

Compton College

Syllabus: Spring 2022

Important Course Information:	
Course Title:	ACR - 121
Instructor:	Todd Kler
Instructor Email:	Tkler@compton.edu
CRN Number:	30807
Section Meeting Days:	Monday, Tuesday, Wednesday, Thursday
Lecture Meeting Time:	7:30am - 10:40am (M & Tu) via TechConnect ZOOM
In-person Lab Meeting Times:	7:30am – 10:40am (Wed) on campus VT-197
Online Lab Meeting Times/Weekly Review:	7:30am – 10:40am (Th) Via TechConnect ZOOM
Meeting Room:	Lecture Via ZOOM meeting and on Campus (VT197) for Labs
Instructor Office:	VT202a Via ZOOM meeting upon request
Instructor Office Hours:	2:00pm to 3:00pm M – Th. Or by appointment
Office Phone:	(310) 900-1600 ext. 2631

Textbooks:

- **Required Text (this is your main textbook):**
 - *Modern Refrigeration and Air Conditioning*, 21st ed. Althouse, ISBN: 9781645645528
- **Recommended Text (NOT REQUIERED):**
 - *Electricity for Refrigeration, Heating, and Air Conditioning*, 9th edition, Russell E. Smith, ISBN: 13-978-1-2851-7998-6
 - *Commercial Refrigeration for Air Conditioning Technicians*, 3rd ed., Wirz, ISBN: 987-1-305-50643-5
 - *HVAC Control Systems*, 4th ed., Auvil, ISBN: 987-0-8269-0779-0

Required Supplies:

- Safety Glasses
- Gloves
- Notebook
- Pencils

Supplemental Materials (to be provided):

- Handouts
- Videos
- PowerPoint Lectures

Note: *Due to COVID-19/Novel Coronavirus concerns, Compton College has implemented remote/alternative learning for lecture courses for the Spring 2022 Semester. Arrangements for courses with lab will vary depending on the subject matter (Consult with your instructor). ACR 121 - CRN 30387 is will not be meeting face-to-face for lecture; instead, lectures will be provided by remote learning via Canvas and Zoom. Please check your compton.edu emails every day for updates from me or the campus.*

Please note that our course content may change to accommodate alternative class instruction i.e., on campus Labs, so it is important to review your syllabus regularly for changes. You will be required to maintain regular COVID-19 testing as required by Compton College to attend on campus Labs. If you have questions or concerns regarding these changes, please contact me at TKler@compton.edu

General compliance with on campus visits for Laboratory:

- For a full and complete up to date Protocols visit the [Entry to Campus Protocol](#)
- Face coverings are required at all times, no exceptions.
- Everyone must have his/her temperature screened when arriving on campus.
- Students must complete an online Daily Wellness Survey via MyCompton within 12 hours of the scheduled arrival time. Example: For a 7:30 a.m. Monday lab – complete the survey between 7:30 p.m. Sunday and 7:29 a.m. Monday.
- COVID testing requirement(s) can be fulfilled by setting an appointment with:
 - Los Angeles County residents: <https://covid19.lacounty.gov/testing/>
 - Orange County residents: <https://occcovid19.ochealthinfo.com/covid-19-testing#wherecanIgettested>
 - Curative: <https://book.curative.com/search#11/33.872/-118.1663>
- Everyone must practice spatial distancing, in addition to the following:
 - Wash hands frequently with soap and water or hand sanitizer.
 - Ensure your mask covers your nose and mouth. Yes, your mask must cover both your nose and mouth – No exceptions.

Compton College Mission Statement:

Compton College is a welcoming environment where the diversity of our students is supported to pursue and attain academic and professional excellence. Compton College promotes solutions to challenges, utilizes the latest techniques for preparing the workforce and provides clear pathways for transfer, completion, and lifelong learning.

Course Description:

This course is designed to introduce students to air conditioning and refrigeration theory and provide an overview of the skills needed for employment in the industry. Soldering and brazing copper to copper and copper to steel with air-acetylene and oxygen-acetylene methods, use of hand tools, electric meters, and test equipment are included.

Course Prerequisites: None

Course Objectives:

This course is designed to introduce students to air conditioning and refrigeration theory and provide an overview of the skills needed for employment in the industry. Topics introduced include safety, air conditioning system operation and components, brazing, electrical applications, service tools, and equipment.

Student Learning Outcomes:

- **Upon completion of the course, students should demonstrate the following skills:**
 - After reading the textbook and participating in class discussions, students will apply their knowledge of appropriate lab practices, concepts, and theories by placing refrigeration manifold gauges on a window air conditioning unit and check for the correct charge based on the type of refrigerant used in the system.
 - After completion of this course students will acquire the skills necessary to successfully braze refrigeration components to meet basic industry standards.
 - After completion of this course students will have the knowledge necessary to perform basic HVACR service in a safe manner.

Assessment Activities:

Assessment activities takes the form of a practical, written, essay and/or presentation format. Practical is assessment of applied skills. Written testing includes multiple choice or fill-in the blank. Presentation activities require team participation. Essays are directed as question requiring a written response. Essays may include discussion topic(s).

Evaluation Criteria:

- Lab Assignments & LMS (HVACRedu.net) – 20%
- Participation/Discussion(s) & Attendance – 20%
- Quizzes – 20%
- Mid-Term – 20%
- Final Exam – 20%

Grading Scale:

- Students will be assessed using written, oral, or practical testing. Grading will be based on the following:
 - Practical: Pass= Satisfactory demonstration, Fail= Unsatisfactory demonstration
 - Written, essay, or oral assessments.
 - Grading scale: A=100-90 B=89-79 C=78-69 D= 68- 59 F= Below 59

Student Requirements:

- Student is required to furnish his/her textbook, Safety Glasses, Gloves, Notebook, and Pencils.
- Student must provide his/her personal protective equipment.
- Students are required to follow all policies outlined in the Compton College Handbook.

Attendance Requirements:

- Students whose absences from a class exceed 10% of the scheduled class meeting time may be dropped from the class. A student who registers for a class and never attends is still responsible for dropping the class. It is the responsibility of the student to officially drop a class by the deadline date. Two tardies equal one absence.

Important Dates to Remember:

Subject	Crse_#	CRN	First_Class_Mtg	Last_Day_Drop	Last_Day_Drop_W
ACR	121	30807	2/14/2022	2/22/2022	3/24/2022

- No show Drops (2/14/2022): You will be dropped from the course if you fail to show on the first day of class is scheduled to meet.
- Drop Data without a “W” (2/22/2022)
- Drop Date with a “W” (3/24/2022)
- If you fail to drop prior to 3/24/2022 you will receive the grade you earned, and this grade will appear on your transcript.

Statement of Student Conduct: (Include College Policy)

- Compton College is dedicated to maintaining an optimal learning environment that thrives upon academic honesty. To uphold the academic integrity of the institution, all members of our academic community, faculty, staff, and students alike, must assume responsibility for providing an educational environment of the highest standards characterized by a spirit of academic honesty. It is the responsibility of all members of the Compton College academic community to behave in a manner which encourages learning, promotes honesty, and acts with fairness toward others. For more information, please refer to your College Catalog or Compton Community College District Board Policy 5500.
- **Students must follow rules of the class. Safety is the priority number one!**
 - Instructor’s expectation of student’s conduct: Conduct at Compton College must conform to the laws of the State of California, District policies, and campus rules and regulations. The College faculty, staff, and administration are dedicated to maintaining a positive learning environment.
 - Policy regarding audio taping of lectures: NOT Allowed, except when prior “special accommodations” are made.
 - Cheating, plagiarism (including plagiarism in a student publication), or engaging in other academic dishonesty shall constitute worthy cause for discipline, including but not limited to the removal, suspension, or expulsion of a student.

Student Resources Available at Compton College:

- Your success is our number one priority at Compton College. College resources to help you succeed include computer labs, tutoring centers, the library, health services, and services for designated groups, such as veterans, formerly incarcerated persons, parent-scholars, homeless persons, former foster youth, and students with disabilities. For a comprehensive list of Academic Resources and Support Programs, please visit <http://www.compton.edu/student-services/support-services/index.aspx>

Food and Housing/Basic Needs:

- Any student who faces challenges securing their food or housing and believes this may affect their performance at Compton College is urged to contact The Tartar Support Network at tartarsupport@compton.edu or (310) 900-1600 ext. 2538 help.
- https://www.compton.edu/student-services/student-equity-program/student-resources.aspx#collapse_d7e167

Special Accommodations:

- Any student who has a disability and/or special needs should alert the instructor by the second week of the semester so that special accommodations can be made. By notifying the instructor you can work together to develop a plan to meet unique accommodations needed for success in the course. Additional resources can be located on the Compton College Website. [Use this link and you](#) can locate additional resources on the Compton College Website or by contacting the Student Resource Center:

**SPECIAL RESOURCE CENTER (SRC)
FIRST FLOOR OF THE VT BUILDING (VT 109)
ADJACENT TO THE CALWORKS OFFICE
PHONE: (310) 900-1600, EXT. 2402**

The Special Resource Center (SRC) is the California Community College Systems Disabled Student Programs and Services (DSPS) Program at Compton College. The SRC is all about equity and making sure any student can reach his or her full potential. The SRC assists students with disabilities, so they have equal access to all educational programs and activities on campus. The SRC provides support services to students with physical disabilities, learning disabilities, psychological disabilities, developmental delay, brain injury, visual impairments, health problems and hearing impairments.

Recording in the Classroom:

- The use of any recording device during class without the prior consent of the instructor is prohibited, except as necessary to provide reasonable auxiliary aids and academic adjustments to students with disabilities who present official documentation from the Special Resource Center to the instructor prior to recording. This is to protect privacy and to create a safe classroom environment where all participants can discuss potentially controversial or sensitive subjects freely. If you want to take a photograph or make an audio or video recording, you must get the prior written permission of the instructor. The instructor also may require the verbal and/or written permission of everyone present. Even if a student gets permission to record, the recordings are only for personal use and may not be distributed, posted, published, or shared in any manner. A student who records without instructor permission or distributes any recordings is subject to disciplinary action in accordance with Compton Community College District Administrative Procedure 5520: Standards Discipline Procedures.

Undocumented Students:

- Compton College is committed to supporting the success of all students. If you identify as undocumented, AB540, and/or a DACA student, we have many support services and staff on hand to help. Please visit <http://www.compton.edu/student-services/financialaid/ab540/> for more information

Financial Aid, Scholarships, & Pell Grants:

- Struggling to pay for tuition, books, or other costs associated with going to college? If so, Compton College has financial aid, scholarships, and other financial assistance solutions to help pay the bills so you can focus on class. For more information about how to maximize your financial aid and scholarship opportunities, please make an appointment with a financial aid counselor at 310-900-1600, ext. 2935, or visit Financial Aid online at

Mandatory Reporting: Child Abuse, Gender-Based, or Sexual Misconduct:

- Your safety is important to me. Please know that that if you reveal child abuse, child neglect, or gender-based or sexual misconduct (including harassment, sexual assault, stalking or intimate partner violence) to me or any instructor, we are required by law to report the problem to the Compton College Police Department. However, psychologists are not required to report your incident. To speak confidentially with a psychologist, please contact St. John's Health Center for a free appointment: (213) 226-7480. You can also visit <http://www.compton.edu/student-services/healthcenter/> for scheduling information.

Disclaimer Statement:

- Students will be notified ahead of time when and if any changes are made to course requirements or policies. Instructor reserves the right to offer or not offer make-up assignments on case-by-case scenario. DO NOT expect or anticipate instructor to provide make-up assignments for assignments that were not completed prior to the due date.

Semester schedule of topics and assignments: ASSIGNMENTS SUBJECT TO CHANGE

- Assignments may include, but not limited to the following:
 - *Safety Test*
 - *Discussions and/or participation*
 - *Textbook readings (quizzes and exams may follow textbook reading assignments)*
 - *Lab: Work with and understand course topic generally from lectures or other assignments*
 - *LMS – HVACRedu.net*
 - *Midterm (from lectures & labs, and any assigned chapter readings up to midterm date)*
 - *Final (from lectures & labs, and any assigned chapter readings inclusively)*

AC Tool Kit
(This is not required)

1. Slip-Joint Pliers
2. Crescent Wrench
3. Flaring Tools and Block
4. Digital Multimeter with Clamp on Ammeter (DMM)
5. Small Tubing Cutter
6. Large Tubing Cutter
7. 6 in 1 Screwdriver
8. ¼” Nut Driver
9. 5/16” Nut Driver
10. 8” Adjustable Pliers (Channel-locks)
11. Wire Stripper (2)
12. Pocket Digital Thermometer
13. Refrigeration Service Wrench
14. Bottle of Gas Leak Detector (soap bubbles)
15. Schrader core remover
16. Lineman’s Pliers
17. Wire Crimpers/Cutters
18. Open End and Box Wrench Set
19. Socket Set
20. Refrigeration Manifold Gauge Set with Hoses
21. Allen Wrench Set





Course Information

Course Information

Course Discipline: ACR

Course Division: Business and Industrial Studies

Course Number: 121

Full Course Title: Air Conditioning Fundamentals

Short Title: Air Cond Fundmntls

TOP Code: 0946.00 - Environmental Control Technology*

SAM Code: D - Possibly Occupational

Credit Status D - Credit - Degree Applicable

Transfer Status B - Transferable to CSU only.

Effective Term: Fall 2020

Board of Trustees Approval Date:

2020-09-08

Course Description

This course is designed to introduce students to air conditioning and refrigeration theory and provide an overview of the basic skills needed for employment within the HVACR industry. Topics introduced include safety, air conditioning system operation and components, brazing, electrical applications, service tools and equipment.

Course Standards

Lecture Hours:

54.000

Activity Hours:

0.000

Lab Hours:

54.000

Outside-of-Class Hours:

108.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

Lecture Hours:

54.000

Activity Hours:

0.000

Lab Hours:

54.000

Outside-of-Class Hours:

108.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

Min/Max Units:

4.000

Total Hours:

108.000

Grading Method:

Letter grade only

Course Content

1. **Lecture**

Outline

AIR CONDITIONING AND REFRIGERATION OVERVIEW

Shop orientation

Safety and tools

Employment opportunities

Approximate Time In Hours

6.00

2. **Lab**

Outline

SILVER BRAZING

Safety test and practices

Nomenclature

Cylinders and regulators

Torch and attachments

Approximate Time In Hours

15.00

3. **Lecture**

Outline

AIR CONDITIONING THEORY

Components and functions

Refrigeration cycle

Approximate Time In Hours

12.00

4. **Lecture**

Outline

ELECTRICAL FUNDAMENTALS

Alternate and direct current theory

Source, path, and load

Units of electricity

Basic electrical laws and codes

Basic safety procedures

Proper use and care of volt, ohm, ammeters

Hermetic compressor efficiency analyzer

Approximate Time In Hours

9.00

5. **Lab**

Outline

ELECTRICAL METER FUNDAMENTALS

Proper use and care of volt, ohm, ammeters

Hermetic compressor efficiency analyzer meter

Approximate Time In Hours

10.50

6. **Lab**

Outline

ELECTRICAL FUNDAMENTALS

Alternate and direct current theory

Source, path, and load

Units of electricity

Basic electrical laws and codes

Basic safety procedures

Proper use and care of volt, ohm, ammeters

Hermetic compressor efficiency analyzer

Approximate Time In Hours

10.50

7. **Lecture**

Outline

MOTORS AND CONTROLS

Types of motors

Compressor motor terminals

Relays, capacitors, overloads, contactors short, open and ground'

Air conditioning wiring diagrams

Necessary component replacement

Refrigerator check for recovery, pressure test

Evacuate and charge

Approximate Time In Hours

15.00

8. **Lab**

Outline

MOTORS AND CONTROLS

Types of motors

Compressor motor terminals

Relays, capacitors, overloads, contactors short, open and ground

Air conditioning wiring diagrams

Necessary component replacement

Refrigerator check for recovery, pressure test

Evacuate and charge

Approximate Time In Hours

18.00

9. **Lecture**

Outline

TYPES OF PRESSURE CONTROLS AND SAFETY CUT-OUTS

High pressure control

Low pressure control

Approximate Time In Hours

12.00

Course Objectives

Upon successful completion of the course, the student will demonstrate the ability to:

1. **Lecture**

Complete a safety test with 100% accuracy.

2. **Lecture**

Define air conditioning and methods of achieving it.

3. **Lecture**

Compare and contrast refrigeration and air conditioning.

4. **Lecture**

Diagnose operating and safety controls and switches.

5. **Lecture**

Interpret and apply schematic wiring diagrams for air conditioning applications.

6. **Lab**

Measure and relate units of electricity.

7. **Lab**

Perform and log refrigeration system operations.

8. **Lab**

Create piping project diagram that demonstrates the students brazing, bending, flaring, and swaging skills.

9. **Lecture**

Demonstrate knowledge of system refrigeration components and refrigerant flow.

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1. After reading the textbook and participating in class discussions, students will apply their knowledge of appropriate lab practices, concepts and theories placing refrigeration manifold gauges on a window air conditioning unit and check for correct charge of an operating system based on the type of refrigerant used in the system.
2. After completion of this course, students will acquire the skills necessary to successfully braze refrigeration components to meet basic industry standards.
3. After completion of this course, students will have the knowledge necessary to perform basic HVACR service in a safe manner.

Methods of Instruction

- **Demonstration**

Instructor, student, or third party demonstrations may be used to instruct and assist in the overall learning of the topic instructed through practical hands on applications.

Example of a demonstration may include, but not limited to: Attaching manifold gauges in a safe manner to measure system pressures and temperatures on an operating air condition system.

- **Discussion**

Class discussions are encouraged for course participation, and help others learn and grow from different perspectives.

Example of a discussion(s) may include, but not limited to the following: Asking the class a question to describe their own version of the refrigeration cycle in detail.

- **Field trips**

May include, but not limited to possible visit(s) to HVACR supply parts warehouse to become familiar with ordering parts, and everyday operation(s) that may apply to the course instruction.

- **Group Activities**

Group activities may be used to encourage team building and participation between classmates.

Examples of group activities may include, but not limited to: teams of students working together in refrigerant recovery, evacuation, and refrigerant charging of a air conditioning system.

- **Guest Speakers**

Guest speakers may be welcomed on occasion to provide information to students that can assist in their learning.

Guest speakers may include, but not limited to: Contractors looking to hire potential students, or Technicians or Contractors sharing their expertise, and knowledge.

- **Internet Presentation/Resources**

Class may utilize outside online material similar to HVAC Excellence: HVACRedu.net online learning, or third party online simulators for typical HVACR controls and equipment to help assist in the students overall learning of HVACR systems.

- **Laboratory**

Laboratory assignments help with overall learning from lectures, and will assist in the student demonstrating competencies for the topic(s) instructed.

Examples of laboratory assignments are to demonstrate competency of: Attaching manifold gauges in a safe manner to measure system pressures and temperatures on an operating air condition system.

- **Lecture**

Using the assigned textbook readings, handouts, illustrations, PPT, videos, and other useful materials -- Lectures on any given topic may utilize any or all of the above resources to deliver an understanding of the delivered topic in lecture format.

Example of a lecture topic is laws of thermodynamics. Utilizing handouts and illustrations during lecturing will help the student visualize and understand laws of thermodynamics.

- **Multimedia presentations**

Using: PPT, videos, and other multimedia or interactive materials -- Lectures on any given topic may utilize any or all of the above resources to deliver an understanding of the delivered topic in lecture format.

Example of use of multimedia presentation might be using a Power Point Presentation (PPT) to

illustrate the topic of laws of thermodynamics. Utilizing Power Points and videos while lecturing will help the student visualize and understand laws of thermodynamics.

Methods of Evaluation

- Skills demonstrations
- Exams/Quizzes

If you selected "Other", please provide details.

Exam(s), Quiz(zes), and/or Competency Demonstration(s)

Typical Assignments

Some assignments require critical thinking:

Troubleshoot a faulty package air conditioning unit. Diagnose the faulty components and specify the proper steps to troubleshoot each electrical component needed for repairing the system. Report troubleshooting findings of the air conditioning unit in a written one-page data log report and submit to the instructor.

Select the correct Heating, Ventilation and Air Conditioning (HVAC) components for a package air conditioning unit and assemble them on the electrical board in accordance with the electrical schematic provided. Wire in the system for proper operation of an air conditioning package unit. Submit the completed electrical board to the instructor.

Reading Assignments:

Chapter readings may be assigned from course textbook. Exam/Quizzes may follow to evaluate comprehension from textbook readings assigned.

Writing Assignments:

Other Assignments:

Recover any refrigerant that may be in the system in a package air conditioner assigned to you. Evacuate the system to 500 microns and charge with electronic charging scale. Charge the system to the correct operating range. Report gauge manifold pressure and temperature readings on a two-page written data log report and submit to the instructor.

Course Materials

1. **Author:** Andrew Althouse, Carl Turnquist, A.F. Bracciano, D. C. Bracciano and G. M. Bracciano

Title: Modern Refrigeration and Air Conditioning Workbook

Edition: 20th

Publisher: Goodheart Willcox Publisher

ISBN-13: 978-1631263552

Year: 2017

Rationale for older textbook:

Or Equivalent: No

2. **Author:** Ronnie J. Auvil
Title: HVAC Control Systems
Edition: 4th
Publisher: American Technical Publishers, Inc.
ISBN-13: 978-0-8269-0779-0
Year: 2017
Rationale for older textbook:
Or Equivalent: No

3. **Author:** Amdrew Althouse, Carl Turnquist, A.F. Bracciano, D. C. Bracciano and G. M. Bracciano
Title: Modern Refrigeration and Air Conditioning
Edition: 20th
Publisher: Goodheart Willcox Publisher
ISBN-13: 978-1-63126-354-5
Year: 2017
Rationale for older textbook:
Or Equivalent: No

Software

1. **Title:** HVACRedu.net
Edition/Version: Website Login
Publisher/Manufacturer: <https://hvacredu.net/>
Description:

1. **Other:**
Gloves
Safety glasses
Workbook

Minimum Qualification

1. Air Conditioning, Refrigeration, Heating
Condition

SPRING SYLLABUS 2022

Beginning Automotive Painting 150

Instructor: Cameron Ferre

Section Number: 30909

Credits CEUs: 4

Academic Level: UG Undergraduate

Lecture Meeting Day & time: Tuesday, and Thurs 5:00-6:05pm

Location: Applied Technology Room 187

- Lab Meeting Days & times: Tuesday-Thursday 6:30-10:05pm

Location: Applied Technology Lab190

Instructor's phone Number: (310) 900-1600 X. 2630

E-Mail: cferre@compton.edu

Description: This course provides instruction in personal safety, environmental laws, introduction to surface preparation, mixing ratios, spray booth use, spray gun adjustment, use and cleaning, priming and painting vehicle parts and panels, and color sanding and buffing. This course contains Inter-Industry Conference on Auto Collision Repair (I-CAR) Professional Development Program curriculum.

Objectives:

ACRP 150 Beginning Automotive Painting

I: SLO #1 VOC Tracking

Students will be able to monitor the type and amount of liquid material used for a job and record the data in the VOC (volatile organic compound) tracking log book.

2: SLO #2 Spray Gun Adjustment & Cleaning

Students will be able to thoroughly tear down a paint spray gun, clean all parts and surfaces using environmentally correct techniques and chemicals, and reassemble.

3: SLO #3 Mix & Spray Primer

Students will be able to mix and spray a given quantity of primer using the correct ratio and a locally compliant Primer gun.

WORK ORDERS

Work orders MUST be on the dash of your car whenever it is in the lab complex. Vehicles without work orders must be removed and may be ticketed by campus police.

OVERNIGHT PARKING & CAR COVERS

There is NO overnight storage of vehicles without instructor permission. Vehicles granted overnight parking must leave keys to the vehicle in the instructor's office and may only use car covers when parked outside. Covers are NOT allowed on cars parked inside.

COMPENSATION

Students are NOT allowed to receive financial compensation for work performed during class. For your safety, DO NOT agree to work on someone else's car for money. Customer jobs are to be routed through the instructor and liability forms must be signed by vehicle owner. Thankful vehicle owner donations of tools or materials will be routed to the correct student(s).

PROGRESS

Any vehicle not worked on for 3 class days (whether consecutive or not) will lose lab entry privileges. Cars parked outside, must have a parking permit, work order and follow the same rules or can be towed. No disassembled car parts are to remain in the lab. They must be stored outside. No mechanical work is to be done unless approved by the instructor. ALL AREAS ARE TO BE SWEEPED AND MOPPED AT THE END OF EVERY CLASS.

ATTENDANCE & PARTICIPATION

This class consists of two parts: a lecture session and a lab session. Participation in both is mandatory and attendance will be taken.

LECTURE ATTENDANCE (10 points)

No more than 4 absences are allowed. You will forfeit points and may be DROPPED from class if you exceed 4 lecture absences. You will be considered late if you are not present when roll is called.

LAB ATTENDANCE (10 points)

No more than 8 absences are allowed. You will forfeit points and may be DROPPED from class if you exceed 8 lab absences.

PARTICIPATION (50 points)

There is more to participation than just showing up

REQUIRED TEXTBOOK

Auto Body Repair Technology By: James E. Duffy

REQUIRED EQUIPMENT

Safety glasses, Dust mask,

Respirator, Pencil, Notebook

- A. Lab Assignments-Attendance 60%
- B. Mid-term- 20%
- C. Final Exam- 20%

Grading Scale:

90-100%=A

80-89 % = B

70-79 % = C

60-69 % = D

59% and below= F

WEEK	Topic
1	Safety test, enrollment, intro to lab area, lab rules, review syllabus
2	Personal Safety
3	Surface preparations, cleaners etc.
4	Mixing Ratios
5	Spay gun adjustment and cleaning
6	Feather edge and blocking
7	Primers and undercoats
8	Masking
9	Paints and topcoats
10	Mid terms
11	Spring Break
12	Color sand and buff

- 13 Environmental laws
- 14 Projects
- 15 Projects
- 16 Clean Up and Final



Course Information

Course Information

Course Discipline: ACRP

Course Division: Business and Industrial Studies

Course Number: 150

Full Course Title: Beginning Automotive Painting I

Short Title: Beg: Automotive Painting I

TOP Code: 0949.00 - Automotive Collision Repair*

SAM Code: C - Clearly Occupational

Credit Status D - Credit - Degree Applicable

Transfer Status B - Transferable to CSU only.

Effective Term: Spring

Year: 2022

Board of Trustees Approval Date:

2021-10-19

Course Description

This course provides instruction in personal safety, environmental laws, introduction to surface preparation, mixing ratios, spray booth use, spray gun adjustment, use and cleaning, priming and painting vehicle parts and panels, and color sanding and buffing. This course contains Inter-Industry Conference on Auto Collision Repair (I-CAR) Professional Development Program curriculum.

Course Standards

Lecture Hours:

36.000

Activity Hours:

0.000

Lab Hours:

126.000

Outside-of-Class Hours:

72.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

Lecture Hours:

36.000

Activity Hours:

0.000

Lab Hours:

126.000

Outside-of-Class Hours:

72.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

Min/Max Units:

4.000

Total Hours:

162.000

Grading Method:

Letter grade only

Course Requirements

Course Content

1. **Lecture**

Outline

PERSONAL SAFETY AND SAFE LAB PRACTICES

Shop tour

General safety practices and personal safety equipment

[National Automotive Technicians Education Foundation (NATEF) Painting and Refinishing tasks: Section A, numbers 1-6]

Approximate Time In Hours

4.00

2. **Lecture**

Outline

ENVIRONMENTAL LAWS

Watchdog agencies: Environmental Protection Agency (EPA), Occupational Health and Safety Administration (OSHA), South Coast Air Quality Management District (SCAQMD)

Local Rule 1151 (Southern California)

VOC tracking and recordkeeping

Permits and disposal of toxic paint waste

Approximate Time In Hours

4.00

3. **Lab**

Outline

ENVIRONMENTAL LAWS

Watchdog agencies: EPA, OSHA, SCAQMD

Local Rule 1151 (Southern California)

VOC tracking and recordkeeping

Permits and disposal of toxic paint waste

Approximate Time In Hours

14.00

4. **Lecture**

Outline

SURFACE PREPARATION AND MASKING

Safety practices

Tools and abrasives

Preparing a repaired panel for primer

Preparing a scratched/chipped panel for primer

Preparing an undamaged painted panel for refinishing

Masking materials and techniques

Masking for primer

Masking jambs and exterior surfaces for painting

(NATEF Painting and Refinishing tasks: Section B, numbers 1-9, 11-17)

Approximate Time In Hours

8.00

5. **Lab**

Outline

SURFACE PREPARATION AND MASKING

Safety practices

Tools and abrasives

Preparing a repaired panel for primer

Preparing a scratched/chipped panel for primer

Preparing an undamaged painted panel for refinishing

Masking materials and techniques

Masking for primer

Masking jambs and exterior surfaces for painting

(NATEF Painting and Refinishing tasks: Section B, numbers 1-9, 11-17)

Approximate Time In Hours

28.00

6. **Lecture**

Outline

SPRAY GUNS AND MATERIALS

Safety practices

Spray gun types (gravity feed, siphon feed, pressure pot), parts and adjustment

Spray gun use - distance, spray technique, overlap, cleaning

Basic refinishing chemical types and uses including: primer, sealer, adhesion promoter, basecoat and clearcoat

(NATEF Painting and Refinishing tasks: Section C, numbers 1-4)

Approximate Time In Hours

8.00

7. **Lab**

Outline

SPRAY GUNS AND MATERIALS

Safety practices

Spray gun types (gravity feed, siphon feed, pressure pot), parts and adjustment

Spray gun use - distance, spray technique, overlap, cleaning

Basic refinishing chemical types and uses including: primer, sealer, adhesion promoter, basecoat and clearcoat

(NATEF Painting and Refinishing tasks: Section C, numbers 1-4)

Approximate Time In Hours

28.00

8. **Lab**

Outline

SPRAY BOOTH USE AND CHEMICAL MIXING

Safety practices

Chemical additives (hardener, reducer) and mixing ratios

Using printed ratio mixing cups and sticks, calculating amount of mixed chemical needed

Spray booth types, controls and use

Spray booth maintenance, etiquette and housekeeping

Positioning parts and stands for efficient spraying

(NATEF Painting and Refinishing tasks: Section D, number 12)

Approximate Time In Hours

28.00

9. **Lecture**

Outline

SPRAY BOOTH USE AND CHEMICAL MIXING

Safety practices

Chemical additives (hardener, reducer) and mixing ratios

Using printed ratio mixing cups and sticks, calculating amount of mixed chemical needed

Spray booth types, controls and use

Spray booth maintenance, etiquette and housekeeping

Positioning parts and stands for efficient spraying

(NATEF Painting and Refinishing tasks: Section D, number 12)

Approximate Time In Hours

8.00

10. Lecture

Outline

COLOR SAND AND BUFF

Safety practices

Looking at paint imperfections, correctable/not correctable by buffing

De-nibbing vs. color sanding, abrasives, techniques

Equipment types and use including micro denibbing tool, 2" Dual Action(DA) sander, 6" DA sander, buffer and orbital polisher

Buffing with wool pad and compound

Polishing with foam pad and polish

Customer service: cleaning/removing traces of buffing procedure

(NATEF Painting and Refinishing tasks: Section F, numbers 1-6)

Approximate Time In Hours

4.00

11. Lab

Outline

COLOR SAND AND BUFF

Safety practices

Looking at paint imperfections, correctable/not correctable by buffing

De-nibbing vs. color sanding, abrasives, techniques

Equipment types and use including micro denibbing tool, 2" DA sander, 6" DA sander, buffer and orbital polisher

Buffing with wool pad and compound

Polishing with foam pad and polish

Customer service: cleaning/removing traces of buffing procedure

(NATEF Painting and Refinishing tasks: Section F, numbers 1-6)

Approximate Time In Hours

28.00

General Education

Course Objectives

Upon successful completion of the course, the student will demonstrate the ability to:

1. Lecture

Objective

Complete a comprehensive automotive collision repair/painting safety test with 100% accuracy.

Requires Critical Thinking Yes

2. Lecture

Objective

Track Volatile Organic Compound (VOC) data, be aware of and obey federal, state and local environmental laws

Requires Critical Thinking Yes

3. **Lab**

Objective

Prepare various surfaces for refinishing including filler repairs, scratches and chips, primer and previously painted surfaces.

Requires Critical Thinking Yes

4. **Lab**

Objective

Mask a vehicle for primer, for jamb painting, and for exterior painting. Mask an area for spot refinishing.

Requires Critical Thinking Yes

5. **Lab**

Objective

Locate and identify the parts of a high volume, low pressure (HVLP) gravity feed spray gun. Adjust, properly use and clean the gun.

Requires Critical Thinking Yes

6. **Lab**

Objective

Correctly mix primer, sealer, paint and clear using each chemical's product information sheet (P-sheet) and mixing ratio. Explain how a catalyst/hardener affects the mixture and the difference between a reducer and a thinner.

Requires Critical Thinking Yes

7. **Lab**

Objective

De-nib and/or color sand a refinished vehicle panel, buff and polish the panel using the correct pads and compounds.

Requires Critical Thinking Yes

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1. SLO #1 VOC Tracking Students will be able to monitor the type and amount of liquid material used for a job and record the data in the VOC (volatile organic compound) tracking log book.
2. SLO #2 Spray Gun Adjustment & Cleaning Students will be able to thoroughly tear down a paint spray gun, clean all parts and surfaces using environmentally correct techniques and chemicals, and reassemble.
3. SLO #3 Mix & Spray Primer Students will be able to mix and spray a given quantity of primer using the correct ratio and a locally compliant primer gun.

Methods of Instruction

- **Demonstration**

Demonstrations are given by the instructor.

- **Discussion**

Instructor and students discuss the task at hand.

- **Guest Speakers**

Vendors introduce new tools and methods of repair.

- **Laboratory**

Student after instruction from the instructor, are asked to carry out the same task.

- **Lecture**

Lecture are given by the instructor covering course content.

Methods of Evaluation

- Substantial writing assignments
- Problem solving demonstrations (computational or non-computational)
- Skills demonstrations
- Exams/Quizzes

If you selected "Other", please provide details.

Typical Assignments

Some assignments require critical thinking:

Mask a vehicle's door jamb for exterior paint using the most financially and temporally economic method. Take into consideration the result of overspray in the door jamb and mask to prevent or conceal it.

For an added challenge, this activity can be a timed race and students will be disqualified for unacceptable masking.

Calculate the total VOC produced during all stages of a vehicle repair. Consider primer, sealer, adhesion promoter, in-booth cleaning chemicals, basecoat and clearcoat. Record the data and total on a VOC form.

Reading Assignments:

Weekly Chapters

Writing Assignments:

Chapter Reviews

Other Assignments:

Mix a quantity of primer using the correct mixing ratio. Set up and adjust a primer spray gun, and spray the primer using the correct spray pattern overlap, distance and triggering. Properly clean the spray gun after use.

Course Materials

Author:	Title:	Edition:	Publisher:	ISBN-13:	Year:	Rationale for older textbook:	Or Equivalent:
Michael Crandell	Auto Collision Repair and Refinishing	2nd	The Goodheart-Willcox Company, Inc.		2017		Or Equivalent: No

Course Manual

Author:	Title:	Edition:	ISBN-13:	Publisher:	Year:	Rationale for older manual:
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Software

Title:	Edition/Version:	Publisher/Manufacturer:	Description:
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Other:
Safety glasses Ear plugs/hearing protection Dust mask Paint respirator Rubber gloves

Minimum Qualification

1. Auto Body Technology
Condition

Spring 2022
Automotive Technology 128
Compton College

Syllabus

Course Title:	Automotive Technology 128,
CRN:	30907
Lecture Meeting Days:	TTH
Lecture Times:	5:00pm –6:25pm
Meeting Room:	VT208
Lab Meeting Days:	TTH
Lab Times:	6:35pm –8:00pm
Meeting Room:	VT 203
Instructor Information:	(310) 900-1600 Ext. 2226
Instructor's Office Location:	VT 195A
Office Hours:	MW 7:30am to 8:00am, TTh 7:30am-8:00am, 11:00am to 11:30 am, 4:30pm-5:00pm, 8:00pm-8:30pm
E-Mail:	gnarusawa@compton.edu

Compton College's Mission Statement:

Compton College is a welcoming environment where the diversity of our students is supported to pursue and attain academic and professional excellence. Compton College promotes solutions to challenges, utilizes the latest techniques for preparing the workforce and provides clear pathways for transfer, completion and lifelong learning.

I. Required Text and Materials:

Electude Online Learning: <https://www.bkstr.com/comptonstore/course-materials-results?shopBy=course&divisionDisplayName=&departmentDisplayName=ATEC&courseDisplayName=128§ionDisplayName=30907&programId=4747&termId=100073084>

Other Required Materials:

- 3-ring binder, notebook and paper
- Pen and pencil
- Safety glasses
- Shop safe clothing
- Laptop Computer (Loaners available from school)
- Digital Multimeter

II. Course Description:

This course covers the study of advanced automotive testing and diagnostic procedures of modern computer-controlled engine management systems including ignition, fuel trim, electrical and electronic systems, On Board Diagnostics generation 2 (OBD 2) computer control systems and related network multiplexing and communications. Electronic body control operations, networking and diagnostics are also explored. Laboratory activities stress the proper use of modern diagnostic equipment utilized in the automotive field.

Note: The two-course sequence Automotive Technology 125 and 128 is the same as ATEC 127.

III. Prerequisite Courses

A total of 8 units with a minimum grade of C is required from the following courses:
Automotive Technology 122, 123, 124, 125 or equivalent

IV. Course Objectives:

Upon successful completion of the course, the student will understand the construction and operation of the automotive computer and electrical systems. This includes automotive electrical components, circuits, computers and computer-controlled components, and electrical testers and meters.

V. Student Learning Outcomes:

1. Given an in class exam, based on readings, classroom discussions and demonstrations , the student will be able to work in the Automotive Shop safely and pass the Automotive Safety Exam with 100% accuracy
2. The student will be able to test the performance of the automotive computer-ontrolled system using the Automotive Powertrain Control Module Data lab worksheet and manufacturer specifications.
3. The student will test and evaluate engine condition and performance using an Engine Analyzer / Scanner lab worksheet to manufacturer specifications.

VI. Evaluation Activities:

- a. Lab Work/Class Participation
- b. Midterm Project
- c. Final Exam

VII. Evaluation Criteria:

- a. 50% Class Participation (Classroom discussions and Lab participation)
- b. 25% Midterm Project
- c. 25% Final Exam

VIII. Grading Scale:

- 90 – 100% = A
- 89 – 80 % = B
- 79 – 70 % = C
- 69 – 60 % = D
- 59 and below = F

IX. Attendance Requirements:

Students are expected to attend their classes regularly. Students who miss the first class meeting or who are not in regular attendance during the add period for the class may be dropped by the instructor.

Students are expected to be on-time to classes. Three tardies (15 minutes late from start time of class) will be counted as an absence. Students whose absences from a class exceed 10 percent of the scheduled class meeting time **may** be dropped by the instructor. However, students are responsible for dropping a class within the deadlines published in the class schedule. Students who stop attending but do not drop may receive a failing grade. Students may view their registration status on MyCompton.

X. Student Resources Available at Compton College

Your success is our number one priority at Compton College. College resources to help you succeed include computer labs, tutoring centers, the library, health services, and services for designated groups, such as veterans, formerly incarcerated persons, parent-scholars, homeless persons, former foster youth, and students with disabilities. For a comprehensive list of Academic Resources and Support Programs, please visit <http://www.compton.edu/student-services/support-services/index.aspx>

XI. Food and Housing/Basic Needs

Any student who faces challenges securing their food or housing and believes this may affect their performance at Compton College is urged to contact The Tartar Support Network at tartarsupport@compton.edu or (310) 900-1600 ext. 2538 help.

XII. Undocumented Students

Compton College is committed to supporting the success of all students. If you identify as undocumented, AB540, and/or a DACA student, we have many support services and staff on hand to help. Please visit <http://www.compton.edu/student-services/financialaid/ab540/> for more information.

XIII. Financial Aid, Scholarships, & Pell Grants

Struggling to pay for tuition, books, or other costs associated with going to college? If so, Compton College has financial aid, scholarships, and other financial assistance solutions to help pay the bills so you can focus on class. For more information about how to maximize your financial aid and scholarship opportunities, please make an appointment with a financial aid counselor at 310-900-1600, ext. 2935, or visit Financial Aid online at <http://www.compton.edu/student-services/financialaid/>.

XIV. Statement of Student Conduct:

A. Instructor Expectation of Student Conduct:

It is the responsibility of each student to conduct him/herself in a manner which encourages learning, promotes safety, and fosters respect towards others in the classroom. Students are expected to follow all rules and regulations set by Compton College.

B. Late/Missed assignment policy:

Quizzes, tests, and assignments missed due to unexcused absences may not be made-up unless prior arrangements are made with the instructor. Students with verified excused absences will be allowed to make-up classwork/tests. All missed assignments, tests, or quizzes must be made-up upon the first day the student returns unless a postponement is authorized by the instructor.

C. Academic Honesty:

Compton College places a high value on the integrity of its student scholars. Therefore, the Compton College policy on academic dishonesty will be strictly enforced. Academic dishonesty encompasses both cheating and plagiarism. Cheating includes obtaining, attempting to obtain, or assisting to obtain academic credit for work by the use of any dishonest, deceptive, or fraudulent means. Plagiarism involves submitting the works of others as your own and includes improper source citation, no source citation, using materials prepared by another student, and using fictitious sources. The penalties for academic dishonesty range from receiving an "F" on the assignment or exam to receiving an "F" in the course and may be reported to the appropriate campus authorities.

D. Recording in the Classroom:

The use of any recording device during class without the prior consent of the instructor is prohibited, except as necessary to provide reasonable auxiliary aids and academic adjustments to students with disabilities who present official documentation from the Special Resource Center to the instructor prior to recording. This is to protect privacy and to create a safe classroom environment where all participants can discuss potentially controversial or sensitive subjects freely. If you want to take a photograph or make an audio or video recording, you must get the prior written permission of the instructor. The instructor also may require the verbal and/or written permission of everyone present. Even if a student gets permission to record, the recordings are only for personal use and may not be distributed, posted, published, or shared in any manner. A student who records without instructor permission or distributes any recordings is subject to disciplinary action in accordance with Compton Community College District Administrative Procedure 5520: Standards Discipline Procedures.

E. Policy regarding the use of machinery or tools with safety regulations:

1. Students must complete a safety test with 100% accuracy and abide by all department rules and regulations.
2. Students may not operate any equipment without proper training and supervision by their instructor.
3. Students are not allowed to perform any unassigned work in the shop without proper authorization by their instructor.

XV. Special Accommodations Statement:

If you believe you may need accommodations in this class now or at any point in the semester, please go to the Special Resource Center (SRC) or call 310-900-1600, ext. 2402 for an appointment. For more information visit about the Special Resource Center and the services they provide, please visit

<http://www.compton.edu/student-services/support-services/special-resource-center/> .

XVI. Mandatory Reporting:

Child Abuse, Gender-Based, or Sexual Misconduct

Your safety is important to me. Please know that that if you reveal child abuse, child neglect, or gender-based or sexual misconduct (including harassment, sexual assault, stalking or intimate partner violence) to me or any instructor, we are required by law to report the problem to the Compton College Police Department. However, psychologists are not required to report your incident. To speak confidentially with a psychologist, please contact St. John's Health Center for a free appointment: (213) 226-7480. You can also visit

<http://www.compton.edu/student-services/health-center/> for scheduling information.

XVII. Disclaimer Statement:

Students will be notified ahead of time when and if any changes are made to course requirements or policies.

XVIII. Semester Schedule of Topics and Assignments:

Course Content and Schedule

WEEK

ASSIGNMENT

-
- | | |
|---|-----------------------------------|
| 1. Orientation – Safety and accident preventions | |
| 2. Electrical Theory/Electrical Measurement (Review) | Power Point Lecture |
| 3. Wiring Schematics and Circuit Testing | Power Point Lecture |
| 4. Wiring Schematics and Circuit Testing (Cont.) | |
| 5. Oscilloscopes and Graphing Meters | Power Point Lecture |
| 6. Series and Parallel Circuits | Power Point Lecture |
| 7. OBD Diagnosis | Power Point Lecture |
| 8. Fuel Trim Diagnosis | Power Point Lecture |
| 9. Engine and Misfire Diagnosis | Power Point Lecture |
| 10. Fuel Injection System Diagnosis Power Point Lecture | Power Point Lecture |
| 11. Electrical Accessories | Electude: Electrical Accessories |
| 12. Electronic Components | Electude: Electronic Components |
| 13. Electronic Components (Cont.) | |
| 14. Control Area Network | Electude: Controller Area Network |
| 15. Controller Area Network (Cont.) | |
| 16. Final Exam | |



Course Information

Course Information

Course Discipline: ATEC

Course Division: Business and Industrial Studies

Course Number: 128

Full Course Title: Automotive Testing and Diagnosis

Short Title: Auto Testing/Diagnosis

TOP Code: 0948.00 - Automotive Technology*

SAM Code: C - Clearly Occupational

Credit Status D - Credit - Degree Applicable

Transfer Status B - Transferable to CSU only.

Effective Term: Fall 2022

Board of Trustees Approval Date:

2022-05-16

Course Description

This course covers the study of advanced automotive testing and diagnostic procedures of modern computer controlled engine management systems including ignition, fuel trim, electrical and electronic systems, On Board Diagnostics generation 2 (OBD 2) computer control systems and related network multiplexing and communications. Electronic body control operations, networking and diagnostics are also explored. Laboratory activities stress the proper use of modern diagnostic equipment utilized in the automotive field.

Note: The two course sequence Automotive Technology 125 and 128 is the same as Automotive Technology 127.

Course Standards

Lecture Hours:

54.000

Activity Hours:

0.000

Lab Hours:

54.000

Outside-of-Class Hours:

108.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

Lecture Hours:

54.000

Activity Hours:

0.000

Lab Hours:

54.000

Outside-of-Class Hours:

108.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

Min/Max Units:

4.000

Total Hours:

108.000

Grading Method:

Letter grade only

Course Requirements

1. **Other**

Non Course Requirements

A total of 8 units from the following courses:

2. **Prerequisite**

Subject ATEC - Automotive Technology

Requisite Course ATEC 123 - Engine Performance, Electrical and Fuel Systems (Active)4.000 - 4.000

3. **Prerequisite**

Subject ATEC - Automotive Technology

Requisite Course ATEC 124 - Computer Controlled Engine Management, Fuel Systems and Emissions (Active)4.000 - 4.000

4. **Prerequisite**

Subject ATEC - Automotive Technology

Requisite Course ATEC 125 - Automotive Electrical Systems (Active)4.000 - 4.000

5. **Other**

Non Course Requirements

equivalent

Course Content

1. **Lecture**

Outline

Course Overview and Safety

Personal Protective Equipment (PPE)

Shop and environmental hazards

Commonly used shop chemicals

Material Safety Data Sheets (MSDS)

Tool and shop equipment hazards

Proper hand/power tool and shop equipment identification and usage

Vehicle hoist operation

Service information accessing procedures

Published repair procedures and specifications

Repair orders

Proper procedures and legal guidelines

CA Department of Consumer Affairs, Bureau of Automotive Repair (BAR) - "Write It Right"

Purpose and workflow process

Technician training and certifications

Approximate Time In Hours

1.50

2. **Lab**

Outline

Tools and Safety

PPE usage

Shop safety rules demonstration

Proper hand tool identification and usage

Shop equipment identification and usage

Safe work area maintenance

In-shop vehicle handling

Proper in-shop engine emissions venting

Safe vehicle hoisting

Clean up procedures

Automotive Service Excellence (ASE) technician certification process A-1 through A-8 lab sheet

Properly complete vehicle repair work order.

Approximate Time In Hours

1.50

3. Lecture**Outline**

Electrical Theory Review

Ohm's Law

Definition, formulas and application

Watts Law

Series circuits

Ohm's Law applications

Kirchhoff's Voltage Law applications and usage

Series circuit laws

Parallel circuits

Kirchhoff's Current Law

Parallel circuit laws

Determining total resistance - 5 methods

Series-parallel circuits

Circuit faults and problem solving

Approximate Time In Hours

6.00

4. Lab**Outline**

Electrical Theory Application

Circuit component labeling

Circuit fault type descriptions

Ohm's Law

Problem solving

Series circuits

Ohm's Law applications and problem solving

Kirchhoff's Voltage Law applications and usage

Voltage drops

Circuit board usage and building of operational series circuits

Parallel circuits

Kirchoff's Current Law applications
Determining total resistance

Use of 5 methods in advanced problem solving

Circuit board usage and building of operational parallel circuits

Series-parallel circuits

Circuit faults and advanced problem solving
Circuit board usage and building of operational series-parallel circuits

Approximate Time In Hours

6.00

5. **Lecture**

Outline

Wiring Schematics and Circuit Testing

Wiring schematic interpretation and symbols

Terminology and circuit information
Wire size, color and circuit identification
Electrical component identification

Single-stranded or multi-stranded wire usage
Resistive wire usage
Purpose of wiring diagrams
Fuse and relay terminal identification
Connector end views, legends and terminal identification
Component locators
Circuit troubleshooting procedures

Locating opens and shorts
Common power or ground
Locating intermittent problems

Wiggle test

Methods of fault location

Approximate Time In Hours

9.00

6. **Lab**

Outline

Wiring Schematics and Circuit Testing

Wiring schematic acquisition, interpretation and circuit diagnostic application
Circuit specific testing procedures

Wiper motor circuit
Brake and tail light circuit
Horn circuit
Blower motor circuit

Electrical fault diagnosis

Visual inspection and circuit testing
Circuit fault location and identification
Relay testing and inspection

Approximate Time In Hours

9.00

7. **Lecture**

Outline

Electronic Fundamentals

Semiconductors - definition, construction and examples
Diode construction and operation

Zener diodes
High voltage spike protection
Diode ratings
Light emitting and photodiodes
Rectifier bridges

Photoresistors
Thermistors
Transistors - purpose, function and construction

Operating principles
Types of transistors
Integrated circuits and transistor gates

Component failures and testing
Converters and inverters

Approximate Time In Hours

7.50

8. **Lab**

Outline

Electronic Fundamentals

Diode types and differences
Photoresistor operation
Negative temperature coefficient thermistor identification, testing and description
Electrostatic (ESD) service precautions
Transistor identification
Electronic circuit oscilloscope waveform reading and interpretation

Approximate Time In Hours

7.50

9. **Lecture**

Outline

Computer Fundamentals

Computerized automotive control systems purpose and function

Computer functions

Digital computer components and terminology

Control module locations

Input sensors

Output controls

Output drivers

Pulse-width modulation

Approximate Time In Hours

9.00

10. **Lab**

Outline

Computer Fundamentals

Powertrain control module (PCM) connector pin identification

Powertrain management schematics

PCM controlled actuator testing

Fuel injection

Ignition

Electronic throttle control

Emission control systems

Actuator output waveform reading

Approximate Time In Hours

9.00

11. **Lecture**

Outline

Computer Controlled Ignition Systems

Major functions

Operating conditions that affect ignition timing

Basic operation of Distributor ignition systems and distributorless ignition systems

Ignition primary circuit

Ignition secondary circuit

Ignition dwell

Ignition triggering devices

Magnetic pick-up coil

Hall-effect switch

Spark timing systems

Base and computerized timing

Purpose of the electronic control unit

Spark timing systems

Electronic switching systems

Engine position sensors

Fuel injection system reliance

Distributorless electronic ignition (EI) systems

Advantages and operation

Secondary ignition wiring connections

Coil-On-Plug (COP) operating principles

Ion and compression sense ignition

Approximate Time In Hours

6.00

12. **Lab**

Outline

Computer Controlled Electronic Ignition Systems (EI) Diagnosis and Service

No-spark condition diagnosis

P0300 random misfire code diagnosis

Coil testing

Camshaft and crankshaft sensor R&R and adjustment procedure

Camshaft and crankshaft sensor test

Magnetic sensor test

Pickup coil (magnetic pulse generator)

Hall-effect switch

Compression sense ignition diagnosis

Ion sense ignition diagnosis

Approximate Time In Hours

6.00

13. **Lecture**

Outline

Introduction to the Body Computer

Basic functions

Body control module (BCM) communications

Logic gate operation

Common output actuators

Approximate Time In Hours

3.00

14. **Lab**

Outline

Body Computer System Diagnosis

BCM location and connector pin identification

Service precautions

BCM network schematics

Voltage supply and ground circuits

BCM scan tool diagnostics

Fault code reading analysis, diagnosis and erasure

Visual inspection

BCM controlled actuator testing

BCM input sensor testing

Approximate Time In Hours

3.00

15. **Lecture**

Outline

Vehicle Communication Networks

Multiplexing operating principles

Communication protocols

Network communications classifications

Controller area network (CAN) bus system

Components and operation

Supplemental data bus networks

Local area network (LAN)

GM, Ford and Chrysler communication protocols

Honda/Toyota communications
European bus communications
Media Oriented System Transport (MOST) data bus
Bluetooth technology
Network communications diagnosis
ODB 2 data link connector

Approximate Time In Hours

12.00

16. **Lab**

Outline

Vehicle Multiplexing Diagnostics

Module communication error scan tool check
Software transfers, updates and flash programming
OBD 2 diagnostic link connector (DLC) pin identification and verification
ISO 9141-2 bus system diagnosis
ISO-K bus system diagnosis
Class A bus system diagnosis
J1850 bus system diagnosis
Controller Area Network (CAN) diagnosis

Approximate Time In Hours

12.00

Course Objectives

Upon successful completion of the course, the student will demonstrate the ability to:

1. **Lecture**

Complete a safety test with 100% accuracy.

2. **Lab**

Perform an analysis of an engine by performing compression, cylinder leakage, cylinder balance and vacuum testing.

3. **Lab**

Perform engine diagnosis using a flow chart.

4. **Lab**

Test, diagnose and repair electrical systems.

5. **Lab**

Test and diagnose an engine using OBD 2 scan tools/engine analyzers.

6. **Lab**

Evaluate and repair fuel systems.

7. **Lab**
Diagnose and evaluate emission systems.
8. **Lab**
Test, diagnose and repair computer controlled systems.
9. **Lab**
Evaluate and repair fuel injection systems.
10. **Lab**
Analyze digital engine analyzer data and recommend repairs.
11. **Lab**
Analyze electrical testing data and recommend repairs.
12. **Lab**
Analyze computer controlled engine data and recommend repairs.
13. **Lab**
Distinguish between various engine components

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1. Given an in class exam, based on readings, classroom discussions and demonstrations , the student will be able to work in the Automotive Shop safely and pass the Automotive Safety Exam with 100% accuracy
2. The student will be able to test the performance of the automotive computer controlled system using the Automotive Powertrain Control Module Data lab worksheet and manufacturer specifications.
3. The student will test and evaluate engine condition and performance using an Engine Analyzer / Scanner lab worksheet to manufacturer specifications.

Methods of Instruction

- **Demonstration**
- **Guest Speakers**
- **Internet Presentation/Resources**
- **Laboratory**
- **Lecture**

- **Multimedia presentations**

Methods of Evaluation

- Skills demonstrations
- Exams/Quizzes

Typical Assignments

Some assignments require critical thinking:

Perform a digital scanner test to include a data print out. Analyze data to determine recommended service and/or repairs and parts required. Submit digital scanner data printout and supporting data to instructor for evaluation.

Perform a comprehensive digital engine analyzer test to include a printout. Analyze data using manufacturer's specifications to determine recommended service and/or repairs and parts required. Submit engine analyzer printout and supporting data to instructor for evaluation.

Other Assignments:

Perform a self diagnosis test on a computer controlled fuel injection system and record data on a diagnostic report. Analyze data using the manufacturer's specifications to determine recommended service and/or repairs and parts required. Submit diagnostic report and supporting data to instructor for evaluation.

Course Materials

1. **Author:** Halderman
Title: Automotive Electricity and Electronics
Edition: 6th
Publisher: Pearson
ISBN-13: 9780135764428
Year: 2021
Or Equivalent: No

Software

1. **Title:** Electude Online Learning System
Edition/Version: Current
Publisher/Manufacturer: Electude

1. **Other:**

Lab sheets
Procedure sheets
Shop manuals

2. **Other:**

Three ring binder notebook and paper
Pen and pencil
Safety glasses
Shop safe clothing including boots
Calculator (portable type)
Digital Volt Ohm Meter (optional)
Tools (optional)
Tape recorder (optional)

Minimum Qualification

1. Automotive Technology
Condition

Course Syllabus

[Jump to Today](#) [Edit](#)

Compton Community College

COURSE SYLLABUS

CIS62 - Programming Fundamentals 1 Spring 2022

Contact Information

Course number and semester:	CIS 62-30711, Spring 2021
Course Instructor:	Mohammad Khalilzadeh
Course Meeting days/time:	MTWTh from 8-10:40 A.M. Through Canvas
Instructor's Office:	Online
Instructor office hours:	Mon & Tue from 10:40 A.M. – 11:10 A.M. Appointment only
Instructor's Phone Number:	310.900.1600 X2271
Instructor's E-mail:	mkhalilzadeh@compton.edu
Course Web site:	Canvas Log In (Links to an external site.) (Links to an external site.)

Due to COVID-19/Novel Coronavirus concerns, Compton College is moving to remote/alternative learning for lecture courses. Arrangements for courses with the lab will vary depending on the subject matter. Our class CIS62 – 30711 will be 100% online. Beginning today, please check your compton.edu emails every day for updates from me or the campus.

Course Description:

Upon completion of this course, students should demonstrate the following skills:

- 1. Implement algorithms using one-dimensional and indexed data structures.
- 2. Demonstrate an understanding of array searching and sorting algorithms by desk-checking and/or modifying algorithm implementations.
- 3. Design and implement simple classes.

Assessment Activities: The following activities will be used to assess mastery of student learning outcomes:

- Problem-solving demonstration (Computational and/or Non-Computational)
- Laboratory Assignments
- Exams(Multiple choice and True/False)
- Homework Problems (Matching and True/False questions)

Teaching Methods and Methods of Evaluation:

1. **Class Meetings:** Important material from the textbook will be covered during our regularly scheduled class meetings. Regular attendance is critical and students should take careful notes. Discussion is encouraged. Bring your notebook, textbooks, and other required materials to every class meeting.
2. **Homework and Other Assignments:** Exercises, projects, and computer lab assignments will be assigned to reinforce the material in the textbook. These assignments require the use of a computer. Computer-based assignments can be completed on campus or at home, to complete lab assignments at home you must have an iPad with Swift playground software.
3. **Exams:** Fifteen exams will be given. The exams will be closed book/notes and are designed to test the students' comprehension of material in the reading assignments. ***Make-up exams will be given and are subject to a 50% penalty. It is the student's responsibility to contact me PRIOR to the next class meeting if an exam is missed and you want to request a make-up exam.***
4. **Grading: Your grade is based on the total number of points you earn during the semester on exams, assignments, lab projects, and attendance.** Letter grades will be determined based on the percentage of possible points earned during the semester, as outlined below.

Course Possible Points:

Title	Description	Points	Percent
Fundamentals Textbook	• 4 Quizzes (40 pts each)	• 160	160 (32.65%)
Course Assignments	• 26 Assignments (10 pts each)	• 260	260 (53.06%)

Course participation	Discussion and Chat Participation	70	70 (14.29%)
Total	Course Total Points	490	100%

Grading Scale:

Grade	Percentage and total possible points
Pass	60%-100% (Your total points must be 294 Points)
No Pass	Below 60% (Your total points must be below 293)

Student Support Services/Programs

Find information on the following Support Service departments by clicking on any of the links below:

Student Support Services

[Assessment Center \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[Bookstore \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[EOPS/CARE \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[Matriculation Services \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[Special Resource Center \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[Upward Bound Math/Science \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[Outreach & Relations with Schools \(Links to an external site.\) \(Links to an external site.\)](#)

More Student Support Services

[Counseling \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[CalWORKs/TANF/GAIN \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[Student Success Center \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[Office of Relations with Schools \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[Transfer Center \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[Veteran Services \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)

[site.](#) ([Links to an external site.](#)) ([Links to an external site.](#))

Course Policies:

- **Missed Classes:** The student is responsible for obtaining material distributed on class days when he or she was absent. This can be done by contacting a classmate who was present. You are expected to be in lecture mentally as well as physically for the full period. “Tardy”, sleeping, or telefunctioning are the same as absent. Turn OFF all cell phones, players, and other devices for the duration of lecture and lab. **You will be marked absent if your device is active at any time during a lecture or lab.**
- **Assignments:** All assignments are due at midnight on the due date. Late submission of assignments will be assessed a penalty of 50%. No exceptions.
- **Academic Dishonesty:** Plagiarism and cheating are serious violations of school policy and will not be tolerated. Cheating on an exam or assignment will result in receiving a zero for the entire exam or assignment and can lead to expulsion from the class or the College.
- **Academic Accommodations or Need for Assistance:** Please notify the instructor during the first week of class if any special accommodations are needed for this course, due to a physical or learning disability.
 - The Special Resource Center (SRC)
 - The first floor of the VT Building (VT109)
 - Adjacent to the CalWORKs Office
 - Phone:(310) 900-1600, Ext. 2402 Fax: (310) 900-1220
 - [Student Resource Center Brochure \(PDF\)](#) ([Links to an external site.](#)) ([Links to an external site.](#)) ([Links to an external site.](#)) ([Links to an external site.](#)) ([Links to an external site.](#))
- **Classroom Courtesy:** No food or drinks allowed. Turn off cells phones, pagers, and other electronic devices before entering the classroom.

- **Instructional Method:** The course may combine Lectures, presentations, Discussions, and various multi-media methods to make sure that all student learning styles are met. The student is expected to be prepared when working within the online class setting. When you finish each unit you should be able to respond to reading material questions and class discussions, as well as relate what you have learned via written assignments. A variety of methods will be used to determine the readiness of the students over the course of the class.
- **Class Information:** Participation is necessary to be successful in this course. Lectures, assignments, and computer lab assignments are designed to enhance your understanding of computer literacy. Reading lecture textbooks and performing computer lab assignments for this class is rigorous and students should plan, on average, to devote at least 6 hours per week of reading/computer lab assignments/homework to pass this course. The module schedule of assignments will be revealed to the student on a weekly basis and will be available for 7 days only, at which time assignments will no longer be available. But due to holidays, there may be some expectations so please refer to the Unit Schedule for times and date details. **IMPORTANT:** Work must be submitted online in the assignment itself, no homework will be accepted via class email or in any other form of delivery. I attempt to get assignments graded and returned within two weeks. I will keep you updated if I fall behind. If for some reason you find that you do not have a grade posted for an assignment/exam, etc. please contact me so I can make sure it is resolved and your grade gets posted.
- **Assignment feedback:** Each student will receive feedback on assignments which will be found under Grades with their returned assignment. This process will allow students to evaluate where they need to improve to move forward.
- **Library information:**
- **Library Contact Information: 1-310-900-1600 Ext. 2175**
- **[Library website \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\) \(Links to an external site.\)](#)**
- **Library Hours for Fall 2020 is as follows:**
 - **Closed until further notice**
- **Computer Lab** is located on the second floor of the library building. The L-SSC has a new, sophisticated, central, instructional computer lab which includes state-of-the-art computers connected to our network. The L-SSC computer lab is designated for

registered Compton College students. The computer lab contains 100 personal computer systems-- interconnected via a high-speed, Ethernet network--pay for print stations, and copy machines. In addition, the computer lab offers a wide array of software including the latest MS Office package, desktop publishing, and web-based learning modules including Rosetta Stone.

- **Attendance and Drop Information:** The Attendance Policy at Compton College is very clear about your responsibilities regarding drops and withdrawing from classes. Refer to the Compton College Catalog on Compton College's Home Page for more information. Please understand I will drop students the first weeks of class if they do not participate in the class, by doing Orientation and participating in Discussions and Assignments. But after the first week I don't drop students, so if you stop attending, please be responsible and take care of dropping yourself. If you do decide to drop I would appreciate an email letting me know why you are dropping, so I can have a fuller understanding of why a student feels the need to drop the class. This way I can access the need for changes, which may prove beneficial to future students.

- **Important Days:**

· Campus Open - Classes not in session	Monday-Tuesday, February 7- 8, 2022
Lincoln's Day Holiday Observed (Campus Closed)	Friday, February 11, 2022
Saturday Classes Begin	Saturday, February 12, 2022
Weekday Classes Begin	Monday, February 14, 2022
Last Day to Drop and be Eligible for a Refund (First 8-Week Session)	Friday, February 18, 2022
Washington's Day Holiday Observed (Campus Closed)	Monday, February 21, 2022
Last Day to Challenge Residency Status for Current Semester	Friday, February 25, 2022

Fourteen-Week Classes Begin	Saturday, February 26, 2022
Last Day to Add (Full Semester Courses)	Sunday, February 27, 2022
Last Day to Drop and be Eligible for a Refund (Full Semester Courses)	Sunday, February 27, 2022
Last Day to Drop Without Notation on Permanent Record	Sunday, February 27, 2022
Spring Recess (Faculty and students)	Saturday-Friday, April 9-15, 2022
Last Day to Apply for Degrees and Certificates (Spring)	Friday, March 11, 2022
Twelve-Week Classes Begin	Saturday, March 12, 2022
Local Holiday - Campus Closed	Friday, April 15, 2022

[Spring 2022 Short-Term Deadlines and Important Dates \(PDF\) \(Links to an external site.\)](#)

Midterm Classes Begin (Second 8-Week Session)	Saturday, April 16, 2022
Last Day to Drop for a Refund/No Notation (Second 8-Week Session)	Friday, April 22, 2022
Last Day to Drop with a "W" (Full Semester Courses)	Friday, May 13, 2022
Memorial Day Holiday (Campus Closed)	Monday, May 30, 2022
Graduation - No classes	Friday, June 10, 2022
Spring Semester Ends	Friday, June 10, 2022
Campus Remains Open - Classes not in session	Monday-Thursday, June 13-16, 2022

- **[=Chat Room:** The Chat room is to be used by students as a meeting place for the entire class. You will go to the

Chat room if you need help, if you have questions on anything, or you see you can assist a fellow student. I will not answer chat room questions but will monitor class participation. This is not because I don't want to help you, but I have found that students get their questions answered much quicker if they post in the Chat. Once a question gets addressed in the Chat it becomes available for everyone with the same question. Be a good classmate and help when you can. If you call the help desk or get information from me, then please provide that information in the Chat room, as it is common that many students have similar questions. I monitor the Chat room, but students should not expect me to address their questions there. However, if you do not get the assistance you need in the Chat room then you should email me directly; also if you have questions about your grades or personal matters please email me at once. Please allow for a 48-hour turnaround on responses. The Chat room **IS NOT** the place to post assignments, please make note of this. Your class participation grade will be based upon your participation in the Chat room. Students should post at least once a week for full credit. Post may include assistance to fellow students, new or related technology from reliable sources as related to course content, as well as news reports, articles, images, current events, etc.

- **Online Etiquette:** All responses and posts, as well as emails to fellow students and the instructor, should be done with the utmost care and professional attention. No inappropriate discussions or improper criticism of others' work will be tolerated. All messages and comments sent to other students, or posted in a discussion post, are to be thought-provoking and useful to the recipient as well as others. All online language used within this course will be written in proper English, limited shorthand please, only full and complete sentences. If these guidelines are not respected the student(s) will receive an email from the instructor requiring that attention be given to the problem at hand, if that is not successful the student(s) will be locked out of the class until the issue is resolved.

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Distance Education at Compton College

The Distance Education Program welcomes you to another exciting and eventful semester.

We know that you are eager to start your courses, and in facilitating that we have put together information and quick links that may assist you throughout the semester as you succeed in your scholastic endeavors. You are receiving this announcement because you are enrolled in an online or hybrid (partially online and partially in-class) course at

Compton College. We suggest reading the “Online Student Handbook” after viewing this email.

Please read this email carefully and thoroughly, as it may answer a lot of your questions.

[CANVAS at Compton College](#)

Students: Distance Education (online/hybrid courses) scheduled for 16 weeks beginning Saturday, August 24, 2020. Compton College will be using Canvas; Canvas is accessible through your **MyCompton** account or compton.instructure.com

Login to Canvas at least three to five days before the class begins. Check for your course in the Courses icon in Canvas. Courses will be visible on the Dashboard once the instructor has published the course.

IMPORTANT: If you have taken an online course before, **your username and password never change from semester to semester**. If this is your first time logging in, you may need to change your password to a strong password that is at least 8 characters long with at least one capital letter and one number.

Computer and network system requirements: As a reminder, online students must have minimum regular access to the internet and a computer, a recent version of a web browser such as Mozilla Firefox (<https://www.mozilla.org> (Links to an external site.) (Links to an external site.) (Links to an external site.) (Links to an external site.)), Google Chrome (<https://www.google.com/chrome/browser/features.html> (Links to an external site.) (Links to an external site.) (Links to an external site.) (Links to an external site.)), or Microsoft Internet Explorer (<http://www.microsoft.com/en-us/download/internet-explorer.aspx> (Links to an external site.) (Links to an external site.) (Links to an external site.) (Links to an external site.)), an Internet Service Provider, an email address, and current word processing software.



Course Information

Course Information

Course Discipline: CIS

Course Division: Business and Industrial Studies

Course Number: 62

Full Course Title: Programming Fundamentals 1

Short Title: Program Fundamental 1

TOP Code: 0702.00 - Computer Information Systems*

SAM Code: C - Clearly Occupational

Credit Status N - Non Credit

Transfer Status C - Not transferable

Effective Term: Spring

Year: 2021

Board of Trustees Approval Date:

2020-12-08

Course Description

Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy. This course requires the same math skills necessary for College Algebra. Students should either have taken or be currently enrolled in College Algebra or a course that requires College Algebra.

Course Standards

Lecture Hours:

Activity Hours:

Lab Hours:

Outside-of-Class Hours:

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

90.000

Lecture Hours:

Activity Hours:

Lab Hours:

Outside-of-Class Hours:

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

90.000

Min/Max Units:

0.000

Total Hours:

0.000

Grading Method:

Pass/No Pass only

Course Requirements

1. Recommended Prep - Courses

Can be concurrent enrollment No

Subject CIS - Computer Information Systems

Requisite Course CIS 61 - Introduction to Application Development Environment: Swift (Active)0.000 - 0.000

Non Course Requirements

Condition

Parenthesis

Course Content

1. Lecture

Outline

Units:

1 Values

2 Algorithms

3 Organizing Data

4 Building Apps

Approximate Time In Hours

45.00

2. Lab

Outline

Projects:

The TV Club

The Viewing Party

Sharing Photos

Approximate Time In Hours

45.00

General Education

Course Objectives

Upon successful completion of the course, the student will demonstrate the ability to:

1. Lecture

Objective

1. Demonstrate problem solving skills by developing and implementing algorithms to solve problems.

Requires Critical Thinking Yes

2. Lecture

Objective

2. Derive problem specifications from problem statements.

Requires Critical Thinking Yes

3. Lecture

Objective

3. Develop algorithms using modular design principles to meet stated specifications.

Requires Critical Thinking Yes

4. **Lecture**

Objective

4. Create code to provide a solution to problem statements ranging from simple to complex.

Requires Critical Thinking Yes

5. **Lecture**

Objective

5. Test and debug programs and program modules to meet specifications and standards.

Requires Critical Thinking Yes

6. **Lecture**

Objective

6. Create programs that contain clear and concise program documentation.

Requires Critical Thinking Yes

7. **Lecture**

Objective

7. Implement programs that use data types and demonstrate an understanding of numbering systems.

Requires Critical Thinking Yes

8. **Lecture**

Objective

8. Incorporate both basic and advanced control structures appropriately into algorithms.

Requires Critical Thinking Yes

9. **Lecture**

Objective

9. Demonstrate an understanding of structure design by implementing programs with functions, including parameter passing and value returning.

Requires Critical Thinking Yes

10. **Lecture**

Objective

10. Implement programs using classes, including strings and files.

Requires Critical Thinking Yes

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1.
 1. Implement algorithms using one-dimensional and indexed data structures.
 2. Demonstrate an understanding of array searching and sorting algorithms by desk-checking and/or modifying algorithm implementations.
 3. Design and implement simple classes.

Methods of Instruction

- **Laboratory**

The instructor demonstrates how to create computer applications.

- **Lecture**

The instructor explains fundamental concepts in programming.

Methods of Evaluation

- Problem solving demonstrations (computational or non-computational)
- Skills demonstrations
- Exams/Quizzes

If you selected "Other", please provide details.

Typical Assignments

Some assignments require critical thinking:

By building a TV Club application that allows the sharing of pictures on social media, students explore how having online data can impact privacy and result in other unanticipated consequences. They also look at how images are captured and processed by a mobile device and how a social media service handles posts.

Reading Assignments:

Writing Assignments:

Other Assignments:

Course Materials

Author:	Title:	Edition:	Publisher:	ISBN-13:	Year:	Rationale for older textbook:	Or Equivalent:
Apple Education	Develop in Swift Explorations	1.0	Apple Inc. - Education		2020		Or Equivalent: Yes

Course Manual

Author:	Title:	Edition:	ISBN-13:	Publisher:	Year:	Rationale for older manual:
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Software

Title:	Edition/Version:	Publisher/Manufacturer:	Description:
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Other:

Minimum Qualification

1. Computer Information Systems Condition

**Compton College
Cosmetology Department**

Business and Industrial Studies

2022 Spring Semester

16 Weeks – February 14th through June 9th

ENTRY TO CAMPUS PROTOCOL FOR STUDENTS

This course is offered 100% face-to-face Mondays through Thursday on campus. Cosmetology students must be vaccinated to be on campus and provide proof of vaccination through their MyCompton portal. While on campus, everyone is expected to follow specific protocols to help ensure the health and safety of the Compton College community and the public:

- Face coverings are required at all times.
- Everyday, all persons must have a COVID-19 saliva test at the front gate upon arrival.
- Students must complete an online Daily Wellness Survey via MyCompton within 12 hours of the scheduled arrival time. Example: For a 5:00 p.m. Monday course - complete the survey between Monday 5:00 a.m. and 4:29 p.m.
- Everyone must practice physical distancing, in addition to the following: If you are feeling sick or experiencing any symptoms listed in the wellness survey, remain at home and visit the COVID-19 webpage for additional instructions at the link below:
<https://www.compton.edu/adminandoperations/campuspolice/covid-19>.

Wash hands frequently with soap and water or hand sanitizer.

- Ensure your mask covers your nose and mouth.

Compton College Health Center Information may be found at the link below:

<https://www.compton.edu/studentservices/healthcenter/>

Compton College's Mission Statement

Compton College is a welcoming environment where the diversity of our students is supported to pursue and attain academic and professional excellence. Compton College promotes solutions to challenges, utilizes the latest techniques for preparing the workforce and provides clear pathways for transfer, completion and lifelong learning.

Instructors: Mr. Moore and Mrs. Smith

Email:

Mr. Moore: smoore@compton.edu

Mrs. Smith: cbrewersmith@compton.edu

Voice Mail: (310) 900-1600 and dial extension 2774. During online instruction, please let your instructor know if you would like talk on the phone and we can call you directly.

Classroom: TV-4 Class meetings will 100% face-to-face

Office Hours:

Mr. Moore – Tuesday and Wednesday 3:30 p.m. - 5:00 p.m. and Thursdays 4:00 p.m. – 6:00 p.m.

Office Room#: Tarter Village

Course: COSM-104 Introduction to Cosmetology I

Units: 8

Pre-requisite: None - Open Entry

Advisory: Must be 17 years of age when applying for State Board Exam.

CRN#: 30401

Class Schedule:

- Monday, Tuesday, and Wednesday: Lecture 5:00 p.m. - 5:50 p.m.
- Monday – Thursday: Lab 6:00 p.m. - 10:05 p.m.

Course Description:

- This course is the first of a two-course introductory series covering cosmetology procedures and equipment for wet and thermal styling, permanent waving, chemical straightening, hair coloring, scalp treatments, manicuring and pedicuring. This is a preparatory course for the State Board of Cosmetology examination and employment.

Attendance Policy:

- Attendance/participation is critical for a successful completion of this course. Each subject area may only be taught once and instruction is essential. Positive attendance will increase your performance when testing for your State Board Written and Practical Examinations.
- Attendance at First Class: Students who enroll in class but do not attend the first scheduled class meeting may be dropped from the roster and their places given to waiting list students. If illness or emergency prevents a student from attending the first class session, the student must contact the instructor.
- A student who registers for a class and never attends is still responsible for dropping the class. Failure to properly drop a class by the appropriate deadline may result in a "W" and may hold the student responsible for any and all fees associated with the class. The burden of proof is on the student.
- Attendance Without Official Enrollment: Students will not be permitted to attend classes in which they are not officially registered. Exceptions may be allowed by the instructor for bonafide visitors. Students who attend a class without proper enrollment (the student did not properly register or add the class) by the published deadline will not be permitted to "late add" the class except for documented extenuating and mitigating circumstances. Students who do not properly register

or add a class will receive neither unit or grade credit for that class.

- **Attendance During Semester:** Students are expected to attend their classes regularly. Students who miss the first class meeting or who are not in regular attendance during the add period for the class may be dropped by the instructor. Students whose absences from a class exceed 10% of the scheduled class meeting time may be dropped by the instructor. However, students are responsible for dropping a class within the deadlines published in the class schedule. Students who stop attending but do not drop may receive a failing grade. Students may view their registration status on MyCC.
- **Adding a Class**
- If space is available students who have completed registration may add a class by going to the first meeting of the class and securing permission of the instructor. It is the responsibility of the student to fulfill all requirements to add a course, and to add the course by the add deadline in accordance with college procedures. Adds will not be processed beyond the add deadline.
- **Withdrawal from Class:** Official withdrawal from a class should be processed through the MyECC student portal. Failure to complete this process may result in the assignment of a letter grade of A through F.

Tardy Policy:

Students are expected to attend class on time and be prepared to learn.

Absence Policy:

Students are required to notify instructor if they will be absent.

Excused or Unexcused Absences:

Excused and unexcused absences combined must not exceed 10% of the scheduled class meeting.

Student Resources Available at Compton College:

Your success is our number one priority at Compton College. College resources to help you succeed include computer labs, tutoring centers, the library, health services, and services for designated groups, such as veterans, formerly incarcerated persons, parent-scholars, homeless persons, former foster youth, and students with disabilities. For a comprehensive list of Academic Resources and Support Programs, please visit <http://www.compton.edu/studentservices/supportservices/index.aspx>

Food and Housing/Basic Needs:

Any student who faces challenges securing their food or housing and believes this may affect their performance at Compton College is urged to contact The Tartar Support Network at tartarsupport@compton.edu or (310) 900-1600 ext. 2538 help.

Undocumented Students:

Compton College is committed to supporting the success of all students. If you identify as undocumented, AB540, and/or a DACA student, we have many support services and staff on hand to help. Please visit <http://www.compton.edu/student-services/financialaid/ab540/> for more information.

Financial Aid, Scholarships, & Pell Grants:

Struggling to pay for tuition, books, or other costs associated with going to college? If so, Compton College has financial aid, scholarships, and other financial assistance solutions to help pay the bills so you can focus on class. For more information about how to maximize your financial aid and scholarship opportunities, please make an appointment with a financial aid counselor at 310-900-1600, ext. 2935, or visit Financial Aid online at <http://www.compton.edu/student-services/financialaid/>.

Academic Honesty:

Compton College is dedicated to maintaining an optimal learning environment and insists upon academic honesty. To uphold the academic integrity of the institution, all members of the academic community – faculty, staff, and students alike – must assume responsibility for providing an educational environment of the highest standards characterized by a spirit of academic honesty.

It is the responsibility of all members of the academic community to behave in a manner that encourages learning and promotes honesty and to act with fairness toward others. Students should not seek an unfair advantage over other students when completing an assignment, taking an examination, or engaging in any other kind of academic activity.

Standards of Conduct:

Conduct at Compton College must conform to the laws of the State of California, District Policies, and campus rules and regulations. The Compton College faculty, staff, and administration are dedicated to maintaining a positive learning environment. Optimal standards for behavior are essential to the maintenance of a quality college environment. These standards will apply to all students on campus, other college property or while attending any college-sponsored event. Violation of such laws, policies, rules and regulations or behavior adversely affecting suitability as a student will lead to disciplinary action. Disciplinary actions as noted in Administrative Procedure 5520 may be taken against any person who engages in behavior defined as misconduct.

Classroom Behavior:

This is a participatory course and your input is encouraged. Students are expected to be courteous to one another and allow each other an opportunity to speak. Vocalizing derogatory remarks about another's age, sex, sexual orientation, self-identity, transgender status, religion, ethnicity/nationality or culture is inappropriate, insensitive, and disrespectful. Using profanity and unacceptable language is unprofessional and also

inappropriate. Any behavior, inside or outside of the classroom, which limits the learning process of students is considered disruptive. Students who violate the Standard of Student Conduct and Discipline Policy are subject to disciplinary action including being clocked out for the day. A student refusing to hand an instructor their time card to be clocked out will result in a two-day suspension.

Recording in the Classroom:

The use of any recording device during class without the prior consent of the instructor is prohibited, except as necessary to provide reasonable auxiliary aids and academic adjustments to students with disabilities who present official documentation from the Special Resource Center to the instructor prior to recording. This is to protect privacy and to create a safe classroom environment where all participants can discuss potentially controversial or sensitive subjects freely. If you want to take a photograph or make an audio or video recording, you must get the prior written permission of the instructor. The instructor also may require the verbal and/or written permission of everyone present. Even if a student gets permission to record, the recordings are only for personal use and may not be distributed, posted, published, or shared in any manner. A student who records without instructor permission or distributes any recordings is subject to disciplinary action in accordance with Compton Community College District Administrative Procedure 5520: Standards Discipline Procedures.

Special Accommodations Statement:

Option One: If you believe you may need accommodations in this class now or at any point in the semester, please go to the Special Resource Center (SRC) or call 310-900-1600, ext. 2402 for an appointment. For more information visit about the Special Resource Center and the services they provide, please visit

<http://www.compton.edu/student-services/support-services/special-resource-center/>

Mandatory Reporting: Child Abuse, Gender-Based, or Sexual Misconduct:

Your safety is important to me. Please know that that if you reveal child abuse, child neglect, or gender-based or sexual misconduct (including harassment, sexual assault, stalking or intimate partner violence) to me or any instructor, we are required by law to report the problem to the Compton College Police Department. However, psychologists are not required to report your incident. To speak confidentially with a psychologist, please contact St. John's Health Center for a free appointment: (213) 226-7480. You can also visit

<http://www.compton.edu/student-services/healthcenter/> for scheduling information.

Course Objectives:

1. Correctly answer objective questions on cosmetology safety practices and sanitation procedures.
2. Apply the principles of thermal styling on a gloria head.
3. Demonstrate the techniques of permanent waving.
4. Demonstrate the process of chemical relaxing.
5. Describe the principles of scalp treatments.
6. Discuss the techniques used in layered haircuts.
7. Access information concerning cosmetology procedures and practices from source documents and

databases.

8. Employ appropriate interpersonal skills to serve clients and customers.

Note: The above section listed under Course Objectives must be completed successfully before enrolling in the next course.

Institutional, Program and Student Learning Outcome(s):

- **Institution Level Learning Outcome (s)** supported by this course: 1
 1. **ILO #1-** Students apply critical, creative and analytical skills to identify and solve problems, analyze information, synthesize and evaluate ideas, and transform existing ideas into new forms

- **Program Level Learning Outcome (s)** supported by the ILO above: 1,2, and 3
 1. **PLO #1 Licensure Exam** Upon completion of the Compton College Cosmetology Program, students will pass mock-board written and practical exams with a 70% or above designed to gain cosmetology licensure through the California State Board of Cosmetology.
 2. **PLO #2 Cosmetology Practicum** Upon completion of the Compton College Cosmetology Program, students will perform a chemical procedure on a mannequin and follow the manufacturer's directions when applying chemicals to the hair.
 3. **PLO #3 Advanced Cosmetology** Upon completion of the Compton College Cosmetology program, students will perform a requested service on a paying patron while on the clinic floor that reflects a service required by employers in the cosmetology industry.

- **Program Learning Outcome (s) above Supported by Student Learning Outcome (s) below: 1, 2, and 3.**
 1. **PLO #1 Licensure Exam** Upon completion of the Compton College Cosmetology Program, students will pass mock-board written and practical exams with a 70% or above designed to gain cosmetology licensure through the California State Board of Cosmetology.
 2. **PLO #2 Cosmetology Practicum** Upon completion of the Compton College Cosmetology Program, students will perform a chemical procedure on a mannequin and follow the manufacturer's directions when applying chemicals to the hair.
 3. **PLO #3 Advanced Cosmetology** Upon completion of the Compton College Cosmetology program, students will perform a requested service on a paying patron while on the clinic floor that reflects a service required by employers in the cosmetology industry.

- **Student Learning Outcome (s)** Supported by this course: 1, 2 and 3
 1. **SLO #1 Predisposition Test** Students will be able to perform a Predisposition Test (skin patch, allergy test) procedure using simulated hair products, such as, tint and peroxide.

2. **SLO #2 Client Services Record** Students will maintain records of a client service by specifying details (e.g. products, processing time) of the services performed. Students will fill out a client card.
3. **SLO #3 Sanitation** Students will sanitize equipment in preparation for cosmetology service using the State Board of Barbering Cosmetology techniques. Students will create a list of the seven steps required.

Assessment: Instructor will evaluate the students' knowledge of the list above under Student Learning Outcome(s).

Semester Schedule of Topics and Assignments:

Please review the Calendar document available in Module 1 of the course Canvas shell.

Method of Instruction:

1. Lecture and Lab
2. Discussion
3. Demonstrations and Student Practice
4. Use of Visual Aids
5. Group Projects
6. Internet Research
7. Field Trips
8. Guest Speakers
9. Tutorials
10. Student practical exchanges
11. Class Projects
12. Power Point Presentations
13. MindTap
14. Canvas group discussions

Written Tests & Practical Performance:

1. Objective
2. Subjective
3. Materials to reinforce the learning process
4. Lab performance is rated by professional standards of time and quality with adjustments that reflect educational coverage of the contents of the course.
5. Subjective evaluation of students' growth in attitudes and values pertaining to lab practice and work habits.

Evaluation Criteria: The following will be based for computing your grades:

Please refer to your student Canvas for the exact breakdown of your grade. The grade earned for Mr. Moore will be a percentage of your grade and the grade earned for Mrs. Smith will be a percentage of your grade.

- **Grading Scale & Grade Point Average (GPA):**

A = 90 - 100% Excellent 4

B = 80 - 90% Good 3

C = 70 - 80% Average 2
 D = 60 - 70% Less than satisfactory 1
 F = 59% and below Failing 0
Nonparticipation = F

1. Practical Assignments and Group projects.
2. Completed Progress Charts (*Practical assignments can be made up due to an absence and must be scheduled with the instructor*).
3. Written Tests
4. Written Midterm
5. Practical Midterm
6. Practical Final Exams
7. Written Final Exam
8. Daily Grades.
9. Field Trips.
10. Guest Speakers.

MAKE-UP POLICY:

- Please notify instructor if you will be absent the day of an exam.
- Missed exams may be rescheduled with instructor.
- There are no make-up final exams due to grade policy due date recordings.

COURSE MATERIALS

REQUIRED TEXTBOOK:

Must buy textbook new for access code to work

**Milady Cosmetology 13+ Textbook w/ Mindtap Access Code - ISBN:
 9781305721937 \$393.00 approximately**

Must have by Tuesday, February 15th, 2022.

Available at the bookstore

<https://www.bkstr.com/comptonstore/product/milady-standard-cosmetology-2016--w-mindtap-access-code--622791-1> (Links to an external site.)

REQUIRED KITS MAY BE PURCHASED DIRECTLY THROUGH JAZZ BEAUTY AND BARBER SUPPLY

Compton College Cosmetology Module I Kit: \$821.25 approximately

Must have by Thursday, February 17, 2022

Available directly at Jazz-Z Beauty and Barber Supply

https://jzbeauty.com/products/module-1-compton-college-cosmetology-kit?_pos=2&_psq=compton&_ss=e&_v=1.0 (Links to an external site.)

Compton College Cosmetology Module II Kit: \$ 476.33 approximately

Must have by Thursday February 17, 2022

Available directly at Jazz-Z Beauty and Barber Supply

https://jzbeauty.com/products/module-2-compton-college-cosmetology-kit?_pos=1&_psq=compt&_ss=e&_v=1.0 (Links to an external site.)

DRESS CODE / Black Scrubs

ALL cosmetology students are required to adhere to the following uniform dress code when attending class on campus.

All attire must be black in color.

SOLID BLACK

- A **BLACK SCRUB TOP – T-SHIRT**. Black dress top or blouse is not acceptable. No headbands, No scarves, No beanies, No hats of any kind. Decollate area of all students must be completely covered. Keep it professional. Compton College Cosmetology T-shirts may be purchased and worn.

FULL-LENGTH BLACK SCRUB PANTS. Black slacks, leggings, or jeans are not acceptable. **BLACK SOCKS** are required at all times, **NO ANKLES CAN BE SHOWING.**

- **BLACK CLOSED-TOE, CLOSED-HEELED, LEATHER or RUBBER SOLED SHOES** with less than 2-inch heels are required. Tennis shoes meeting the aforementioned requirements are acceptable. The shoe pictured below is made by Converse, respectively, and cost about \$35. Sandals, slippers, flip-flops, or shoes with heels in excess of two inches are not acceptable and are not to be worn in class. Shoes must be mostly black. However, the soles of the feet may have some color, yet mostly all black. If you have any questions as to whether your shoes meet uniform policy, please contact your instructor prior to purchasing your shoes.
- **BLACK SOCKS MUST BE WORN AT ALL TIMES.** Students wearing no socks will be asked to clock-out and returned when they have on black socks.
- Students must have their ankles completely covered to receive their time cards. **NO EXCEPTIONS**
- **NO SUNGLASSES OR TINTED LENSES ALLOWED DURING CLASS.** Please remove all sunglasses, shades, and tinted lenses before clocking in. Only glasses with clear prescription and nonprescription lenses are allowed during class.
- **School IDs** must be worn at all times. This is a mandatory State Board regulation and not having a lanyard with identification is a state violation. The student center may provide you information on the first day of school on acquiring your student ID.

ONLY SOLID BLACK JACKETS ARE ALLOWED.

- **STUDENTS ENROLLED IN COSM-1 OR COSM-10 ARE EXPECTED TO BE IN UNIFORM BY THE FRIDAY OF THE FIRST WEEK OF CLASS.** Students enrolled in all other courses are expected to be in uniform on the first day of class.

- **FREE DRESS IS A PRIVILEGE.** When participating in free dress on campus, closed toe shoes must be worn. When participating in free dress on and off campus, clothes should be modest and not showing bare skin of the belly, chest, buttocks, or upper thigh. Sunglasses, flip-flops, mini-skirts, tube tops, bandanas are not allowed. Shorts should reach mid-thigh.

STUDENT ID & LANYARDS

- Students must be in uniform including student ID with a lanyard before clocking in and maintain a neat and clean appearance at all times. Students should not ask for a time card without wearing a lanyard. Holding a lanyard in your hand does not in compliance. If a student's lanyard breaks the student will need to purchase a new one before clocking in. If a student loses their student ID, they will need to provide a receipt they have purchased a new ID before they clock-in. The receipt may be placed in the plastic cover of the lanyard to remain in class.

If you are a student applying for EOPS or CARE the list below may be provided:

1. Small covered trash can and all items required for a daily table set-up. **(taped trash bags used ONLY for testing as mandated by the California State Board of Barbering and Cosmetology)**
2. 4 Clear Containers.
3. Blood Spill Kit (first aid) with a pair of gloves.
4. 2 cans of shaving cream.
5. Permanent marker, highlighter pen, and *masking tape (optional)*
6. 2 large roll of paper towel for daily table set-up.
7. Minimum of 6 clean towels weekly for mannequins and exchanges.
8. Clean bed sheet and clean towels (minimum 2) for facial exchanges.
9. Facial gown, head drape, and *foot drape (optional.)*
10. Disposable Makeup applicators:
 - a) Powder puffs (cotton balls acceptable)
 - b) Sponges
 - c) Eye shadow applicators (Q-tips acceptable)
 - d) Mascara wand applicators
 - e) Lipstick brush applicators (Lip gloss sponge applicators optional)
 - f) Spatula
 - g) Eyebrow brush and makeup pencil sharpener
 - h) Headband and makeup drape
 - i) Makeup (liquid foundation, loose powder in shaker container, concealer, rouge, eyebrow pencil, eye shadow, eyeliner pencil, mascara, lip pencil, lipstick)
 - j) Artificial eyelashes & adhesives (individual with glue and strips with duo eyelash glue)
 - k) A labeled "CLEAN" plastic container to organize sterile makeup
11. Plastic fingers & hand
12. Safety goggles
13. Natural Nail Care and Artificial Nail items:
 - a. Nail tips
 - b. Mends/wraps
 - c. Nail glue
 - d. Emery board file
 - e. Nail scissors
 - f. Nail forms (stickers)
 - g. Acrylic powder polymer

- h. Odorless liquid monomer
 - i. Dappen dish
 - j. Nail primer
 - k. Acrylic brush
14. Acrylic file (180)
 15. 3-way nail buffer file
 16. A labeled “**CLEAN**” plastic container to organize sterile manicure implements and equipment
 17. A gallon size box of plastic food storage zip-lock OR slide-lock bags.
 18. Hair color products:
 - a. Pravana powder bleach (big tub).
 - b. Pravana Hydrogen Peroxide 20 Volume **CREME**
 - c. **Pravana Colors - Refer to Color Product List**
 19. Rolling Traveling Suit Case for required items
 20. Large Clear Plastic Zip Lock Bags
 21. 6 Clear Plastic Containers

Disclaimer Statement

Students will be notified ahead of time when and if any changes are made to course requirements or policies.

I acknowledge that I have received and I am responsible to review the course syllabi for the Spring 2022 16-Week Cosmetology Course, Introduction to Cosmetology I / COSM-104, CRN# 30401, located at the Compton College Tarter Village in Room 1 when attending campus. My class meets Monday – Wednesday from 5:00 p.m. - 10:00 p.m. and Thursday from 6:00 p.m. - 10:00 p.m. I have read the syllabi online and I understand all the policies, instructor’s expectations, and rules (e.g., technology and text requirements, grading system, attendance policy, academic integrity policy, assignment responsibilities, test policies, etc.) as stated in the syllabi for this course.

If I have any questions or concerns, I will contact the instructor for further explanation.

I understand that I am responsible to attend all field trips, attend all guest speakers, complete all homework assignments, tests/in-class assignments, and written projects by the due dates as outlined in the syllabi which are reflected on the course calendar.

I agree to be prepared for and attend class each day upon arrival.

Student’s Name (PLEASE PRINT NEATLY)

Student’s Signature



Course Information

Course Information

Course Discipline: COSM

Course Division: Business and Industrial Studies

Course Number: 104

Full Course Title: Introduction to Cosmetology I

Short Title: Intro to Cosmetology I

TOP Code: 3007.00 - Cosmetology and Barbering*

SAM Code: C - Clearly Occupational

Credit Status D - Credit - Degree Applicable

Transfer Status B - Transferable to CSU only.

Effective Term: Fall 2020

Board of Trustees Approval Date:

2019-12-10

Course Description

This course is the first of a two-course introductory series covering cosmetology procedures and equipment for wet and thermal styling, permanent waving, chemical straightening, hair coloring, scalp treatments, manicuring and pedicuring procedures. This is a preparatory course for the State Board of Cosmetology examination and employment.

Note: Students who have earned credit in Cosmetology 101 cannot receive unit credit for Cosmetology 104.

Course Standards

Lecture Hours:

54.000

Activity Hours:

0.000

Lab Hours:

270.000

Outside-of-Class Hours:

108.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

Lecture Hours:

54.000

Activity Hours:

0.000

Lab Hours:

270.000

Outside-of-Class Hours:

108.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

Min/Max Units:

8.000

Total Hours:

324.000

Grading Method:

Letter grade only

Course Requirements

1. Other**Subject****Requisite Course****Non Course Requirements**

Course Content

1. Lecture**Outline**

COSMETOLOGY INTRODUCTION

Safety

Career opportunities

Approximate Time In Hours

5.00

2. Lab**Outline**

COSMETOLOGY INTRODUCTION

Lab Safety

Classroom tour

Equipment use

Approximate Time In Hours

10.00

3. **Lecture**

Outline

SERVING THE PUBLIC

Communication

Customer service

Consultation

Meeting customer's expectations

Approximate Time In Hours

5.00

4. **Lab**

Outline

SERVING THE PUBLIC

Communication

Customer service

Consultation

Meeting customer's expectations

Approximate Time In Hours

10.00

5. **Lecture**

Outline

PRINCIPLES OF WET AND THERMAL STYLING

Client protection and safety practices

Sanitation and disinfection

Proper use of implements

Shaping and bases

Finger waving

Pin curls

Roller curls

Comb-out procedure

Thermal pressing and curling

Approximate Time In Hours

6.00

6. **Lab**

Outline

PRINCIPLES OF WET AND THERMAL STYLING

Client protection and safety practices

Sanitation and disinfection

Proper use of implements

Shaping and bases

Finger waving
Pin curls and bases
Roller curls
Comb-out procedure
Thermal pressing and curling

Approximate Time In Hours

34.00

7. **Lecture**

Outline

PRINCIPLES OF PERMANENT WAVING

Client protection and safety practices
Sanitation and disinfection
Action of chemicals
Sectioning, blocking and base placements
Permanent waving procedures
Wrapping patterns and techniques
Types of rods
Application of waving solution
Processing times
Application of Neutralizing solution

Approximate Time In Hours

6.00

8. **Lab**

Outline

PRINCIPLES OF PERMANENT WAVING

Client protection and Safety practices
Sanitation and disinfection
Action of chemicals
Sectioning, blocking and base placements
Permanent waving procedures
Wrapping patterns and techniques
Types of rods
Application of waving solution
Processing times
Application of Neutralizing solution

Approximate Time In Hours

36.00

9. **Lecture**

Outline

PRINCIPLES OF CHEMICAL RELAXING

Client protection and safety practices
Sanitation and disinfection
Types of relaxers and straighteners
Implements
Basic procedures
Chemical applications
Smoothing process
Strand test
Neutralizing

Approximate Time In Hours

6.00

10. **Lab**

Outline

PRINCIPLES OF CHEMICAL RELAXING

Client protection and safety practices
Sanitation and disinfection
Types of relaxers and straighteners
Implements
Basic procedures
Chemical applications
Smoothing process
Strand test
Neutralizing

Approximate Time In Hours

34.00

11. **Lecture**

Outline

PRINCIPLES OF HAIRCUTTING

Client protection and safety practices
Sanitation and disinfection
Implements
Basic haircuts
Scissor cutting
Razor cutting
Clipper cutting
Cutting techniques

Approximate Time In Hours

5.00

12. **Lab**

Outline

PRINCIPLES OF HAIRCUTTING

Client protection and safety practices

Sanitation and disinfection

Implements

Basic haircuts

Scissor cutting

Razor cutting

Clipper cutting

Cutting techniques

Approximate Time In Hours

34.00

13. **Lecture**

Outline

PRINCIPLES OF SCALP TREATMENTS

Client protection and safety practices

Sanitation and disinfection

Proper draping

Scientific brushing

Chemistry of shampoo

Types of shampoo

Scalp manipulations

Shampoo and conditioning treatments

Approximate Time In Hours

5.00

14. **Lab**

Outline

PRINCIPLES OF SCALP TREATMENTS

Client protection and safety practices

Sanitation and disinfection

Proper draping

Scientific brushing

Chemistry of shampoo

Types of shampoo

Scalp manipulations

Shampoo and conditioning treatments

Approximate Time In Hours

8.00

15. **Lecture**

Outline

PRINCIPLES OF HAIRCOLORING AND BLEACHING

Client protection and safety practices

Sanitation and disinfection

Aniline derivatives

Predisposition test and strand test
Level system
The law of color
Types of haircolor
Hydrogen Peroxide Developers
Decolorizing process
Lightening and toning
Haircolor techniques
Client consultation
Tint records

Approximate Time In Hours

6.00

16. **Lab**

Outline

PRINCIPLES OF HAIRCOLORING AND BLEACHING

Client protection and safety practices
Sanitation and disinfection
Aniline derivatives
Predisposition test and strand test
Level system
The law of color
Types of haircolor
Hydrogen Peroxide Developers
Decolorizing process
Lightening and toning
Haircolor techniques
Client consultation
Tint records

Approximate Time In Hours

34.00

17. **Lecture**

Outline

PRINCIPLES OF FACIAL TREATMENTS

Client protection and safety practices
Sanitation and disinfection
Draping
Consultation and skin analysis
Skin types
Skin care products
Basic massage manipulations

Basic facial manipulations
Nerve points
Hair removal and makeup

Approximate Time In Hours

5.00

18. **Lab**

Outline

PRINCIPLES OF FACIAL TREATMENTS

Client protection and safety practices
Sanitation and disinfection
Draping
Consultation and skin analysis
Skin Types
Skin care products
Basic massage manipulations
Basic facial manipulations
Nerve points
Hair removal and makeup

Approximate Time In Hours

34.00

19. **Lecture**

Outline

PRINCIPLES OF MANICURING AND PEDICURING

Client protection and Safety practices
Sanitation and disinfection
Proper use of Implements
Proper use of nail products
Table set-up
Hand and arm massage
Manicure and pedicure procedures
Treatments

Approximate Time In Hours

5.00

20. **Lab**

Outline

PRINCIPLES OF MANICURING AND PEDICURING

Client protection and safety practices

Sanitation and disinfection
Proper use of Implements
Proper use of nail products
Table set-up
Hand and arm massage
Manicure and pedicure procedures
Treatments

Approximate Time In Hours

36.00

Course Objectives

Upon successful completion of the course, the student will demonstrate the ability to:

1. Correctly answer objective questions on cosmetology safety practices and sanitation procedures.
2. Apply the principles of thermal styling on a gloria head.
3. Demonstrate the techniques of permanent waving.
4. Demonstrate the process of chemical relaxing.
5. Describe the principles of scalp treatments.
6. Discuss the techniques used in layered haircuts.
7. Access information concerning cosmetology procedures and practices from source documents and databases.
8. Employ appropriate interpersonal skills to serve clients and customers.

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1.

SLO #1 Predisposition Test Students will be able to perform a Predisposition Test (skin patch, allergy test) procedure using simulated hair products, such as, tint and peroxide.

2.

SLO #2 Client Services Record Students will maintain records of a client service by specifying details (e.g. products, processing time) of the services performed. Students will fill out a client card.

3.

SLO #3 Sanitation

Students will sanitize equipment in preparation for cosmetology service using the State Board of Barbering Cosmetology techniques. Students will create a list of the seven steps required.

Methods of Instruction

- **Demonstration**
Demonstration in domains required by the State Board of Barbering and Cosmetology and course student learning outcomes.
- **Discussion**
The required practical and theory State Board of Barbering and Cosmetology domains are explored.
- **Field trips**
Program seasonal field trips are provided during course hours. For example: Fashion Institute of Design and Merchandising (FIDM), The Grammy Museum, The Hollywood Museum, Dermalogica and local salon visits.
- **Group Activities**
Diversity and industry employment exercises.
- **Guest Speakers**
Guest speakers from the cosmetology industry present demonstrations that include: barbering, nails, braids, facials, thermal styling, manicures and pedicures.
- **Internet Presentation/Resources**
Milady PPT presentations, State Board of Barbering and Cosmetology online material resources, and MindTap exercises.
- **Laboratory**
Students are required to service clients during clinic hours, bring models, exchange services, and complete required practical operations.
- **Lecture**
Lecture is provided in subject areas required by the State Board of Barbering and Cosmetology.
- **Multimedia presentations**
Online videos.
- **Role Play**
Mock interviews and client consultations.
- **Simulation**
State Board of Barbering and Cosmetology mock written and practical examinations.

Methods of Evaluation

- Skills demonstrations

Typical Assignments

Some assignments require critical thinking:

Apply the concepts of a layered haircut to a gloria head and document the steps required on a client card. Submit the client card to the instructor.

Analyze and select a product used to chemically relax a client's hair. Discuss with a team the steps used in the process and present conclusions to the instructor.

Reading Assignments:

Writing Assignments:

Other Assignments:

Demonstrate a basic 9 section on a gloria head using the rod that will be used to wrap the hair. Contact the instructor for evaluation.

Course Materials

1. **Author:** Milady

Title: MILADY STANDARD COSMETOLOGY

Edition:

Publisher: Cengage Learning

ISBN-13:

Year: 2012

Rationale for older textbook:

Or Equivalent: No

2. **Author:** Milady

Title: MILADY STANDARD COSMETOLOGY WORKBOOKS: PRACTICAL, THEORY, EXAM REVIEW, CD ROM (in a bundle)

Edition:

Publisher: Cengage Learning

ISBN-13:

Year: 2012

Rationale for older textbook:

Or Equivalent: No

3. **Author:** Milady

Title: MILADY STANDARD COSMETOLOGY STUDY GUIDE

Edition:

Publisher: Cengage Learning

ISBN-13:

Year: 2012

Rationale for older textbook:

Or Equivalent: No

4. **Author:** Deborah Beatty

Title: MILADYS STANDARD PREPARING FOR PRACTICAL EXAM - COSMETOLOGY

Edition:

Publisher: Cengage Learning

ISBN-13:

Year: 2012

Rationale for older textbook:

Or Equivalent: No

1. **Other:**

COSMETOLOGY STUDENT KIT containing:

Blow dryer

Brushes: Denman, vent, styling

Clips: coif (box of 12), curl (box of 100)

Combs: fingerwave, haircutting, styling, tail

Curling iron

Cuticle nipper with case

Emery board (box of 5)

Gloves, rubber

Gloria head

Hair shaper with blades

Hot comb and hot iron

Manicure sticks

Nail: brush, file, tips, wrap kit

Nail polish kit

Notebook, paper, pen, pencil

Perm rods (5 dozen)

Roller bag

Shampoo cape

Shears: haircutting, thinning

Shoes, black

Smock, black

Spatula

Stand

Steel Pusher

Triangle net

Tweezers

Minimum Qualification

1. Cosmetology
Condition

Machine Tool Technology 120 (71002)

-Fall 2022-

“Manufacturing Print Reading”

Instructor:	Michael VanOverbeck
Office Hour:	4:30-5:30pm M&W @ my office 4:30-5:30pm M, T W & Th on Zoom
Office location:	VT 164
Telephone:	310-900-1600 Ext 2660
E-mail:	mvanoverbeck@Compton.Edu
Class days and times:	10/15/2022 - 12/09/2022 Online - Asynchronous

Course Description and Goals

Students are introduced to engineering drawings and engineering specifications used in manufacturing industries. Representative drawings from simple production to complex assembly will be used to demonstrate concepts and for practice in interpreting the symbols and notations. Geometric Dimensioning and Tolerancing (GD&T) in accordance with American National Standards Institute (ANSI) Y-14.5 standard and the construction of simple machine parts are also discussed.

Course Objectives

Students will learn the following:

- Understand shop math problems involving fractions, decimals, and inch/metric conversions.
- Compare and contrast the lines, views, title blocks, dimensions, tolerances, pictorials, materials lists, notes, changes, machine processes and symbols used on engineering drawings.
- Accurately construct, from orthographic projections to demonstrate visualization and interpretation.
- Analyze engineering drawings with one or more views, thread specifications and dimensions, machine operation callouts, dimensions, tolerances and geometric dimensioning and tolerancing.

Student Learning Outcomes

- SLO #1 ORTHOGRAPHIC PROJECTION Student will correctly sketch a part in orthographic orientation.
- SLO #2 MULTI-VIEW ORTHOGRAPHIC DRAWINGS Demonstrate basic understanding or Multi-View Orthographic drawings, including part visualization and interpretation and the mechanics of: dimensioning, tolerancing and drawing.
- SLO #3 Total POSITION TOLERANCE Gain a basic understanding of GD&T (Geometric Dimensioning and Tolerancing) practices. Presented with a Feature Control Frame, students will calculate total positional tolerance of a hole utilizing Maximum Material Condition, Least Material Condition and Regardless of Feature Size Modifiers.

Attendance

- This course is online asynchronous.
 - Asynchronous learning is a general term used to describe forms of education, instruction, and learning that do not occur in the same place or at the same time.
 - You will be given content each week with a due date attached.

Required Texts/Readings

- There is no required textbook.

Recommended Texts/Readings

- **Hammer's Blueprint Reading Basics** 4th Edition
 - by Charles Gillis (Author)
 - Publisher: Industrial Press, Inc.
 - ISBN-13: 978-0831136147
 - ISBN-10: 0831136146

Assignments and Grading Policy

Homework and Quizzes	60%
Midterm	20%
Final	20%

The following scale will be used to determine the final grade of the semester.

A	B	C	D	F
100% - 90%	89% - 80%	79% - 70%	69% - 60%	Below 60%

Homework and Quizzes:

- **Homework**
 - Online assignments will be used to assess mastery of course content.
 - Homework must be turned in on the due date.
 - Life happens and if something comes up that prevents you from turning in your homework on time, please reach out to me and let me know that you will need more time. I am happy to work with you to get through this content.
- **Quizzes**
 - I try to give ample time to finish quizzes. (multiple days)
 - I also allow multiple attempts so that you can work to achieve the grade you wish to achieve.

Final and Mid-term

- These will be an accumulation of all the content we have done throughout the semester.
- You will be allowed to take the final as many times as you wish within the time given.
 - This allows you to retake the test to work on achieving the grade you wish to get. I believe this method gives the student more of a chance to learn the content and incentivizes perseverance. I hope I give everyone an A, but you need to earn it.

Semester schedule of topics and assignments:

Week	Week Activity
1	Unit 1 – The Basics
2	Unit 2 – The Reading of Manufactured Prints
3	<i>Unit 3 – The Total Manufactured Print</i>
4	Unit 4 – The Views of Manufactured Prints
5	Midterm Unit 5 – Dimensioning
6	Unit 6 – Tolerancing Unit 7 – GD&T
7	Unit 8 – Surface Finish Unit 9 - Threads
8	Wrap up Final

Canvas Course Management

- For questions regarding how to access the Canvas online learning platform, please contact: distance_ed@compton.edu; or call 310-900-1600 ex 2265 and someone from the Distance Education Department will help you as soon as possible. You can also visit the DE Tech Lab in VT 212A for one-on-one help on campus with Canvas.
- To contact the Distance Education Department electronically, [please click on the Distance Education Virtual Office link](#).
- If you are experiencing technical difficulties once you are logged into Canvas, please contact Canvas Tech Support at (424) 213-6003.

Important Websites and Resources for Online & Hybrid Courses

- [Compton College Distance Education Website](#)
- [Canvas Login- MyCompton Login](#)
- [Video Overview of Canvas](#)
- [Passport to Canvas Student Orientation](#)
- [Distance Education Virtual Office](#)
- [Online Student Support Hub](#)
- [Chat with a Compton College Counselor](#)
- Students can call the Canvas Student Help Number 24/7 at: 424-213-6003

Reasonable Accommodation and 508 Accessibility Statement

- Compton College is committed to ensuring equal access to instructional materials and Information and Communication Technology for all, and particularly for individuals with disabilities in a timely manner. In accordance with California Government Code §7405, Government Code §11135, Government Code §11546.7 and best practices, the California Community College Chancellor's Office and California Community Colleges will comply with the accessibility requirements of Section 508 of the Federal Rehabilitation Act of 1973. If you have any questions about accessibility, please contact the Distance Education Department. Furthermore, all reasonable accommodations will be provided to any student who is registered with the Compton College Special Resource Center (SRC). You may also inbox me about creating an effective learning environment or you may submit your request to me in writing.
- In support of the Americans with Disabilities Act (ADA), any and all reasonable accommodations will be provided to any student who is registered with the Compton College Special Resource Center (SRC). You may speak with me about creating an effective learning environment or you may submit your request to me in writing.

Disclaimer Statement:

- Students will be notified ahead of time when and if any changes are made to course requirements or policies.

Student Affirmation Statement

- I affirm that I am the student who enrolled in this course. Furthermore, I affirm that I understand and agree to follow the regulations regarding academic integrity and the use of student data as described by Compton College Board Policy 5500 - Academic Honesty and Standards of Conduct Student Conduct Code that governs students' rights and responsibilities. Failure to abide by the regulations may result in disciplinary action up to expulsion from the college as noted in CCC Administrative Procedure 5520.
 - Students who plan to stay in this course will be asked to state that they are in fact the person who they say they are and that they will agree to follow district policies stating that plagiarism will not occur, and proper professional student conduct will be followed in the online environment.

Compton College

CLASSROOM POLICIES

ATTENDANCE POLICY

- Students who enroll in class but do not attend the first scheduled class meeting may be dropped from the roster. A student who registers for a class and never attends is still responsible for dropping the class.
- Students will not be permitted to attend classes in which they are not enrolled.
- Students are expected to attend classes regularly. Students whose absences exceed 10% of the scheduled class meeting time may be dropped by the Instructor. This rule also applies to excessive absences due to illness or medical treatment.

Examples of CLASSROOM MISCONDUCT

- Dishonesty, including but not limited to cheating, plagiarism or knowingly furnishing false information to the College.
- Forgery, alteration, or misuse of college documents, records, or identification.
- Violation of college policies or off-campus regulations, including but not limited to campus regulations concerning student organizations, the use of college facilities, or time, place, and manner of public expression.
- Continued disruptive behavior, continued willful disobedience, profanity or vulgarity, or continued defiance of the authority of, or abuse of, college personnel or to anyone on campus.
- Willful misconduct which results in injury or death to student or college personnel.
- Assault, battery, sex crimes including sexual assault or rape, or any threat of force or violence upon student or college personnel.
- Sexual harassment which includes unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature.
- Obstruction or disruption of teaching, research, administration, disciplinary proceedings, or other authorized college activities including but not limited to its community service functions or to authorized activities held off campus. Obstruction or disruption includes but is not limited to the use of skateboards, bicycles, radios, and roller skates.
- Unauthorized entry to or use of college facilities, equipment or supplies.
- Theft or deliberate damage to property of a college staff member, a student, or a visitor to the college including but not limited to the Library, Bookstore and Food Service areas.

- Defacing or damaging any college or personal property.
- Failure to comply with the directions of a member of the college certificated personnel, college management or supervisor personnel, or campus police acting within the scope of his or her duties.

DISCIPLINARY ACTION

- Disciplinary action appropriate to the misconduct as defined above may be taken by an instructor the Dean of Student Services or his or her designee and the Board of Trustees.
- Misconduct should be brought to the immediate attention of the Campus Police, or local police department/security force for courses taught off campus.
- Removal by Instructor — In addition to an instructor's right to drop a student permanently from a class when the student is no longer participating i.e. lack of attendance in the course, an instructor may remove (suspend) a student from his or her class for the day of the incident and the next class meeting. During this period of removal, a conference should be held with the instructor and the student to attempt to resolve the situation that led to the student's removal and the student shall not be returned to the class from which he or she was removed without the concurrence of the instructor of the class.
- If a student is suspended for one class meeting, no additional formal disciplinary procedures are necessary.
- If a student is suspended from class for the day of the incident and the next class meeting, the instructor shall send a written report of the action to his or her dean who shall forward this information to the Dean of Student Services, the Provost. If the student removed by an instructor is a minor, the President's designee (Dean of Student Services) shall ask a parent or guardian of the student to attend a parent conference regarding the removal as soon as possible. If the instructor or the parent or guardian so requests, a college administrator shall attend the conference.
- The instructor may recommend to his or her dean that a student be suspended for longer than two class meetings. If the dean, instructor and student cannot resolve the problem, the suspension will be referred to the President or the President's designee.
- During the period following the initial suspension from class for the day of the incident and the following class meeting, the student shall be allowed to return to the class until due process and the disciplinary procedures are completed unless the student is further suspended because of actions.

CHEATING OR PLAGIARISM POLICY

This policy applies to all forms of dishonesty, including but not limited to cheating, plagiarism or knowingly furnishing false information to the college.

EXAMPLES OF CHEATING OR PLAGIARISM

- Representing the words, ideas or work of another as one's own in any academic exercise (plagiarism), including the use of commercial term paper companies;
- Copying or allowing another student to copy from one's paper or answer sheet during an examination;
- Allowing another individual to assume one's identity for the purpose of enhancing one's grade in any of the following: testing, field trips or attendance;
- Falsifying or attempting to falsify attendance records and/or grade rosters;
- Changing answers on a previously scored test, assignment or experiment with the intent to defraud;
- Inventing data for the purpose of completing a laboratory experiment or case study analysis with the intent to defraud;
- Giving and/or taking information during an examination by any means such as sign language, hand signals or secret codes;
- Obtaining copies of notes, exams or exam questions by any means other than distribution from the instructor. (This includes copying and removing exam questions from the classroom for any purpose.);
- Using study aids such as calculators, tape recorders or notes that have been specifically prohibited by the instructor.

CONSEQUENCES FOR CHEATING OR PLAGIARISM

- Given alleged violation of the Standards of Conduct, any or all of the following actions may be imposed:
- When there is evidence of cheating or plagiarism in classroom work, students may receive an F for that piece of work or may be suspended from all classes for that term and the following term if deemed appropriate.
- The instructor may assign a failing grade to the examination or assignment in which the alleged cheating or plagiarism occurred. This action is based on information that the instructor had.
- The instructor may dismiss the student from the class or activity for the present and/or following class session(s)
- The instructor may recommend suspension or expulsion of the student from the college as stipulated in BP5138, Section IIB6 and 8. This recommendation must be in accordance with El Camino College's Due Process and Disciplinary Procedures.
- Complete the Academic Dishonesty Report Form and submit it to the Academic Affairs Office.



Course Information

Course Information

Course Discipline: MTT

Course Division: Business and Industrial Studies

Course Number: 120

Full Course Title: Manufacturing Print Reading

Short Title: Manufacturing Print Reading

TOP Code: 0956.30 - Machining and Machine Tools*

SAM Code: C - Clearly Occupational

Credit Status D - Credit - Degree Applicable

Transfer Status B - Transferable to CSU only.

Effective Term: Fall 2020

Board of Trustees Approval Date:

2020-11-17

Course Description

Students are introduced to engineering drawings and engineering specifications used in manufacturing industries. Representative drawings from simple production to complex assembly will be used to demonstrate concepts and for practice in interpreting the symbols and notations. Geometric Dimensioning and Tolerancing (GD&T) in accordance with American National Standards Institute (ANSI) Y-14.5 standard and the construction of simple machine parts are also discussed.

Course Standards

Lecture Hours:

54.000

Activity Hours:

0.000

Lab Hours:

Outside-of-Class Hours:

108.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

Lecture Hours:

54.000

Activity Hours:

0.000

Lab Hours:**Outside-of-Class Hours:**

108.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:**Min/Max Units:**

3.000

Total Hours:

54.000

Grading Method:

Letter grade only

Course Content

1. **Lecture****Outline**

THE LANGUAGE OF INDUSTRY A. Engineering drawings B. Specifications

Approximate Time In Hours

3.00

2. **Lecture****Outline**

ALPHABET OF LINES A. Visible line B. Hidden line C. Center line D. Section line E. Dimensioning line F. Sketching

Approximate Time In Hours

3.00

3. **Lecture****Outline**

UNDERSTANDING ORTHOGRAPHIC PROJECTION A. Geometric construction 1. Orientation terminology 2. Shape terminology B. Multiview drawings 1. Orthographic 2. Dimensions

Approximate Time In Hours

3.00

4. **Lecture****Outline**

AUXILIARY VIEWS A. True shape B. Inclined surface C. Projections D. Sketching

Approximate Time In Hours

3.00

5. **Lecture****Outline**

DIMENSIONING AND TOLERANCING A. Types B. Rules C. Choice of placement

Approximate Time In Hours

6.00

6. **Lecture**

Outline

SECTIONAL VIEWS A. Full B. Half C. Offset D. Aligned

Approximate Time In Hours

3.00

7. **Lecture**

Outline

PICTORIAL DRAWINGS A. Detail drawings B. Machining drawings C. Pattern development drawing
D. Assembly drawing

Approximate Time In Hours

3.00

8. **Lecture**

Outline

TITLE BLOCKS A. Part name B. Part number C. List of materials D. Drawing notes E. General
tolerance box

Approximate Time In Hours

3.00

9. **Lecture**

Outline

DRAWING NOTES A. Drawing notes B. Drawing changes C. Drawing revisions

Approximate Time In Hours

3.00

10. **Lecture**

Outline

THREAD REPRESENTATION AND DESIGNATION A. Definitions B. Thread terms C. Screw thread
forms D. Metric threads E. Pipe threads

Approximate Time In Hours

3.00

11. **Lecture**

Outline

MACHINING PROCESSES A. Bench B. Lathe C. Milling machine D. Drill press E. Computer
Numerical Control (CNC)

Approximate Time In Hours

3.00

12. **Lecture**

Outline

GD&TA. Standard B. Symbols C. GD&T terminology D. Datums E. Modifiers

Approximate Time In Hours

6.00

13. **Lecture**

Outline

GEARS, SPLINES AND SERRATIONS A. Gears: spur, bevel and worm B. Splines C. Serrations

Approximate Time In Hours

3.00

14. **Lecture**

Outline

NUMERICAL CONTROL (NC) DOCUMENTS A. NC programming documents B. Reference point systems C. Interpreting an NC program

Approximate Time In Hours

6.00

15. **Lecture**

Outline

WELDING PRINTS A. Elements of welding B. Welding symbols C. Supplementary symbols

Approximate Time In Hours

3.00

Course Objectives

Upon successful completion of the course, the student will demonstrate the ability to:

1. **Lecture**

Understand shop math problems involving fractions, decimals and inch/metric conversions.

2. **Lecture**

Compare and contrast the lines, views, title blocks, dimensions, tolerances, pictorials, materials lists, notes, changes, machine processes and symbols used on engineering drawings.

3. **Lecture**

Accurately construct, from orthographic projections to demonstrate visualization and interpretation.

4. **Lecture**

Analyze engineering drawings with one or more views, thread specifications and dimensions, machine operation call-outs, dimensions, tolerances and geometric dimensioning and tolerancing.

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1. **SLO #1 Orthographic Orientation** - Student will correctly sketch a part in orthographic orientation.

2. **SLO #2 Multi-View Orthographic Drawings** - Demonstrate basic understanding of Multi-View Orthographic drawings, including part visualization and interpretation and the mechanics of: dimensioning, tolerancing and drawing.

3. **SLO #3 Total Position Tolerance** - Gain a basic understanding of GD&T (Geometric Dimensioning and Tolerancing) practices. Presented with a Feature Control Frame, students will calculate total positional tolerance of a hole utilizing Maximum Material Condition, Least Material Condition and Regardless of Feature Size Modifiers.

Methods of Instruction

- **Demonstration**

Demonstrate concepts related to course description and content; to fulfill Course Objectives and SLO's.

- **Discussion**

Initiate class discussions on topics related to the course description and content; to fulfill Course Objectives and SLO's.

- **Lecture**

Lecture on topics related to course description and content; to fulfill Course Objectives and SLO's.

- **Multimedia presentations**

Using the overhead projector, utilize video and PowerPoint presentation content related to course description and content; to fulfill Course Objectives and SLO's.

Methods of Evaluation

- Problem solving demonstrations (computational or non-computational)

Typical Assignments

Some assignments require critical thinking:

The Arm and Hub Assembly drawing provided incorporates GD&T per ANSI Y-14.5. at Minimum Material Condition (MMC) and calculate the tolerance zone for all of the drilled hole. Report findings on a one-page worksheet and submit to the instructor for evaluation.

Examine the engineering drawing for the Lower Support Cylinder Union and interpret the call-outs and feature control frames for each GD&T symbol. Report your findings on a one-page worksheet and submit to the instructor for evaluation.

Other Assignments:

Refer to the orthographic projection of the "Corner Gadget Block" provided by the instructor. Using cardboard and tape, construct the " Corner Gadget Block" within an area no larger than 1 cubic foot. Submit gadget block to the instructor for evaluation.

Course Materials

1. **Author:** C.Gillis & W.Hammer
Title: Hammer's Blueprint Reading Basics
Edition: 4th edition
Publisher: Industrial Press
ISBN-13: 9780831136147
Year: 2017
Or Equivalent: No
2. **Author:** Walter C. Brown
Title: BLUEPRINT READING FOR INDUSTRY
Edition: 10th
Publisher: Goodheart Wilcox
Year: 2016
Or Equivalent: No

Minimum Qualification

1. Machine Tool Technology
Condition

Real Estate Principles (RE-111) Section 395

Spring 2022 – Online Course (Due to Covid-19)

Compton College

[Online – Distance Education Course](#)

Office Hours: Daily 8AM-9AM and 4PM-6PM and as requested by appointment.

Course Name:	Real Estate Principles (RE 111)
Section Number:	395 (3 Units)
Meeting Times:	Online – Distance Education Course
Location:	ECC - Online Distance Education Course using Canvas
Prerequisite:	None
Required Text:	Real Estate Principles in California by Tom Felde (Cost is about \$26 New at the ECC Bookstore or online)
Optional:	Test Study Book – CA Real Estate Final Exams Tom Felde (\$35)
Instructor:	John Yeressian, B.S., M.B.A., BRE# 01854965, DOI# 0E51991
Telephone/text:	(310) 660-3593 x3777
Email:	jyeressian@compton.edu

- **Important Dates** – The following dates are helpful to students:
- Last day to ADD a class – Check Schedule of Classes Due to Covid Dates may have changed.

The Instructor:

John Yeressian is a California licensed real estate broker and a LEED Green Associate. He has been a licensed broker since 2008 and has been actively involved in real estate in the southern California region. He is a director on the L.A. County Boards of Realtors and involved with the Rancho Southwest Board of Realtors as well as the SouthBay Board of Realtors.

Course Description:

This course covers various aspects of real estate, including an introduction to legal aspects, title and escrow procedures, property management, appraisal, finance, and the ownership of real property. Students develop basic vocabulary and test-taking skills in partial preparation for state examination for a California Bureau of Real Estate (BRE) license. Note: The California Bureau of Real Estate (BRE) requires completion of this course prior to taking the California Real Estate Salesperson Examination and has approved this course for credit for the BRE broker's license requirement.

California State Sales Exam Licensing[1]:

You need three (3) required classes to sit for the California Real Estate Sales Exam.

1. Real Estate Principles,
2. Real Estate Practices, and
3. Real Estate Elective Course from one of the following:

Real Estate Law, Real Estate Escrow, Real Estate Mortgage Loan Brokering, Real Estate Management, Real Estate Finance, Real Estate Economics, Real Estate Appraisal.

California State Examination Preparation:

This class prepares the aspiring real estate licensee to take the California real estate sales or brokers examination. When the student has finished this class they have a basic understanding of the real estate business world.

Course Objectives:

1. List and explain the step-by-step process and the legal requirements involved in the issuance of various types of licenses by the California Bureau of Real Estate (BRE).
2. Define common real estate terminology and recognize acronyms used in the industry.
3. Analyze and calculate problems pertaining to basic real estate mathematics.
4. Compare various types of loans.
5. Compare and contrast the various types of lending institutions.
6. Differentiate among the three methods of appraisal.
7. Create a property management file containing an advertisement, the application to rent, and the rental agreement contract.
8. Search public records and analyze items such as demographics, school ratings, crime rates, tax records, title ownership, comparable sales, property currently for sale, expired listings, rentals, economic indicators, newsletter and magazine articles about real estate and the economy.
9. Demonstrate test-taking skills in preparation for the state license examination.
10. Analyze transactional needs of a client and select transactional forms used for that real estate activity.
11. Utilize the three (3) common types of land descriptions to identify the location of a parcel of real property.
12. Differentiate between real and personal property and describe the rights inherent to both.
13. Specify various types of title insurance policies and explain the interaction between an escrow company and a title company in various parts of California.
14. Describe and outline the types of governmental controls and regulations that affect the rights of a property owner.
15. Develop a career plan that includes working conditions, terms of employment, and advancement opportunities.

Assignments	Point Value
Quizzes	100
Discussion topics on Canvas	100
Midterm Exam	100
Final Exam	100
Participation on Canvas (or Attendance)	100
Total Points	500

****Instructor reserves the right to adjust point values based on changes in the course****

Grading

Grade	Points
A	450-500
B	400-449
C	350-399
D	300-349
F	0-299

****Instructor reserves the right to change point values based on changes in the course****

****All late work, if accepted (per school policy) may count at only half (50%) credit****

Student Learning Outcomes (SLO's) for Real Estate (11) Principles

By the conclusion of this course, students should be able to:

RE 111 Real Estate Principles: SLO #1 Build Vocabulary

Define, describe, and differentiate between various real estate standard terminology showing comprehension and knowledge of real estate vocabulary used in the workplace to assist and

prepare each student from the diverse student body to gain confidence in their ability to effectively communicate and collaborate in a real estate sales, property management, appraisal, loan or investment to work with both licensees and a diverse public in a typical real estate transaction.

RE 111 Real Estate Principles: SLO #2 Industry Forms Documents

Students show the ability to prepare and complete standard real estate industry forms documents as found in diverse real estate sales, rental, finance, appraisal or investment business transactions.

RE 111 Real Estate Principles: SLO #3 Methods of Holding Title

Students will identify, distinguish and differentiate the differences between the various methods of holding title to real property, showing the ability to analyze, concisely write and/or verbally communicate and apply the appropriate vesting available in a typical real estate business transaction.

RE 111 Real Estate Principles: SLO #4 Mathematical Computations

Students will demonstrate the ability to calculate typical real estate mathematic computational problems as found in diverse real estate business areas of sales, leases, prorations, finance, appraisal, property management, investments and capitalization, land or structure area and taxation.

Basis for Subsequent Real Estate Classes:

Real estate principles is necessary as a basis for subsequent real estate classes. Advanced real estate classes are very difficult or impossible without this basic class of principles. Your next class, perhaps real estate practices. Real estate practices teaches you what we do in a real estate office. This includes filling out the necessary forms and paperwork to transact in real property sales.

Owners/Prospective Owners:

For real estate owners, aspiring investors, or just interested parties. This is the class that will make understanding real estate concepts, investments, management, and purchasing understandable. This class opens the door to understanding and successful manipulation of the principles involved in successfully participating in real estate.

Real Estate Principles (RE 111) Tentative Schedule[\[2\]](#)

Date	Topic	Description
WEEK 1 CHAPTER 1	Chapter 1 – Estates and Real Property	Class covers a general description of real property and personal property. Quiz
WEEK 2 CHAPTER 2	Chapter 2 – Ownership & Transfers of Real Property	Class examines the various methods of transferring title to property and methods of holding title.
WEEK 3 CHAPTER 3	Chapter 3 – Title Burdens and Protections, Encumbrances, Title Insurance & Escrow	Money & Non-Money Encumbrances Title Insurance and Escrows.
WEEK 4	Chapter 4 – Legal Descriptions and Business Opportunities	The Three Methods of Identifying Real Property ~ Sale of Business Opportunities is Explored.
WEEK 5	Chapter 5 – Financing Part I ~ This begins your journey into understanding loans	Introduction to Loans on Real Property.

WEEK 6	<u>Chapter 6 – Financing Part II ~ The Financial Markets and How Real Estate is Financed.</u>	Loan on Real Property are discussed in greater detail.
WEEK 7	<u>Chapter 7 – Intro to Real Estate Law ~ Laws Specific to the Practice of Real Estate</u>	Legal aspects of real estate and contract law, including those that impact agents & brokers.
WEEK 8	<u>Chapter 8 – Contracts Part I ~ The Language of Contracts</u>	Introduction to Contracts
	MIDTERM EXAM	***MIDTERM EXAM***
WEEK 9	<u>Chapter 9 – Contracts Part II ~ Real Estate Contracts and understanding them</u>	Contracts a further exploration
WEEK 10	<u>Chapter 10 – Taxation of Real Estate</u>	Real Estate Taxes
WEEK 11	<u>Chapter 11– Public Control ~ How the government controls the use of your land.</u>	Governmental Controls of Real Property and basic real estate arithmetic.

WEEK 12	Chapter 12 - Arithmetic	Basic Real Estate Mathematics
WEEK 13 Chapter 13	Chapter 13 – Valuation & Appraisal I ~ Explores the basics of real estate appraisal	Introduction to Appraisal
WEEK 14	Chapter 14 – Valuation & Appraisal II ~ Gets into the intricacies of finding value	Further Exploration of Appraisal.
WEEK 15	Chapter 15 – Real Estate Terminology & Definitions ***REVIEW FOR FINAL EXAM***	Overview of Real Estate Math ***REVIEW FOR FINAL EXAM***
WEEK 16 Final Exam Administered Online Review and FINAL EXAM Spring Semester Ends	 ***FINAL EXAMINATION*** – PHOTOGRAPHS GRADUATION ~ CERTIFICATES AWARDED	 Final Examination – Graduation Ceremony and Photographs

Students with Disabilities:

Students with disabilities are an integral and vital part of the Compton College community. The SRC provides support services, adaptive equipment, computer technology, and specialized instruction to serve students with verified disabilities. The SRC provides accommodations for both academic and extracurricular college activities. The SRC's primary goal is to provide accommodations necessary to assist students with achieving their educational and vocational goals while promoting self-advocacy and independent learning. The SRC Office promotes shared responsibility with the student, instructor, and college staff for student success. The assistance provided by the SRC is in addition to services and instruction otherwise available to all students.

Student Resources Available at Compton College Your success is our number one priority at Compton College. College resources to help you succeed include computer labs, tutoring centers, the library, health services, and services for designated groups, such as veterans, formerly incarcerated persons, parent-scholars, homeless persons, former foster youth, and students with disabilities. For a comprehensive list of Academic Resources and Support Programs, please visit <http://www.compton.edu/studentservices/supportservices/index.aspx>

Food and Housing/Basic Needs Any student who faces challenges securing their food or housing and believes this may affect their performance at Compton College is urged to contact The Tartar Support Network at tartarsupport@compton.edu or (310) 900-1600 ext. 2538 help.

Financial Aid, Scholarships, & Pell Grants Struggling to pay for tuition, books, or other costs associated with going to college? If so, Compton College has financial aid, scholarships, and other financial assistance solutions to help pay the bills so you can focus on class. For more information about how to maximize your financial aid and scholarship opportunities, please make an appointment with a financial aid counselor at 310-900-1600, ext. 2935, or visit Financial Aid online at <http://www.compton.edu/studentservices/financialaid/>.

If you believe you may need accommodations in this class now or at any point in the semester, please go to the Special Resource Center (SRC) or call 310-900-1600, ext. 2402 for an appointment. For more information visit about the Special

Resource Center and the services they provide, please visit <http://www.compton.edu/studentservices/supportservices/specialresourcecenter/> .

Child Abuse, Gender-Based, or Sexual Misconduct Your safety is important to me. Please know that that if you reveal child abuse, child neglect, or gender-based or sexual misconduct (including harassment, sexual assault, stalking or intimate partner violence) to me or any instructor, we are required by law to report the problem to the Compton College Police Department. However, psychologists are not required to report your incident. To speak confidentially with a psychologist, please contact St. John's Health Center for a free appointment: (213) 226-7480. You can also visit <http://www.compton.edu/studentservices/healthcenter/> for scheduling information.

Attendance Policy:

The Attendance Policy as stated in the Catalog is as follows: Students whose absences exceed 10% of the scheduled class meeting time may be dropped by the instructor (for a 3 or 4 unit course – 10% is approximately 3 classes). However, students are responsible for dropping a class within the deadlines published in the class schedule. Three tardies is equivalent to one absence. If you will miss a class or be late to a class please notify the instructor, if possible.

Academic Honesty:

Compton College places a high value on the integrity of its student scholars. When an instructor determines that there is evidence of dishonesty in any academic work (including, but not limited to cheating, plagiarism, or theft of exam materials), disciplinary action appropriate to the misconduct as defined in BP 5500 may be taken. A failing grade on an assignment in which academic dishonesty has occurred and suspension from class are among the disciplinary actions for academic dishonesty (AP 5520). Students with any questions about the Academic Honesty or discipline policies are encouraged to speak with their instructor in advance.

[1] For most up to date information on California state licensing requirements, it is best to check with the California Bureau of Real Estate <http://www.calbre.ca.gov>

[2] *The instructor reserves the right to make changes in the schedule.*

Additional Helpful Links

- [Learning Modules](#): Access to course learning materials
- [Canvas Student Guides \(Links to an external site.\)](#): Answers to frequently



Course Information

Course Information

Course Discipline: RE

Course Division: Business and Industrial Studies

Course Number: 111

Full Course Title: Real Estate Principles

Short Title: Real Estate Principles

TOP Code: 0511.00 - Real Estate*

SAM Code: B - Advance Occupational

Credit Status D - Credit - Degree Applicable

Transfer Status B - Transferable to CSU only.

Effective Term: Fall 2021

Board of Trustees Approval Date:

2021-10-19

Course Description

This course covers various aspects of real estate, including an introduction to legal aspects, title and escrow procedures, property management, appraisal, finance, and the ownership of real property. Students develop basic vocabulary and test-taking skills in partial preparation for state examination for a California Bureau of Real Estate (BRE) license.

Note: The California Bureau of Real Estate (BRE) requires completion of this course prior to taking the California Real Estate Salesperson Examination and has approved this course for credit for the BRE broker's license requirement.

Course Standards

Lecture Hours:

54.000

Activity Hours:

0.000

Lab Hours:

Outside-of-Class Hours:

108.000

3.00

5. **Lecture**

Outline

Title

- a. Encumbrances
- b. Private and Public Restrictions
- c. Encroachment

Approximate Time In Hours

3.00

6. **Lecture**

Outline

Title Protection

- a. Homestead
- b. Insurance c. Hazard

Approximate Time In Hours

2.00

7. **Lecture**

Outline

Escrow

- a. Essentials
- b. Responsibilities
- c. Closing

Approximate Time In Hours

3.00

8. **Lecture**

Outline

Business Opportunities

- a. Businesses
- b. Bulk
- c. Loans
- d. Tax responsibilities

Approximate Time In Hours

4.00

9. **Lecture**

Outline

Financing

- a. Types of notes
- b. Trust deeds
- c. Sales contracts

Approximate Time In Hours

2.00

10. **Lecture**

Outline

Lending Institutions

- a. Institutional lenders
- b. Non-institutional lenders

Approximate Time In Hours

2.00

11. **Lecture**

Outline

Federal Controls

- a. Laws and regulations of financing

Approximate Time In Hours

1.00

12. **Lecture**

Outline

Real Estate Law

- a. Classification of licenses
- b. Bureau of Real Estate
- c. Violations
- d. Trade and Professional associations
- e. Trust funds

Approximate Time In Hours

5.00

13. **Lecture**

Outline

Contracts

- a. Definition
- b. Elements

Approximate Time In Hours

3.00

14. **Lecture**

Outline

Agency

- a. Creation
- b. Duties
- c. Liabilities
- d. Termination

Approximate Time In Hours

3.00

15. **Lecture**

Outline

Taxation

- a. Property
- b. Assessments
- c. Transfer
- d. Federal Income Tax
- e. Estate and Gift

Approximate Time In Hours

4.00

16. **Lecture**

Outline

Public Control

- a. State Subdivision Map Act
- b. Housing and Construction
- c. Zoning and redevelopment
- d. Subdivided Lands Act
- e. Fair Housing
- f. Real estate Syndicates and Investment Control

Approximate Time In Hours

6.00

17. **Lecture**

Outline

Valuation and Appraisal

- a. Concepts
- b. Economic factors
- c. Forces influencing value

Approximate Time In Hours

2.00

18. **Lecture**

Outline

Principles of Value

- a. Supply and demand
- b. The valuation process
- c. Market analysis

Approximate Time In Hours

2.00

19. **Lecture**

Outline

Approaches to Value

- a. Sales comparison or market data
- b. Cost approach

c. Capitalization approach

d. Depreciation

Approximate Time In Hours

2.00

Course Objectives

Upon successful completion of the course, the student will demonstrate the ability to:

1. **Lecture**
List and explain the step-by-step process and the legal requirements involved in the issuance of various types of licenses by the California Bureau of Real Estate(BRE).
2. **Lecture**
Define common real estate terminology and recognize acronyms used in the industry.
3. **Lecture**
Analyze and calculate problems pertaining to basic real estate mathematics.
4. **Lecture**
Compare various types of loans.
5. **Lecture**
Compare and contrast the various types of lending institutions.
6. **Lecture**
Differentiate among the three methods of appraisal.
7. **Lecture**
Create a property management file containing an advertisement, the application to rent, and the rental agreement contract.
8. **Lecture**
Search public records and analyze items such as demographics, school rating, crime rate, tax records, title ownership, comparables sales, property currently for sale, expired listing, rentals, economic indicators, newsletter and magazine articles about real estate and the economy.
9. **Lecture**
Demonstrate test-taking skills in preparation for the state license examination.
10. **Lecture**
Analyze transactional needs of a client and select transactional forms used for that real estate activity.
11. **Lecture**
Utilize the three common types of land descriptions to identify the location of a parcel of real property.
12. **Lecture**

Differentiate between real and personal property and describe the rights inherent to both.

13. **Lecture**

Specify various types of title insurance policies and explain the interaction between an escrow company and a title company in various parts of California.

14. **Lecture**

Describe and outline the types of governmental controls and regulations that affect the rights of a property owner.

15. **Lecture**

Develop a career plan that includes working conditions, terms of employment, and advancement opportunities.

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1. Define, describe, and differentiate between various real estate standard terminology showing comprehension and knowledge of real estate vocabulary used in the workplace to assist and prepare each student from the diverse student body to gain confidence in their ability to effectively communicate and collaborate in a real estate sales, property management, appraisal, loan or investment to work with both licensees and a diverse public in a typical real estate transaction.
2. Students show the ability to prepare and complete standard real estate industry forms documents as found in diverse real estate sales, rental, finance, appraisal or investment business transactions.
3. Students will identify, distinguish and differentiate the differences between the various methods of holding title to real property, showing the ability to analyze, concisely write and/or verbally communicate and apply the appropriate vesting available in a typical real estate business transaction.
4. Students will demonstrate the ability to calculate typical real estate mathematic computational problems as found in diverse real estate business areas of sales, leases, prorations, finance, appraisal, property management, investments and capitalization, land or structure area and taxation.

Methods of Instruction

- **Discussion**
- **Group Activities**
- **Guest Speakers**
- **Lecture**

- **Multimedia presentations**

Methods of Evaluation

- Problem solving demonstrations (computational or non-computational)
- Exams/Quizzes

Typical Assignments

Some assignments require critical thinking:

Arnita & Bob are married to each other for 50 years and own real property together, as community property. Bob dies. Celine & David are married for 40 years and hold title to real property, as joint tenants. Celine dies. Arnita and David marry each other 5 years after the death of their spouses and sell both their homes and purchase another home together. Arnita wants title held as community property. David wants title held as joint tenants. As a licensed real estate agent, prepare a one-to-two page report outlining consequences of each and the choices available to Arnita and David.

An owner lists a property for sale with a broker. At what price must the property be sold to net the owner \$7,000 after paying a 7% commission and satisfying the existing \$448,000 trust deed? In a one-to-two page paper, show all of your calculation, state any assumptions, and give the correct answer.

Reading Assignments:

Writing Assignments:

Other Assignments:

If the monthly payment due on a 15 year 60,000 second trust deed on December 1 is \$570 and the annual interest rate is 9%, what is the outstanding loan balance after the 30th payment? In a one-to-two page paper, show all of your calculation, state any assumptions, and give the correct answer.

Course Materials

1. **Author:** Thomas E. Felde
Title: Real Estate Principles in California
Edition:
Publisher: Felde Publications
ISBN-13:
Year: 2019
Rationale for older textbook:
Or Equivalent: No

Minimum Qualification

1. Real Estate

Condition



Compton College

SPRING 2022

Welding Technology Department

Syllabus

Weld 128

Course Title: Welding 128, Advanced Arc Welding Specialty Lab Prep (3 Units)

Instructor: P. Richardson

Section Number: 30394

Lecture Meeting Days: Tues/TH

Lab Meeting Days: Tues/TH

Lectures Times: 1700-1825

Lab Times:

Meeting Room: VT 173

Instructor Information: (310) 900-1600, Ext. 2620

Instructor's Office Location: VT 173

Office Hours: M-TH 12 noon

E-Mail: prichardson@compton.edu

Mission Statement

Compton College is a welcoming environment where the diversity of our students is supported to pursue and attain academic and professional excellence. Compton College promotes solutions to challenges, utilizes the latest techniques for preparing the workforce and provides clear pathways for transfer, completion and lifelong learning.



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I. REQUIRED TEXT: Title of Text: AWS D1.1 Structural Steel Codebook (2015)

REQUIRED TESTING:

L.A. CITY WRITTEN EXAM (With a passing score of at least 70%)

Supplemental Materials: Handouts, flashcards, various colored Markers

II. Course Description:

This course will prepare the student to pass the written examination of the Los Angeles department of Building and Safety Structural Steel American Welding Society (AWS) D1.1 examination. Both the midterm and final exam will be administered under same testing conditions as the actual Los Angeles City written exam.

III. Course Prerequisites: Welding 123 or 125 with a minimum grade of C or the equivalent

IV. Course Objectives:

Upon complete of this course, all students will be able to navigate successfully through the American Welding Society D1.1 Codebook. All students will be able to demonstrate and define presented welding terminologies, codes weld symbols and concepts.

V. Student Learning Outcomes: Upon completion of the course, students should demonstrate the following skills:

1. Upon completion of this course, students should be able to navigate the AWS D1.1 Structural Steel Codebook when asked questions about welding material 1/8 and up.
2. Students should be able to explain critical code information based upon the requirements of the City of Los Angeles construction codes.
3. Upon completion of this course, student should be able to make structural weldments that satisfy the AWS Structural code requirements by both visual and destructive methods.

VI. Assessment Activities:

A. Student will demonstrate 100% proficiency



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VII. Evaluation Criteria:

- A. Text assignments – 20pts
- B. Mid-Term – 10pts
- C. Final Exam – 25pts
- D. Classroom Participation- 15pts

VII. Grading Scale:

- 90 – 100% = A**
- 89 – 80 % = B**
- 79 – 70 % = C**
- 69 – 60 % = D**
- 59 % and below = F**

VIII. Student Requirements

1. Student is required to furnish his/her textbook, notebook, flashcards, pens, pencils, highlighters, and book tabs.
2. Students are required to follow all policies outlined in the Compton College Handbook.

IX. Attendance Requirements:

Please see **Student Handbook and Planner** (page 7)

X. Statement of Student Conduct:

- A. Instructor's expectation of student's conduct: Please see **Student Handbook and Planner (page 15)**
- B. Policy regarding audio taping of lectures: Allowed unless exceptional circumstances.
- C. If applicable, include policy regarding use of machinery or tools with safety regulations: See Welding Safety Test (Attached).

XI. Special Accommodations:

Any student who has a disability and/or special needs should alert the instructor by the second week of the semester so that special accommodations can be made.

XII. Disclaimer Statement:

Students will be notified ahead of time when and if any changes are made to course requirements or policies

XIII. Semester schedule of topics and assignments



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Course Content and Schedule

ASSIGNMENTS

WEEK

1. Quick review of Weld Symbols
 1. Handouts 1&2
 2. Timed Quiz on Handout 1&2 (Monday)
 2. Handout 3
 3. Timed Quiz on Handouts 1,2&3 (Monday)
 3. Handout 4
 4. Welding procedure Qualification
 4. Handout 5
 5. Timed Quiz on Handouts 1,2,3,&5 (Monday)
 5. Handout 6
 6. Timed Quiz on Handouts 1,2,3,4,5&6
 7. Handout 7
 8. Midterm (Monday)
 8. Timed Quiz on Handouts 1,2,3,4,5,6,&7 (Tuesday)
 8. Handout 8
 9. Timed Quiz on Handouts 1,2,3,4,5,6,7&8



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9.-15 Practice Handouts Timed

**16. FINAL EXAM :Possibly take the actual Building and Safety
exam downtown LA at LADBS**



Course Information

Course Information

Course Discipline: WELD

Course Division: Business and Industrial Studies

Course Number: 128

Full Course Title: American Welding Society (AWS) D1.1 Certification Test Preparation

Short Title: AWS D1.1 Cert Test Prep

TOP Code: 0956.50 - Welding Technology*

SAM Code: B - Advance Occupational

Credit Status D - Credit - Degree Applicable

Transfer Status B - Transferable to CSU only.

Effective Term: Fall 2017

Board of Trustees Approval Date:

2019-08-20

Course Description

This course prepares the student to pass the written examination of the Los Angeles City Department of Building and Safety Structural Steel American Welding Society (AWS) D1.1 examination. Both the midterm and final examinations will be administered under same testing conditions as the actual Los Angeles City written exam.

Note: Letter grade or pass/no pass option.

Course Standards

Lecture Hours:

54.000

Activity Hours:

0.000

Lab Hours:

Outside-of-Class Hours:

108.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:

Lecture Hours:

54.000

Activity Hours:

0.000

Lab Hours:**Outside-of-Class Hours:**

108.000

Min and Max Total Regularly Scheduled Hours of instruction required for student to achieve course objectives:**Min/Max Units:**

3.000

Total Hours:

54.000

Grading Method:

Letter grade only

Course Requirements

1. Prerequisite**Subject** WELD - Welding**Requisite Course** WELD 125 - Advanced Certification and Career Preparation Lab (Active)2.000 - 2.000**2. Prerequisite****Subject** WELD - Welding**Requisite Course** WELD 123 - Advanced Arc Welding Specialty Lab (Historical)2.000 - 2.000**3. Other****Non Course Requirements**

equivalent

Course Content

1. Lecture**Outline**

INFORMATION REQUIRED FOR CERTIFIED WELDER APPLICATION

Preparation of related paperwork

Approximate Time In Hours

2.00

2. Lecture

Outline

GENERAL REQUIREMENTS OF THE D1.1 STRUCTURAL STEEL CODE BOOK

Equipment used in accordance with AWS specifications

Various processes used in standard practice

Approximate Time In Hours

8.00

3. **Lecture**

Outline

STRUCTURAL WELDING CODE INSTITUTES AND SOCIETIES

Difference between filler metals

Joint configurations, design of welded connections and required filler metal strength level

Approximate Time In Hours

10.00

4. **Lecture**

Outline

ELECTRODE IDENTIFICATION

Electrode standard designation numbers, size, positions, and current types according to AWS

Classification of electrodes, Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding

(GMAW), Society of Automotive Engineers (SAE), Flux Core Arc Welding (FCAW)

Approximate Time In Hours

7.00

5. **Lecture**

Outline

SYMBOLS FOR WELDING AND NON-DESTRUCTIVE TESTING

Symbol identification Standard welding symbols found in AWS A2.4

Approximate Time In Hours

10.00

6. **Lecture**

Outline

WELDMENT DEFECTS AND DESCRIPTION OF BASE METALS

Base metal chemistry

Description of differences

Approximate Time In Hours

7.00

7. **Lecture**

Outline

BACKGROUND CODE INFORMATION

Formulate plan for testing

Tab, section and notate code book to prepare for examination

Approximate Time In Hours

10.00

Course Objectives

Upon successful completion of the course, the student will demonstrate the ability to:

1. Demonstrate critical thinking to document source of answer by organizing background and code information for D1.1 examination.
2. Organize code book with tabs and highlighting. Assemble notes in code book, and formulate plan for testing.
3. Using the code book, identify important tables and figures related to AWS structural steel. Distinguish differences between filler metals and evaluate joint configurations and required filler metal strength level.
4. Analyze welding codes and welding procedure specifications in the AWS structural steel code book. Assess weld defects, examine base metal chemistry and describe differences.
5. Arrange code book using index and table of contents to organize general categories.
6. Examine general requirements, evaluate questions to recognize welding reference points on joints, fit-up and acceptable electrodes.
7. Estimate allowable time to answer weld related questions using practice exams under timed conditions.

Student Learning Outcomes

Upon completion of this course, the student should be able to:

1. Upon completion of this course, students should be able to navigate the AWS D1.1 Structural Steel Codebook when asked questions about welding material 1/8 and up.
2. Students should be able to explain critical code information based upon the requirements of the City of Los Angeles construction codes.
3. Upon completion of this course, student should be able to make structural weldments that satisfy the AWS Structural code requirements by both visual and destructive methods.

Methods of Instruction

- **Demonstration**
Interactive
- **Discussion**
Review codes and comprehension for city exam.
- **Guest Speakers**
Various people will come from the industry.

Methods of Evaluation

- Skills demonstrations

If you selected "Other", please provide details.

In an open book format, assess the correct criteria needed to answer pre qualified weld procedure specifications to distinguish what section or table will have the correct answer. A timed test will be given to navigate through 534 pages.

Typical Assignments

Some assignments require critical thinking:

Given a question regarding the design of weld connections, analyze whether it's a tubular or non tubular member, statically or cyclically loaded and what is the allowable stress. Find the correct chart within the D1.1 Structural Steel Code Book and document the location on an answer sheet.

Given a question regarding electrode classification in the SMAW (Shielded Metal Arc Welding), pre-qualified for an ASTM A 53 base metal with minimum yield strength of 35KSI, find the appropriate electrode that meets the filler metal requirement. Analyze the question and use problem solving techniques, studying charts, tables or code specifications and document your findings on an answer sheet.

Other Assignments:

Using the AWS D1.1 Structural Steel Code book, locate the section that discusses base metal/filler metal combinations (prequalification of WPSs) and locate the chart that shows approved, prequalified base metal-filler metal combinations for matching strength (Table 3.1). This will establish the student's ability to distinguish what mild steel and alloyed electrodes are in accordance with American Welding Society Numerical Classification A5.0 for prequalified base metal applications. On an answer sheet, note the pages the table was found.

Course Materials

1. **Author:** American Welding Society
Title: AWS D1.1 Structural Steel Welding Code Book
Publisher: American Welding Society

Year: 2015

Or Equivalent: No

Minimum Qualification

1. Welding
Condition