

Los Angeles Trade-Technical College

NON-CREDIT COURSE OUTLINE

SECTION I - BASIC COURSE INFORMATION

DATE: 7/03/17

SELECT ONE: New Course Course Update Course Reinstate Outline Update

DEPARTMENT NAME: Noncredit (Construction, Maintenance & Utilities)

SUBJECT/DISCIPLINE NAME (CB01): VOC ED

COURSE NUMBER: 257CE

COURSE TITLE (CB02): Craft Helper
Max 68 characters including punctuation and spaces

COURSE CATALOG DESCRIPTION -- Provide a brief description of the course, including an overview of the topics covered:

This course is designed as entry level preparation for a student interested in careers in the electrical power industry. This introductory course covers the basic fundamentals of planning, installation and maintenance of high and low voltage electrical systems. Basic functions of generation, both hydro and steam are covered. The transmission and distribution of electrical power will be reviewed. Fundamentals of electricity, identification, function, and operation of components will be surveyed. Ohms law, safety, ropes, knots, rigging, and tools required in the trade will be reviewed. Civil service exam assistance will also be covered.

JUSTIFICATION/NEEDS & PURPOSE OF COURSE:

Enter a brief description of the background and rationale for the course. This might include a description of a degree or certificate for which the course is required or the relationship of this course to other courses in the same or other disciplines. Please note that a justification stating "student need" will not suffice.

Awareness level training for entry level power industry careers. Meets the California Journeyman Electrician Program "Continuing Education" requirements for certification renewal.

CLASS HOURS: Under "total hours per term," indicate the total number of hours the average student will need to complete the course objectives in section II. To determine the number of standard hours per week, divide the total hours by 18.

	Total Hours per term	Standard Hours per week (total hours per term divided by 18 weeks)
Lecture hours:	72	4
Lab hours:	0	0
Total hours:	72	4

REPEATABILITY (Number of times the course can be repeated): 3

How does the repetition of this course meet Title 5, section 58161 requirements? A course may be repeatable when, "course content differs each time it is offered, and that the student who repeats it is gaining an expanded educational experience for one of the following reasons: (A) Skills or proficiencies are enhanced by supervised repetition and practice within class periods; or (B) Active participatory experience in individual study or group assignments is the basic means by which learning objectives are obtained."

Every three years the code updates and the content will change, to remain employable the person must obtain 36 hours' minimum of update training. This will meet that requirement. An average career is 30 years, by allowing this course to be repeated every 3 years for 10 cycles this course would meet the industry needs.

LIMITATIONS ON ENROLLMENT (see Title 5, section 58106 for policy on allowable limitations. Other appropriate statutory or regulatory requirements may also apply):

None

TOP CODE (CB03): 0952.00

Category/TOP Code: (* denotes a Valid Top Code that is also in alignment with the Basic Skills Initiative (BSI) definition of a basic skills course)

- English as a Second Language (ESL): 493084*, 493085*, 493086*, 493087*, 493100*
- Immigrant Education: 220120, 220500, 220700, 493090*
- Elementary and Secondary Basic Skills: 150100*, 152000*, 170100*, 170200, 493009*, 493014, 493030, 493031, 493032, 493033, 493060*
- Health & Safety: 083510, 083570, 083580, 083700, 089900, 129900
- Substantial Disabilities: ANY TOP Code
- Parenting: 130500-130590, 130800
- Home Economics: 130100-139900
- Courses for Older Adults: ANY TOP Code
- Short-Term Vocational: ANY VOCATIONAL TOP Code
- Workforce Preparation: ANY VOCATIONAL TOP Code or 493010, 493011, 493012, 493013, 493072

TRANSFER STATUS (CB05):

Other than English, writing, ESL, reading and mathematics courses, most noncredit courses are C (Not transferable)

- A (Transferable to both UC and CSU) B (Transferable to CSU only) C (Not transferable)

PRIOR TRANSFER LEVEL (CB21):

This element indicates course level status for English, writing, ESL, reading and mathematics courses.

- Y (Not applicable)
- A (One level below transfer) B (Two levels below transfer)
- C (Three levels below transfer) D (Four levels below transfer)
- E (Five levels below transfer) F (Six levels below transfer)
- G (Seven levels below transfer) H (Eight levels below transfer).

Student Accountability Model (SAM) Code (CB09):

- A – Apprenticeship B - Advanced Occupational C - Clearly Occupational
- D – Possibly Occupational E- Non-occupational

SAM Code:

- A - Apprenticeship: Courses designed for an indentured apprentice, which must have the approval of the State of California, Department of Industrial Relations, Division of Apprenticeship Standards.
- B - Advanced Occupational: Courses taken by students in the advanced stages of their occupational programs. Courses should be offered in one specific occupational area.
- C - Clearly Occupational: Courses generally taken by students in the middle stages of their programs, which should be of difficulty level sufficient to detract "drop-ins." Courses may be offered in several occupational programs within a broad area. The "C" priority, however, should also be used for courses within a specific program area when the criteria for "B" classification are not met. A "C" level course should provide the student with entry-level job skills.
- D – Possibly Occupational: "D" courses are those taken by students in the beginning stages of their occupational programs. The "D" priority can also be used for service (or survey) courses for other occupational Programs.
- E- Non-occupational.

BASIC SKILLS STATUS (CB08):

Title 5, section 55502(d) defines "basic skills as "courses in reading, writing, computation, and English as a Second Language which are designated as non-degree credit courses pursuant to Title 5, section 55002(b)."

- Basic Skills Course Not a Basic Skills Course

COURSE CLASSIFICATION STATUS (CB11):

This field identifies courses eligible for enhanced funding. Noncredit courses will have a value of J or K if they are part of an approved Career Development and College Preparation (CDCP) program. Noncredit courses that are not part of an approved program will have a value of L until the program is approved.

- J -Workforce Preparation Enhanced Funding
- K - Other Noncredit Enhanced Funding
- L - Non-Enhanced Funding

NONCREDIT CATEGORY (CB22):

** Categories qualify for enhanced funding, as long as they are a part of an approved CDCP program.

- A (English as a Second Language (ESL)** B (Immigrant Education)
- C (Elementary and Secondary Basic Skills)** D (Health and Safety)
- E (Substantial Disabilities) F (Parenting)
- G (Home Economics) H (Courses for Older Adults)
- I (Short Term Vocational)** J (Workforce Preparation)**

References:

CCCCO Program and Course Approval Handbook, Fifth Edition- 2013, pp 186-195
ASCCC The Course Outline of Record: A Curriculum Reference Guide, pp 42 – 58, 2008

PROGRAM STATUS (CB24):

- Program Applicable Not Program-Applicable

APPROVED SPECIAL CLASS (CB13): Title 5 section 56028.

- S (designated as an approved special class for disabled students) N (not a special class)

SPECIAL CHARACTERISTIC(S) (if applicable):

- Learning Assistance (a form of supplemental instruction)
- Bilingual Instruction (a system of instruction that builds upon the language skills of a pupil whose primary language is not English or derived from English)
- Convalescent Setting (a course taught in a convalescent home, skilled nursing facility, residential care home, day care center, or nursing home)
- Correctional Facility (a course taught either at or through a federal, state, or local correctional institution)
- Apprenticeship (a course that provides related and supplemental instruction for apprenticeship and coordination of instruction with job experience, upon agreement with the program sponsor/employer and the California Division of Apprenticeship Standards)
- Persons of Substantial Disabilities (a course designed to serve persons with substantial disabilities)
- Citizenship for Immigrants (a course designed to provide instruction and services in citizenship)

PREREQUISITES, COREQUISITES or ADVISORIES:				
Select One	Subject	Number	Course Title	Units
<input type="checkbox"/> Prerequisite <input type="checkbox"/> Corequisite <input type="checkbox"/> Advisory				
<input type="checkbox"/> Prerequisite <input type="checkbox"/> Corequisite <input type="checkbox"/> Advisory				
<input type="checkbox"/> Prerequisite <input type="checkbox"/> Corequisite <input type="checkbox"/> Advisory				

SECTION II - COURSE CONTENT AND OBJECTIVES

COURSE CONTENT AND OBJECTIVES Outline the topics included in the lab portion of the course (*Outline reflects course description, all topics covered in class*). Add more lines as needed.

• The content element contains a complete list of all topics to be taught in the course. The list should be arranged by topic with sub-headings. Content items should be subject based.

• Objectives: (Include Total Hours for each Topic), should be stated in terms of what students will be able to do, should clearly connect to achievement of the course goals, should be concise but complete: ten objectives might be too many; one is not enough, should use verbs showing active learning, theory, principles, and concepts must be adequately covered. Skills and applications are used to reinforce and develop concepts, each objective should be broad in scope, not too detailed, narrow, or specific.

Lecture Content:	Hrs. per topic	Objectives:
1. Introduction to training facility a. Rules and regulations while on training facility property b. Class requirements; grading, examinations, homework assignments, etc. c. Employment information d. Civil service application process e. Written and oral exam processes	4	Restate the rules for conduct while on training facility. List class requirements. Describe the civil service application and testing process.
2. Basic Electricity a. Electron Theory b. Direct Current c. Alternating Current d. Ohms Law; Voltage, Amperage, Resistance, Watts, Formulas and calculations e. Series and Parallel Circuits	8	Define the electron theory. Compare and contrast direct and alternating current. Restate the common electrical laws and formulas. Solve series and parallel electrical circuit problems.
3. Generation a. Types of Generation. b. Generated sources used in the power industry c. Construction of generating plants	8	List the types of power generation. Describe the general layout and construction of a generating facility.
4. Transmission a. Types of transmission systems b. Overhead and underground transmission c. Magnetic fields d. Installation of transmission lines and cables	6	List the types of power transmission systems. Compare and contrast overhead and underground transmission systems. Relate the skills and materials needed for transmission lines and cable installations.
5. Substations a. Switching Stations b. Receiving Stations c. Distribution Stations d. Station Equipment e. Operational procedures and functions	6	Describe: switching, receiving, and distribution station equipment's operation and function.
6. Distribution System a. Sub Transmission b. Primary circuits c. Secondary voltages and circuits d. Circuit maps e. Industrial Stations f. Commercial Stations	8	Define sub transmission. Define primary and secondary voltages and circuits. Define and discuss the uses for a circuit map.
7. Transformers a. Description b. Operation	8	Explain the operation and general application of various transformer types.

References:

CCCCO Program and Course Approval Handbook, Fifth Edition- 2013, pp 186-195
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c. Types used in various roles d. Maintenance		
8. Street Lights a. Types b. Operation	4	List the types and primary operation for street lights.
9. Tool Identification a. Tools used in line work and cable work b. Hand tools c. Proper use d. Recognition e. Care and use f. Tool safety	6	Identify the hand and power tools utilized in the power line industry. Describe the safe use and care of industry tools.
10. Ropes, Knots and Rigging a. Rope identification b. Proper Knots c. Mechanical advantage d. Safety	6	List the types of knots utilized for common rigging operations. Describe the operation associated with each type knot.
11. Safety a. On and off the job b. Electrical hazards c. Precautions and safeguarding d. Federal, State, and City regulations. e. CPR and first aid	8	Review required safety regulation and practices of the power line industry. Describe the precautions and safeguards required of employees working in the power line industry.
Total Lecture Hrs.	72	

Lab Content:	Hrs. per topic	Objectives:
None		n/a
Total Lab Hrs.		

INSTRUCTION AND EVALUATION, add more lines as needed.

- Methods of Instruction - The focus should be about describing what the students will be doing and experiencing, not only with respect to the instructor, but in some cases with respect to each other and with their environment. The methods of instruction used are appropriate to the objectives. If an objective is to "physically perform," then lecture as the sole method for learning is not enough. The assignments and methods of instruction and evaluation must be appropriate to the stated objectives.

- Methods of Evaluation - The bases for evaluating assignments are given, and relate to skills and abilities in objectives. Knowledge of required material should constitute a significant portion of the evaluation as reflected in assignments and methods of evaluation. Please note that while noncredit courses do not produce grades that would be "credited" into a student record, this in no way obviates the critical need for the course design to comprehensively include student evaluation and feedback.

Methods of Instruction	Methods of Evaluation
Lecture, Demonstration	

References:

CCCCO Program and Course Approval Handbook, Fifth Edition- 2013, pp 186-195
ASCCC The Course Outline of Record: A Curriculum Reference Guide, pp 42 – 58, 2008

LEARNING OUTCOME INFORMATION

Student Learning Outcomes: Upon successful completion of this course, the student will be able to (Use action verbs - see <i>Bloom's Taxonomy</i> for 'action verbs requiring cognitive outcomes.'): (MAXIMUM OF 3 OUTCOMES)	How will these student learning outcomes be assessed? (Explain how each outcome will be assessed in this column):
Selection of proper PPE for use in various work related applications. Identification of proper tools and materials to facilitate the proper installation and operations of a distribution system.	Written exams, students must score 100% on PPE exam. Written exams, students must score 75% or better on tools exam.

Required Text(s):

Texts and instructional materials should be completely referenced: author, title, publisher, and date.

Significant Changes to the National Electrical Code 9th, NJATC ISBN# 978-1-4180-6747-2, 2012; 2016 National Electrical Code, NFPA, 2016

Supplementary Readings:

I -Instructor handouts

Required Writing:

Chapter 1 thru 8 from the required text.

Assignments and/or Other Activities:

The assignments should be presented in a manner that reflects both integration with the stated objectives and a likelihood that they will lead to students achieving those objectives. It is clear that there are student performance expectations, that these are taught in class, practiced through various assignments, and evaluated as the basis for any feedback or potential certification.

Discussion reports on how each change will impacts on trade practices.

Supplies needed:

This section should also include any required materials or other equipment such as a sports item, lab equipment, tools, art materials or anything else the student must have to participate effectively in the course.

Writing instrument, paper, notebook

References:

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SECTION III – SUPPORT NEEDED

Indicate how the college plans to support the proposed course:

Additional Staff needed: None

Classroom type needed: Lecture room

Equipment needed: (List new equipment needed and indicate funding source for any new equipment)

No additional needed.

Supplies needed:

Library/Learning Resources – (List Library and Learning Resources needed, including the cost and funding source for needed resources)

No additional needed.

SECTION IV – APPROVAL STATUS

a. <input checked="" type="checkbox"/> New Course	Board Approval Date:	Effective Semester: Spring 2018
b. <input type="checkbox"/> Course Update	College Approval Date:	Effective Semester:
c. <input type="checkbox"/> Course Change*	College Approval Date:	Effective Semester:
d. <input type="checkbox"/> Course Reinstate	College Approval Date:	

*Course change is based on changes to Districtwide attributes

This course meets Title 5 55002(c) requirements for Noncredit Course:
The course treats subject matter and uses appropriate resource materials, teaching methods, and standards of attendance.

The course outline of record specifies the number of contact hours normally required for a student to complete the course, the catalog description, the objectives, contents in terms of a specific body of knowledge, instructional methodology, examples of assignments and/or activities, and methods of evaluation for determining whether the stated objectives have been met.

References:

CCCCO Program and Course Approval Handbook, Fifth Edition- 2013, pp 186-195
ASCCC The Course Outline of Record: A Curriculum Reference Guide, pp 42 – 58, 2008

COLLEGE APPROVALS:


William Elarton-Selig
Originator

8/31/17
Date


William Elarton-Selig
Department Chair

8/31/17
Date

Leticia Barajas

Dean


Alicia Rodriguez-Estrada

9/5/2017
Date

Curriculum Chair

9/5/2017
Date

Martin Diaz


Academic Senate President

8/5/17
Date

Leticia Barajas


Vice President, Academic Affairs

9/15/2017
Date

References:

CCCCO Program and Course Approval Handbook, Fifth Edition- 2013, pp 186-195

ASCCC The Course Outline of Record: A Curriculum Reference Guide, pp 42 – 58, 2008