing methods for curves and arches and their related structural limitations. Identifies the various wall and ceiling types and the layout principles, and materials used for each. Lath applications and trim are also discussed. Students will use the skills presented to complete a framing project that includes curves and arches. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-474A Print Reading – Specifications**2 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Basic visualization skills for reading and interpreting construction prints. Views, elevations, and the role of specifications as they relate to insulation details on prints will be discussed. An awareness of sustainable and green building practices will be covered during the course. 36 hours lecture and 10 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-474B Advanced Print Reading**2 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Analyze multi-view drawings to determine acoustical ceiling construction types, locate benchmark and building/wall elements; review codes, references, and perform calculations for construction/ceiling grid planning. 36 hours lecture and 10 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-474C Air, Moisture, and Thermal Barriers**1 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Demonstrates that correctly installed air, moisture, and thermal barrier systems increase building envelope energy efficiency. Building sealing products and installation techniques will be the main focus of hands-on exercises. 20 hours lecture and 20 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-475A Light Gage Welding AWS – A**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Light gage welding methods and techniques. American Welding Society (AWS) welding processes, symbols, materials and safety procedures will be presented. Students will practice setting up

equipment and identifying the proper electrode position and speed. Instruction will include an explanation of typical metal frame welding practices. An emphasis on hands-on experience using 6013 electrodes will reinforce proper use of the welding procedures. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-475B Light Gage Welding LAC

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Light gage welding methods and techniques. American Welding Society (AWS) welding processes, symbols, materials and safety procedures will be presented. An emphasis on hands-on experience using 6010 electrodes will reinforce proper use of required welding procedures, and ability to perform welding tasks used to complete the Los Angeles City (LAC) certification process. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-475C Light Gage Welding AWS – B

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Light gage welding methods and techniques. American Welding Society (AWS) welding processes, symbols, materials and safety procedures will be presented. An emphasis on hands-on experience using 6013 electrodes will reinforce proper use of required welding procedures, and ability to perform welding tasks used to complete AWS certification process. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-476A Basic Hand Finishing

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Basic hand finishing skills using the correct tools and materials. Training will include terminology and description of finishing levels as well as hand tool manipulation techniques, material identification and selection criteria. Manufacturer's guidelines will highlight the environmental conditions for proper mixture preparation and use. Key discussions will draw attention to typical finish issues, causes, and solutions frequently employed. Tool techniques and application sequence and will be explained and demonstrated. The importance of mixture consistency, proper coating sequence will be stressed during level four hand finishing exercises. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-476B Automatic Finishing Tools

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Methods, applications, and sequences of the bazooka, skim boxes, nail spotters and angle boxes. Students will be required to demonstrate the ability to tape in different situations and the ability to coat all field and butt joints. The levels of finishing and the various finish trims will be discussed. The operation of automatic taping and finishing machine tools including those newly introduced to the industry will be covered. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-477A Drywall Installation/Finish Trims**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Introduction to drywall handling methods, applications, and recommended levels of drywall finish to achieve the desired aesthetics. An emphasis will be placed on trim attachment and finishing techniques. Various types of finish trim will be identified. Students must demonstrate proficiency in the proper use of automatic taping tools. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-477B Advanced Hand Finishing**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Advanced methods and applications using hand tool techniques. The proper sequence of operation, phases and materials to be used in order to produce a higher level finished product to industry standards. Curved and radius wall characteristics for finish levels will be discussed. The course will cover wall frame components, materials used, surface preparation, and application methods. Students will complete a project to a Level Five standard. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-477C Advanced Automatic Finishing Tools**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Advanced methods, applications, and sequences of the bazooka, skim boxes, nail spotters, and angle boxes. Students will be required to demonstrate the ability to tape in different situations and the ability to coat all field and butt joints. The levels of finishing and the various finish trims will be discussed. The operation of automatic taping and finishing machine tools including those newly introduced to the industry will be covered. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-478B Advanced Metal Framing**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Review of basic metal framing followed by detailed procedures for framing curved, serpentine, and elliptical non-load bearing partitions. Using standard light gage components and other materials, students will learn advanced techniques to expedite work processes. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-478C Wet Wall Finishes**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Industry methods, mediums, and typical application of wet wall finishes. Training will include terminology and description of industry standard finishing levels; application tool types and techniques, material identification and selection. Manufacturer's guidelines will highlight the environmental conditions for proper mixture preparation and use. Key discussions will draw attention to typical finish issues, causes for defects, and solutions frequently employed, and emphasize the selection and use of low volatile organic compounds (VOC) products. The importance of mixture

consistency, proper coating sequence will be stressed during wet wall finishing exercises. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-478D Ceiling and Soffit Finishing

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Develops an advanced level of finishing skill for applications with architecturally detailed ceilings and soffits. Students will be required to determine type and quantity of materials for various designs and differentiate between levels of finish. Guided practice with a combination of hand and automatic tool techniques will promote manipulative ability required for a successful result. A variety of finish trims will be integrated into each method of finish. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-479A Drywall and Acoustical Ceilings

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Materials and methods used for acoustical ceilings combined with drywall installation. Seismic codes, materials, and requirements are also reviewed. Green building rating systems will be applied to selected acoustical and drywall materials. Installation for various grid systems will be discussed. Students will use the skills learned to complete a drywall-acoustical ceiling project. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-479C Drywall Applications - Production Drywall Hanging

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Commercial and residential skills to properly handle and install drywall used in specialized applications. Productivity techniques will be discussed and practiced under jobsite conditions. Wall framing and drywall finishing methods will be incorporated into the hands-on activity. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-479D Drywall Applications - Drywall Estimating

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Materials and methods used for acoustical ceilings combined with drywall installation. Seismic codes, materials, and requirements are also reviewed. Green building rating systems will be applied to selected acoustical and drywall materials. Installation for various grid systems will be discussed. Students will use the skills learned to complete a drywall-acoustical ceiling project. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-482B S/B Firestop/Fireproofing Procedures

1 Unit

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Various firestop/fireproofing systems and methods used as fire protection and fire control. Key discussions will highlight applicable fire codes and industry standards for testing firestop/fireproof methods. Manufacturer's guidelines will identify application tool anatomy, instruction for job preparation, loading instructions, operating procedures, maintenance and care of equipment. Basic descriptions of penetration types and the materials used, including non-combustibles and B-Expands,

will be covered. Students will apply and test firestop/fireproofing material in a controlled environment. 20 hours lecture and 20 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-482C Decorative Trims and Textures

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Advanced hand and automatic tool finishing techniques used to apply decorative trims and special surface textures. Training includes product information for metal, paper, plastics and art beads. Special attention will be given to coating and sanding sequence of field and butt joints for selected surface textures. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-483 Door and Door Frames

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: An introduction to the doors and door frames used in the interior systems industry. Incorporates applicable regulations governing door openings and door selection. Hardware, controlling and locking devices, and door layout and installation techniques will be included. Basic math and print reading will be covered, as will tool-related safety concerns. Students will use the skills presented to complete a selected door and door frame installation project as part of this course. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-483C Door/Door Frame

1 Unit

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: The installation process from constructing rough openings to hanging and adjusting doors. An emphasis will be placed on print interpretation, door schedules, symbols and hardware recognition. Students will use the methods and procedures presented to install selected frames and doors for wood framing applications. 20 hours lecture and 20 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-486A Exterior Insulation Finish Systems (EIFS)

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: An introduction to exterior insulation finish systems including terminology, definitions, specifications, and properties. It will deal with reinforcing mesh installation and the application of insulation board. Application methods and techniques for primers and finishes will be presented. Students will use the skills presented to complete an EIFS installation project as part of this course. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-489 Freeform Lathing

1.50 Units

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: A comprehensive study of the theory and techniques used for the development of freeform lathing projects. Enables students to interpret gridline drawings; layout and build lath cage work and apply the appropriate lath(s) to achieve the desired or designed form or structure. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-490 Residential Steel Stud Framing**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Provides the related and supplemental instruction required for interior systems apprentices in the new technology of cold-formed light gage steel framing for the residential market. Methods of constructing a structural floor, wall and truss system. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-494J Confined Space – Journey worker**0.50 Unit**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Covers both CAL-OSHA and Federal Occupational Safety and Health Administration (OSHA) regulation for safe access, entry, and monitoring for confined space work. Upon successful completion, a student will be issued United Brotherhood of Carpenters (UBC) Confined Space Qualification Card. 14.4 hours lecture and 4 hours laboratory. (Letter Grade, or Pass/No Pass option.)

CRP-495 Water Treatment Facilities**1.50 Units**

Prerequisite: None

Limitation on Enrollment (e.g. Performance tryout or audition): Student must be a registered State indentured apprentice.

Description: Instruction in the detailing, layout, and construction of concrete formwork and waterstop used in water treatment facilities. 27 hours lecture and 18 hours laboratory. (Letter Grade, or Pass/No Pass option.)

DFT-63 Advanced Fusion 360**3 Units**

CSU

Prerequisite: DFT-62 or DFT-42 or ENE-42

Description: Provides theory and hands-on application of the design process, 3D modeling, prototyping, and manufacturing to students with prior modeling experience or coursework. Building upon drafting fundamentals, students develop skill in computer-aided solid modeling, additive manufacturing, and conventional machining processes. Students develop and refine modeling skills, produce prototypes, enhance presentation models, and use simulation and 3D printing tools to solve design problems individually and in teams. Additional topics include problem identification, concept generation, project management, risk reduction, file translation, virtual/augmented reality (VR/AR), quality control, and Computer Numerical Control (CNC). 27 hours lecture and 90 hours lab. (Letter grade or Pass/No Pass option)

DFT-830 Computer Aided Drafting (CAD)**0.00 Units**

Prerequisite: None

Advisory: CIS-1A

Description: A two-dimensional computer aided drafting class for drafters. Students will use an AUTOCAD computer drafting system to develop "computer drawn" drawings, which are typical to the various fields of drafting. 27 hours lecture and 81 hours laboratory. (Letter Grade, or Pass/No Pass option)

DFT-831 Advanced Computer Aided Drafting (CAD)**0.00 Units**

Prerequisite: DFT-30 or ENE-30 or DFT-830

Description: This course focuses on applying advanced AutoCAD skills in the design process to create models, drawings, and related documentation for a variety of applications and industries. Topics include blocks, attributes, external references, solid, mesh, and surface modeling, presentation, and

photorealistic rendering. Students develop and apply skills in visualizing, creating, and editing 3D shapes for modeling, testing, rapid prototyping, and marketing. The course emphasizes improving productivity and developing modeling and presentation skills. 27 hours lecture and 81 hours lab. (Letter grade or Pass/No Pass option)

DFT-842 SolidWorks I

0.00 Units

Prerequisite: None

Advisory: CIS-1A

Description: Three-dimensional parametric solid modeling with SolidWorks. Students will begin with basic parametric solid modeling techniques advancing into complex assemblies requiring animation. 27 hours lecture and 81 hours laboratory. (Letter grade or Pass/No Pass option)

DFT-842B SolidWorks II

0.00 Units

Prerequisite: DFT-42 or ENE-42 or DFT-842 or prior SolidWorks experience.

Description: An advanced course in using the three-dimensional parametric solid-modeler SolidWorks. Designed to further 3D parametric solid modeling software techniques learned in SolidWorks I. Students will delve deeper into topics that were introduced in the first SolidWorks course such as extruding, sweeping, lofting, shelling, assemblies, and animation. 27 hours lecture and 81 hours laboratory. (Letter Grade, or Pass/No Pass option.)

DFT-862 Basic Fusion 360

0.00 Units

Prerequisite: None

Advisory: DFT-21 or DFT-30 or DFT-51

Description: Introduces engineering and design students to 3D parametric solid modeling, including basic and intermediate parts, assemblies, and drawings. From their models, students produce CAD drawings to include orthographic, pictorial, section, and detail views. The course also covers basics of sheet metal, dimensioning, dimensional tolerance, and thread notation per ASME Y14.5-2018 using Autodesk Fusion 360. 27 hours lecture and 90 hours lab. (Letter grade or Pass/No Pass option)

DFT-863 Advanced Fusion 360

0.00 Units

Prerequisite: DFT-842 or DFT-42 or DFT-62 or ENE-42

Description: Provides theory and hands-on application of the design process, 3D modeling, prototyping, and manufacturing to students with prior modeling experience or coursework. Building upon drafting fundamentals, students develop skill in computer-aided solid modeling, additive manufacturing, and conventional machining processes. Students develop and refine modeling skills, produce prototypes, enhance presentation models, and use simulation and 3D printing tools to solve design problems individually and in teams. Additional topics include problem identification, concept generation, project management, risk reduction, file translation, virtual/augmented reality (VR/AR), quality control, and Computer Numerical Control (CNC). 27 hours lecture and 90 hours lab. (Letter grade or Pass/No Pass option)

ENG-885 Writing Clinic

0.00 Units

Prerequisite: None

Description: Intended for students who need concentrated attention in various areas of grammar, punctuation, and composition. Self-paced, open-entry/open-exit, with no traditional lecture-based component. Instead, it requires students to do the majority of their coursework independently. Each student follows a sequential series of modules based on his or her diagnosis. Students meet with their instructor in the Writing and Reading Center for the pre-and post-test and as needed for one-on-one instruction or small group study for the duration of the students' enrollment in the course. May be taken a total of four times. 27 hours laboratory. (Non-credit course) (TBA option) (Pass/No Pass option only)

MAT-9 BSTEM College Algebra**5 Units**

CSU/UC

Prerequisite: Intermediate Algebra or Qualifying Placement

Description: College-level algebra for those majoring in business, science, technology, engineering, and mathematics: polynomial, rational, radical, absolute value, exponential, and logarithmic functions and their graphs; systems of equations; theory of polynomial equations; analytic geometry; sequences and series. Students cannot receive credit for MAT-9 if they have already received credit for MAT-10 or MAT-23. 90 hours lecture. (Letter Grade or Pass/No Pass option)

MAT-109 Corequisite Support for MAT-9**1 Units**

Prerequisite: None

Corequisite: MAT-9

Description: A concurrent corequisite course containing arithmetic and basic algebra concepts designed to support students in BSTEM College Algebra. Topics include a review of skills developed in arithmetic and algebra: operations on real numbers, simplifying algebraic expressions, factoring, graphing linear functions, operations on rational and radical expressions, linear and quadratic expressions and equations. Topics are taught strategically throughout the semester to provide a "just in time" instruction of skills needed to master concepts in MAT-9 as they arise. A diverse approach to problem-solving processes and enhancement of study strategies will prepare the student for later university courses. 18 hours lecture. (Pass/No Pass only)

UC Transferable Courses Effective Fall 22 (August Addendum)

The following Norco College courses are newly designated as UC transferable effective Fall 22:

ADJ-9H	COM-11	ETS-1	PSY-11
ARA-1	DAN-6H	ETS-3	THE-9
ASL-1	DAN-D20	ETS-7	
CIS/CSC-12	DAN-D21	ETS-8	
CIS-30A	DAN-D31	MAT-1AH	
CIS-30B	DAN-D32	MAT-9	
CIS-30C	DAN-37	MAT-70A	
CIS-30D	DAN-46	MAT-70B	
CIS-30E	DFT-31	PHO-20	

CSU Transferable Courses (October Addendum)

The following courses are CSU transferable but the course descriptions in the catalog are missing a CSU designation:

ACC-55

ALR-1

ART-25B

ELC-76

MAG-51

MAG-53

MAG-54

Program Corrections

(August 2022 Addendum)

Page 45: Math and Science program. NAS493/NAS493B/ NAS493

(August 2022 Addendum)

BIO-2A and BIO-2B were erroneously included as options under elective courses. These courses are no longer offered by the district and should not have been listed.

Page 134: English as a Second Language – Beginning American College English * NCC8028

(September 2022 Addendum)

EAR-846 and EAR-847 course identifier is listed incorrectly. Should be listed as follows:

- ESL-846 Beginning American College English 90 hours
- ESL-847 Low Intermediate American College English 90 hours

Page 138: Successful Career Transitions * NCC8038

(December 2022 Addendum)

PDS-809 was listed twice in the required and elective courses. Removed PDS-809 from the required course list. The correct listing is as follows:

Total course hours: 21 hours

Required courses: 9 hours

Course	Title	Hours
PDS 818	The Successful Job Search	9

Elective Courses: 12 hours (choose one)

Course	Title	Hours
PDS 809	Business Writing in the Technological World	12
PDS 812	Workplace Communication Strategies	12

Norco College Faculty:

(August 2022 Addendum)

Update of education:

CAMPO, PEGGY Professor, Anatomy and Physiology. B.S., Universidad Catolica de Cordoba; M.S., University of California, Riverside; M.A., Harvard University. Ed. D in Leadership in Higher Education, Northcentral University. At Riverside Community College District since 2008.

Name correction:

WARSINSKI, STEFF Assistant Professor, Mathematics B.S., Northwest Missouri State University; M.S., University of Arizona. At Riverside Community College District since 1989.

Moving Through Math at Norco College

Please visit the Counseling Department before enrolling
if you have questions as to appropriate Math course for your major.

951-372-7101

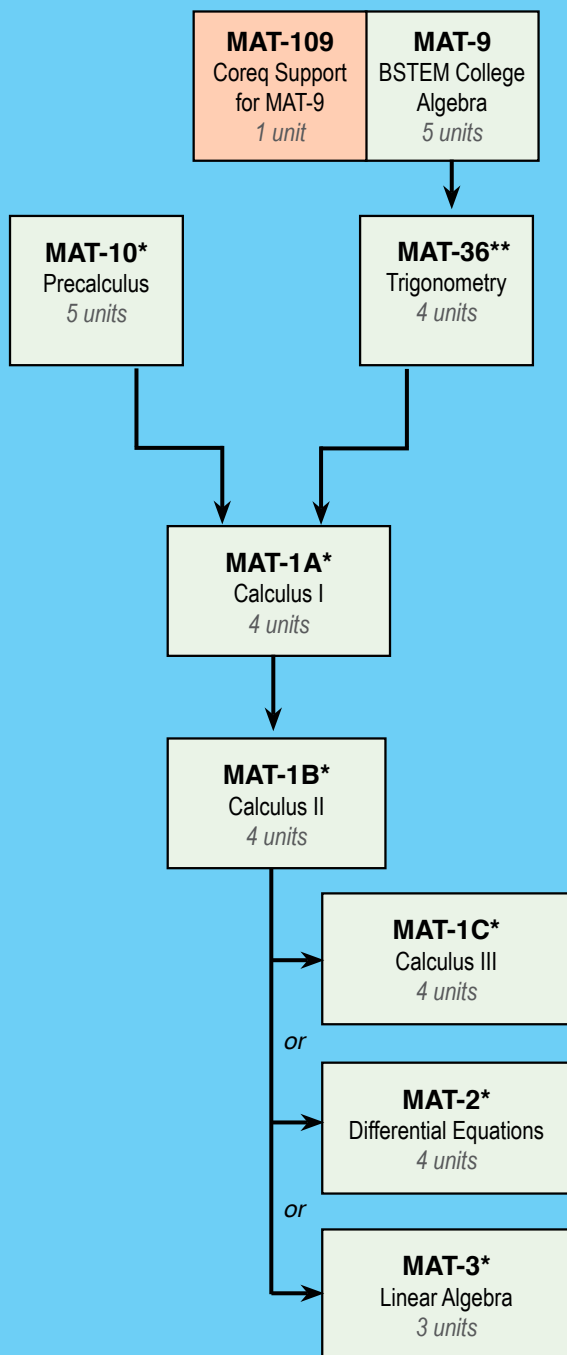
You can also make an appointment to see a counselor at:

<https://www.norcocollege.edu/services/counseling/Pages/index.aspx>

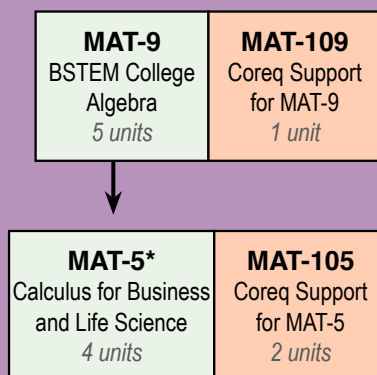
For CSU/UC School/Major specific courses please visit www.assist.org

Science, Technology, Engineering, & Math (STEM) Majors

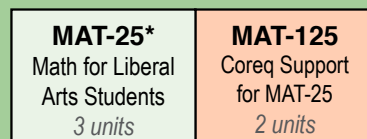
MAT-9 and MAT-36 (or MAT-10) are required for MAT-1A



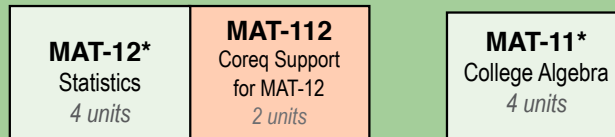
Business Majors



Liberal Studies Majors



Social and Behavioral Science Majors



Non Degree Applicable, only need to enroll if placed

Transferable and/or Degree Applicable

* UC/CSU Transferable

** CSU Transferable Only

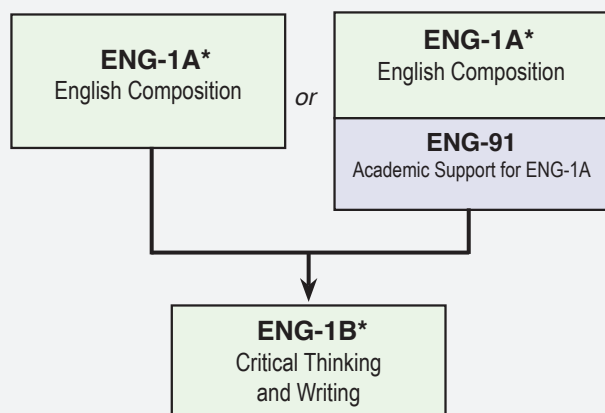
Updated December 2022

Moving through English, ESL, and Reading

Please visit the Counseling Department if you have any questions about the appropriate course(s) for you. <http://norcocollege.edu/services/counseling>

English Composition at Norco College: Choosing the Best Path for You

Every student has the right to enroll directly into English 1A without taking English 91. If you would like more information on enrolling directly into English 1A without 91, see the challenge/opt in process at the Counseling Office.



Note: Research shows that taking even one class below college-level composition (such as English 50) will make it less likely for students to complete English 1A in part because of the extra and often unnecessary semester in a non-transferable course. However, Norco College offers sections of English 50 for students who want to take an English course before they enroll in English 1A. No students are placed into or required to take English 50.

Academic Literacy and Reading

Transferable Reading Courses

ALR-3**

Reading for Academic and Lifelong Literacy

Reading 3 provides students with academic and multi-disciplinary (such as Humanities, Science, and Health Fields) reading strategies needed for success in college classes and beyond. This course meets the reading competency graduation requirement, and the CSU and RCCD lifelong learning Area E requirement.

ALR-4**

College Reading as Critical Thinking

Reading 4 provides students with argument analysis skills required for determining the validity of an author's opinion. Students learn to critically evaluate all persuasive modes of discourse. This course meets the CSU Critical Thinking requirement.

Support Courses

ALR-83

College Reading & Thinking

Reading 83 reviews reading skills and strategies to help prepare students for college reading. This course meets the reading competency requirement.

ALR-887

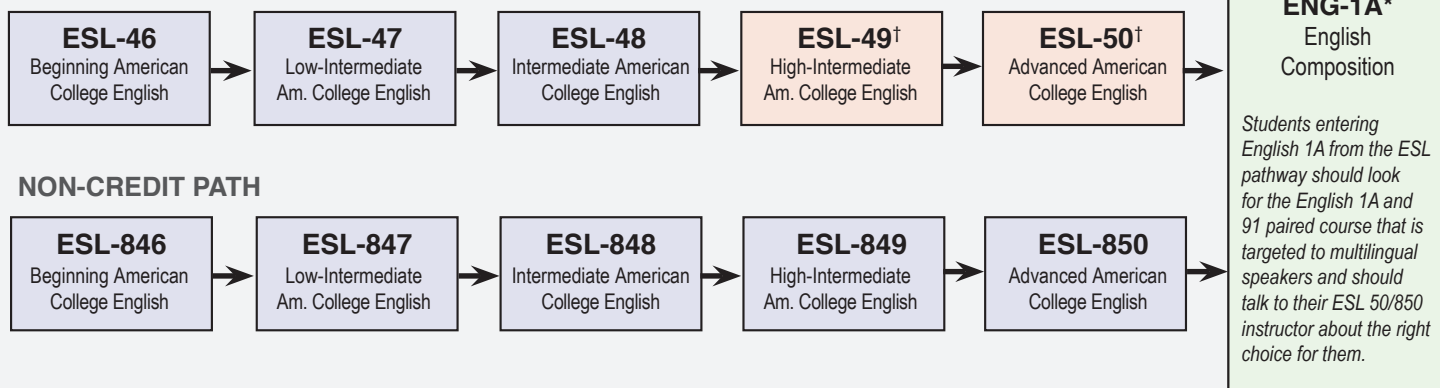
Reading Clinic

Reading 887 is a non-credit self-paced course that provides practice on individually prescribed learning plans designed to improve and develop reading skills. Instruction is provided on an individualized basis in conferences.

Note: These are all individual courses that are not in a sequence.

English as a Second Language

CREDIT PATH



Credit and non-credit courses offer the same material, often in the same classroom. Students who want degree credit, units, or transferable courses should take the credit courses.

† These courses are under review for CSU transferability; please check with a counselor.

Non Degree Applicable

Minimum AA/AS Degree Applicable

Transferable and Degree Applicable

* UC/CSU Transferable

** CSU Transferable Only

*** Associates Degree Applicable Only

Norco College
Intersegmental General Education Transfer Curriculum (IGETC) 2022-2023
For Transfer to CSU and UC

Completion of the Intersegmental General Education Transfer Curriculum (IGETC) will permit a student to transfer from a community college to a campus in either the California State University (CSU) or University of California (UC) system without the need to take additional lower-division general education courses. For certain majors at some of the UC campuses it may be more advantageous to complete a campus-specific general education pattern. IGETC certification is valid for community college transfer students only. Those who have already transferred to the CSU/UC systems may under some circumstances return to Norco College to complete IGETC requirements. A course can only be certified if it was approved for IGETC when it was taken.

Note: Riverside City College and Moreno Valley College are separate colleges and the courses that are approved for IGETC may vary. Students who wish to take courses at another institution and apply them towards IGETC should always first consult with a counselor to make sure the course will fulfill the intended requirement.

Transfer students will receive IGETC certification after completing all of the subject areas below with a min. “C” grade or better (A grade of “C-“ is not acceptable.)

Area 1 - English Communication (min. 6-9 semester or 8-12 quarter units) -

CSU – 3 courses required; select one from each group:

UC – 2 courses required; select one from group 1A and one from group 1B:

1A - English Composition:

ENG-1A English Composition or
ENG-1AH Honors English Composition

1C - Oral Communication: (CSU requirement only)

COM-1 Public Speaking or
COM-1H Honors Public Speaking
COM-6 Dynamics of Small Group Communication
COM-9 Interpersonal Communication or
COM-9H Honors Interpersonal Communication

1B - Critical Thinking – English Composition:

ENG-1B Critical Thinking and Writing or
ENG-1BH Honors Critical Thinking and Writing

Area 2 – Mathematical Concepts and Quantitative Reasoning (min. 3 semester or 4 quarter units) – select one course:

MAT-1A Calculus I**
MAT-1B Calculus II
MAT-1C Calculus III
MAT-2 Differential Equations

MAT-3 Linear Algebra
MAT-5 Calculus for Business and Life Science**
MAT-10 Precalculus**
MAT-11 College Algebra**

MAT-12 Statistics or**
MAT-12H Honors Statistics**
MAT-25 Mathematics for the Liberal Arts Student
PSY/SOC-48 Statistics for the Behavioral Sciences**

Area 3 – Arts and Humanities (min. 9 semester or 12 quarter units) –

Select three courses, with at least one course from the “Arts” and one course from the “Humanities”:

3A – Arts:

AHS-1 History of Western Art: Pre-Historic, Ancient, and Medieval
AHS-2 History of Western Art: Renaissance through Contemporary or
AHS-2H Honors History of Western Art: Renaissance through Contemporary
AHS-4 Introduction to Visual Culture*
AHS-5 Arts of Africa, Oceania, and Indigenous North America
AHS-6 Art Appreciation (Same as ART-6) or
AHS-6H Honors Art Appreciation (Same as ART-6H)
AHS-7 Women Artists in History

AHS-8 Art History of the Photographic Image
AHS-9 African Art History
AHS-10 Modern and Contemporary Art History
AHS-12 Asian Art History
AHS-13 Pre-Columbian Art History
AHS-14 Latin American Art: Colonial to the Present
ARE-35 History of Architecture - Beginning through Gothic
ARE-36 History of Architecture - Renaissance through Modern
ART-6 Art Appreciation (Same as AHS-6) or
ART-6H Honors Art Appreciation (Same as AHS-6H)

DAN-6 Dance Appreciation
GAM-2 History of Video Games (Formerly GAM-21)
MUS-3 Fundamentals of Music
MUS-19 Music Appreciation or
MUS-19H Honors Music Appreciation
MUS-23 History of Rock and Roll
MUS-25 Jazz Appreciation
MUS-89 Music of Multicultural America or
MUS-89H Honors Music of Multicultural America
THE-3 Introduction to the Theatre
THE-29 Musical Theater Appreciation

3B – Humanities:

AHS-4 Introduction to Visual Culture*
CHI-11 Culture and Civilization
COM-12 Intercultural Communication*
ENG-6 British Literature I: Anglo-Saxon through 18th Century
ENG-7 British Literature II: Romanticism through Postmodernism
ENG-8 Introduction to Mythology (Same as HUM-8)
ENG-9 Introduction to Shakespeare
ENG-14 American Literature I: Pre-Contact through Civil War
ENG-15 American Literature II: 1860 to the Present
ENG-16 Introduction to Linguistics
ENG-18 Survey of Native American Literature (Same as ETS-18)
ENG-20 Survey of African American Literature (Same as ETS-20)
ENG-23 The Bible as Literature (Same as HUM-23)
ENG-24 Survey of Asian American Literature (Same as ETS-24)
ENG-25 Latinx Literature of the United States (Same as ETS-25)
ENG-30 Children’s Literature
ENG-35 Women in Literature
ENG-40 World Literature I: From Ancient Literatures to the 17th Century
ENG-41 World Literature II: 17th Century Through the Present
ENG-44 Poetry from the 20th Century to the Present
ENG-45 Modern Drama

ENG-48 Short Story and Novel from the 20th Century to the Present
ETS-2 Introduction to Chicano/a Studies* (Same as HIS-31)
ETS-14 African American History I* (Same as HIS-14)
ETS-18 Survey of Native American Literature (Same as ENG-18)
ETS-20 Survey of African American Literature (Same as ENG-20)
ETS-24 Survey of Asian American Literature (Same as ENG-24)
ETS-25 Latinx Literature of the United States (Same as ENG-25)
FRE-2 French 2
FRE-8 Intermediate Conversation
HIS-1 World History to 1500*
HIS-2 World History Since 1500*
HIS-6 United States History to 1877* or
HIS-6H Honors United States History to 1877*
HIS-7 United States History from 1865* or
HIS-7H Honors United States History from 1865*
HIS-14 African American History I* (Same as ETS-14)
HIS-25 History of Mexico*
HIS-26 History of California*
HIS-31 Introduction to Chicano/a Studies* (Same as ETS-2)
HIS-34 History of Women in the United States*
HUM-4 Arts and Ideas: Ancient World through the Late Medieval Period or
HUM-4H Honors Arts and Ideas: Ancient World through the Late Medieval Period

HUM-5 Arts and Ideas: The Renaissance through the Modern Era or
HUM-5H Honors Arts and Ideas: The Renaissance through the Modern Era
HUM-8 Introduction to Mythology (Same as ENG-8)
HUM-9 American Voices
HUM-10 World Religions or
HUM-10H Honors World Religions
HUM-11 Religion in America
HUM-16 Arts and Ideas: American Culture
HUM-18 Death: An Interdisciplinary Perspective
HUM-23 The Bible as Literature (Same as ENG-23)
HUM-35 Philosophy of Religion (Same as PHI-35)
PHI-10 Introduction to Philosophy or
PHI-10H Honors Introduction to Philosophy
PHI-12 Intro. to Ethics: Contemporary Moral Issues
PHI-19 Native American Thought
PHI-22 Philosophy of Science
PHI-33 Introduction to Social and Political Philosophy
PHI-34 Philosophical Survey of Sex, Gender, and Sexuality
PHI-35 Philosophy of Religion (Same as HUM-35)
PHI-36 Asian Philosophy
SPA-2 Spanish 2
SPA-3 Spanish 3
SPA-4 Spanish 4
SPA-8 Intermediate Conversation
SPA-11 Spanish Culture and Civilization
SPA-12 Latin American Culture and Civilization

Area 4 – Social and Behavioral Sciences (min. 9 semester or 12 quarter units) – Select three courses from at least two disciplines:

ADJ-1 Introduction to the Administration of Justice
 ADJ-3 Concepts of Criminal Law
 ADJ-9 Law in American Society
 ANT-1 Physical Anthropology* or
 ANT-1H Honors Physical Anthropology*
 ANT-2 Cultural Anthropology or
 ANT-2H Honors Cultural Anthropology
 ANT-3 Prehistoric Culture
 ANT-4 Native American Cultures
 (Same as ETS-27)
 ANT-5 Cultures of Ancient Mexico
 ANT-6 Introduction to Archaeology
 ANT-7 Anthropology of Religion
 ANT-8 Language and Culture
 COM-12 Intercultural Communication*
 COM-13 Gender and Communication
 COM-20 Introduction to Communication Theory
 EAR-20 Child Growth and Development
 ECO-4 Introduction to Economics**
 ECO-7 Principles of Macroeconomics or
 ECO-7H Honors Principles of Macroeconomics
 ECO-8 Principles of Microeconomics or
 ECO-8H Honors Principles of Microeconomics
 ETS-2 Introduction to Chicano/a Studies*
 (Same as HIS-31)
 ETS-14 African American History I*
 (Same as HIS-14)
 ETS-21 Latinx Politics
 (Same as POL-21)

ETS-23 Race, Ethnicity, and Politics in America
 (Same as POL-23)
 ETS-27 Native American Cultures
 (Same as ANT-4)
 GEG-2 Human Geography
 GEG-3 World Regional Geography
 GEG-4 Geography of California
 GEG-6 Geography of the U.S. and Canada
 HIS-1 World History to 1500*
 HIS-2 World History since 1500*
 HIS-6 United States History to 1877* or
 HIS-6H Honors United States History to 1877*
 HIS-7 United States History from 1865* or
 HIS-7H Honors United States History from 1865*
 HIS-14 African American History I*
 (Same as ETS-14)
 HIS-25 History of Mexico*
 HIS-26 History of California*
 HIS-31 Introduction to Chicano/a Studies*
 (Same as ETS-2)
 HIS-34 History of Women in the United States*
 JOU-7 Mass Communications
 POL-1 American Politics or
 POL-1H Honors American Politics
 POL-2 Comparative Politics
 POL-4 Introduction to World Politics or
 POL-4H Honors Introduction to World Politics
 POL-5 The Law and Politics
 POL-11 Political Theory

POL-13 Introduction to American Foreign Policy
 POL-20 Latin American Politics
 POL-21 Latinx Politics
 (Same as ETS-21)
 POL-22 Politics of the Middle East
 POL-23 Race, Ethnicity, and Politics in America
 (Same as ETS-23)
 PSY-1 General Psychology or
 PSY-1H Honors General Psychology
 PSY-2 Biological Psychology*
 PSY-8 Social Psychology
 PSY-9 Developmental Psychology
 PSY-33 Theories of Personality
 PSY-35 Abnormal Psychology or
 PSY-35H Honors Abnormal Psychology
 PSY-50 Research Methods in Psychology
 SJS-110 Introduction to Social Justice Studies
 SOC-1 Introduction to Sociology or
 SOC-1H Honors Introduction to Sociology
 SOC-2 American Social Problems
 SOC-3 Social Inequality
 SOC-10 Race and Ethnic Relations or
 SOC-10H Honors Race and Ethnic Relations
 SOC-12 Marriage and Family Relations
 SOC-15 Introduction to Women's Studies
 SOC-20 Introduction to Criminology
 SOC-50 Introduction to Social Research Methods

Area 5 – Physical and Biological Sciences (min. 7 semester or 9 quarter units) – Select at least one Physical and one Biological Science course. One of the two courses must include a lab – see underlined courses:

5A – Physical Science:

CHE-1A General Chemistry, I
CHE-1B General Chemistry, II
CHE-2A Introductory Chemistry, I**
CHE-2B Introductory Chemistry, II
CHE-3 Fundamentals of Chemistry**
 CHE-10 Chemistry for Everyone**
CHE-12A Organic Chemistry, I

CHE-12B Organic Chemistry, II
 GEG-1B Physical Geography
 GEG-1H Honors Physical Geography
GEG-1L Physical Geography Laboratory
 (has a Corequisite of GEG-1 or 1H)
 GEG-5 Weather and Climate
 PHS-1 Introduction to Physical Science

PHY-2A General Physics I**
PHY-2B General Physics II**
PHY-4A Mechanics**
PHY-4B Electricity and Magnetism**
PHY-4C Heat, Light and Waves**
 PHY-10 Introduction to General Physics**
PHY-11 Physics Lab (has a Corequisite of PHY-10)

5B - Biological Science:

ANT-1 Physical Anthropology* or
 ANT-1H Honors Physical Anthropology*
ANT-1L Physical Anthropology Laboratory
 (has a Corequisite of ANT-1 or 1H)
 BIO-1 General Biology or
BIO-1H Honors General Biology
 BIO-3 Field Botany
BIO-4 Human Biology (Formerly BIO-17)
BIO-5 General Botany

BIO-7 Marine Biology
BIO-8 Principles of Ecology**
 BIO-10 Life Science Principles**
 BIO-18 Human Genetics (Formerly BIO-34)
 BIO-19 Environmental Sci.** (Formerly BIO-36)
 BIO-21 California Naturalist
 BIO-45 Survey of Human Anatomy and Physiology
 (Formerly AMY-10)

BIO-50A Anatomy and Physiology I (Formerly AMY-2A)
BIO-50B Anatomy and Physiology II (Formerly AMY-2B)
BIO-55 Microbiology (Formerly MIC-1)
BIO-60 Introduction to Molecular and Cellular Biology
 (Formerly BIO-11)
BIO-61 Introduction to Organismal and Population Biology
 (Formerly BIO-12)
 PSY-2 Biological Psychology*

5C – Science Laboratory: This requirement is satisfied by completion of any course in 5A or 5B with a laboratory. Lab courses are underlined.

Area 6 – Languages Other Than English (Select one course – UC requirement only):

6A:

CHI-1 Mandarin Chinese 1
 CHI-2 Mandarin Chinese 2

FRE-1 French 1
 FRE-2 French 2
 SPA-1 Spanish 1

SPA-2 Spanish 2
 SPA-3 Spanish 3
 SPA-4 Spanish 4

Or 6B: Proficiency equivalent to two years of high school in the same language. (Students from non-English speaking countries should see a counselor for language proficiency equivalencies.)

CSU Graduation Requirement Only in United States History, Constitution and Government:

Although this is not part of the general education requirements, **it is a CSU graduation requirement** that you can complete at a community college before you transfer. ETS-2, HIS-6/6H, 7/7H, 31, or 34 may also be used to partially fulfill area 3B or 4. HUM-16 may also be used to partially fulfill area 3B. POL-1/1H or ETS/POL-21 may also be used to partially fulfill area 4. ETS/HIS-14 may also be used to partially fulfill area 3B or 4.

1. U.S. History

ETS-2 Introduction to Chicano/a Studies (Same as HIS-31)
 ETS-14 African American History I (Same as HIS-14)
 HIS-6 United States History to 1877 or HIS-6H Honors United States History to 1877
 HIS-7 United States History from 1865 or HIS-7H Honors United States History from 1865
 HIS-14 African American History I (Same as ETS-14)
 HIS-31 Introduction to Chicano/a Studies (Same as ETS-2)
 HIS-34 History of Women in the United States
 HUM-16 Arts and Ideas: American Culture

2. Constitution and Government

ETS-21 Latinx Politics (Same as POL-21)
 POL-1 American Politics or POL-1H Honors American Politics
 POL-21 Latinx Politics (Same as ETS-21)

Note: Norco College's POL-1/1H or ETS/POL-21 fulfills the CSU graduation requirement in both U.S. government and California state and local government. Students who have completed ETS/POL-23, or who have received a score of 3 or higher on the AP U.S. Government and Politics exam, or who have taken a U.S. government class at an out-of-state institution may have fulfilled the U.S. government requirement but will still need to fulfill the California state and local government in order to graduate from the CSU.

New CSU GE Ethnic Studies requirement - Beginning in Fall 21 the CSU has implemented an Ethnic Studies requirement, which is now CSU GE area F. See the 22-23 CSU GE pattern and consult with a counselor for complete details.

IGETC Advisement: Former UC, CSU and students with coursework from other four-year institutions, including outside the U.S., should consult with a counselor to determine whether they should complete IGETC or the lower-division general education requirements at the campus they plan to attend. For the UC: Students who initially enroll at a UC campus, then leave and attend a California Community College, and subsequently return to the same UC campus, are considered "re-admits" by the UC. Such students cannot use IGETC. However, students who enroll at a UC campus, then leave and attend a California Community College, and subsequently return to a different UC campus may use the IGETC pattern. It is recommended that students meet with a counselor to discuss possible further IGETC limitations.

Notes:

1. * Courses cannot be double-counted to satisfy more than one area, even if a course is listed in more than one area. The only exceptions to this are several courses in Area 6A – Language Other Than English, which can also be counted towards area 3B.
2. ** UC limits transfer credit for some courses. Students may review the UC Transfer Course Agreement (TCA) with a counselor for information on course limitations.
3. A grade of "P" in approved coursework taken as Pass/No Pass through RCCD is acceptable for IGETC certification. It is important to keep in mind that some CSU and UC campuses may have limitations on the number of "Credit/No Credit" ("Pass/No Pass") courses that may be used to meet degree requirements. The UC system allows a maximum of 14 semester units graded "Pass/No Pass" (Credit/No Credit) basis of the 60 transferable semester units required for admission. There is no system-wide policy for CSU campuses. Therefore, each campus has established its own policy on limitations of courses transferred with grades of "Credit/Pass".
4. Some of the UC campuses do not accept or recommend IGETC for certain majors, (*i.e.* Engineering, Sciences). Students should consult with a counselor to determine the most appropriate general education pattern for their major and intended transfer institution. For updated information about IGETC limitations visit:
<https://admission.universityofcalifornia.edu/admission-requirements/transfer-requirements/preparing-to-transfer/general-education-igetc/igetc/campus-guidance.html>
5. It is highly recommended to make an appointment with a counselor to complete a student educational plan (SEP).

Note - IGETC and IGETC for STEM requirements are subject to change based on the new CSU Ethnic Studies requirement. Updated requirements will be posted as soon as they are available.

IGETC for STEM - Students pursuing certain Associate Degrees for Transfer may be eligible to complete IGETC for STEM, deferring two to three lower-division GE courses until after transfer. IGETC for STEM is applicable only to majors in which the Transfer Model Curriculum explicitly indicates the availability of the option. **At Norco College, currently only ADT's in Biology, Chemistry, and Environmental Science allow IGETC for STEM.**

"IGETC for STEM" certification as part of an Associate Degree for Transfer in Biology, Chemistry, or Environmental Science would require:

Complete the following courses *before* transfer:

- ☐ All courses in Areas 1, 2, and 5 of the traditional IGETC; and
- ☐ One course in Area 3A; one course in Area 3B; and two courses in Area 4 from two different disciplines.

Complete the following courses *after* transfer:

- ☐ One remaining lower-division general education course in Area 3;*
- ☐ One remaining lower-division general education course in Area 4;* and
- ☐ One course in Area 6 for UC-bound students who have not satisfied it through proficiency.*

*These deferred lower division courses must be replaced with calculus and/or science courses required by the major before transfer.

Please consult with a Norco College counselor to discuss which general education pattern is the best option for you based on your individual major, goals, and transfer institution.