Las Positas College

Curriculum Committee Meeting

11/03/2025

6.0 Second Reading/Voting Packet

6.1. New Courses

Effective Term: **Fall 2026**

- NAUT INT Introduction to Automotive

LAS POSITAS COLLEGE

Admin Outline for Noncredit Automotive Technology INT
Introduction to Automotive

Effective: Fall 2026

Catalog Description:

NAUT INT - Introduction to Automotive
108 Hours

This class is lecture only, NAUT INTL must also be taken concurrently. Bumper-to-Bumper Automotive Knowledge. Starting with hazardous waste handling, tool identification, maintenance, and lubrication, moving into engine mechanical, emissions controls, suspension systems, air conditioning, airbags and safety, transmissions, axles, and finishing off with the future of the automotive industry. This is an introductory class for people who want to know more about their vehicle or who are planning an automotive career. This class is preparation for ASE G1.

Corequisite: AUTO INTL Need to take Lecture and Lab together

Course Grading: Optional

Total Lecture Hours	36
Total Inside of Class Hours	36
Total Outside of Class Hours	72
Total Noncredit Hours	108

Justification for course proposal
Mirrored class AUTO INT replaces INTR

Discipline:

Automotive Technology

Course Objectives:

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

A. Identify and describe uses of automotive related tools;
B. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
C. Discuss four stroke engine cycle and identify engine parts;
D. Apply Ohm's law, read basic schematics, test automotive electrical systems;
E. Identify emissions components, understand 5 gas theory;
F. Discuss heating and cooling systems, perform basic cooling systems tests;
G. Identify air conditioning systems, understand cycles of refrigerant;
H. Discuss braking systems, perform a brake inspection, identify parts;
I. Differentiate between suspension and steering system types, inspect and qualify components;
J. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
K. Restraints system identification, know safety concerns of each system and inspection of restraint systems;
L. Theorize on the future of the automotive industry.

Course Content:

1. Safety and Handling of hazardous waste materials
    1. Occupational Safety Health Administration (OSHA) Shop standards applied
    2. Industry safety standards applied
    3. Hazardous material handling; waste oil, as well as other chemicals related to the automobile
2. Tool Identification
    1. Ratchets, Sockets, Wrenches, Screwdrivers
    2. Torque Wrenches
    3. Hammers, Pliers
    4. Specialty Tools
3. Maintenance and inspection
    1. Manufacturing recommendations
    2. Periodic inspections for unusual conditions
    3. Component failure inspections
    4. Chassis lubrication
    5. Engine oil changes
        1. Oil Types, Conventional and Synthetic
        2. Oil change intervals
        3. Theory
    6. Fluid inspection and service
        1. Leaks
        2. Power steering
        3. Transmission
        4. Axles
        5. Washer

6. Coolant/Antifreeze
4. Operational theory Four stroke Engine Cycle
    1. Intake
    2. Compression
    3. Power
    4. Exhaust
    5. Timing
        1. Spark
        2. Camshaft
5. Gasoline Engine Component Identification and Teardown
    1. History of design and metallurgy of engines
    2. Engine Block components
    3. Cylinder Head components
    4. Intake, Exhaust and other major bolt on components
6. Electrical Systems
    1. Ohms law Theory
    2. Electrical Schematic Icons and drawings
    3. Battery Basics
    4. Alternator/Generator Basics
    5. Starter Motor Basics
    6. Electrical Testing
        1. Battery
            1. Theory
        2. Alternator
            1. Theory
        3. Starter
            1. Theory
7. Emissions Systems
    1. Parts Identification
    2. Parts Theory
    3. Reading Emissions Labels
    4. 5 gas Theory
    5. Smog Controls
        1. California and Federal Requirements
        2. History of the Smog Program
        3. Government and Manufacturer laws and regulations
    6. Environmental Responsibilities
8. Heating and Cooling
    1. History and current innovations of heating and cooling systems
    2. Parts Identification
    3. Heating Theory and operation
    4. Heating Systems Testing
        1. Theory
    5. Coolant Systems Testing
        1. Theory
9. Air Conditioning Systems
    1. Environmental concerns
    2. Parts Identification
    3. Parts Theory
10. Braking systems
    1. Base Systems
        1. Brake systems history and improvements through time
        2. Fluid differences and cautions
        3. Parts Identification
        4. Parts Theory
    2. Antilock Systems
        1. Differences from base systems
        2. Theory of operation
        3. Parts Identification
11. Steering and Suspension Systems
    1. Historical information and current technology
    2. Steering
        1. Fluid usage current and historical
        2. Different steering systems
        3. Parts Identification
        4. Parts theory
    3. Steering
        1. Different suspension systems
        2. Parts Identification
        3. Parts theory
12. Transmissions and Axles
    1. History of the transmission
    2. Automatic Transmissions
        1. Fluid Requirements

2. Operational Theory
3. Gears sets
4. Clutches, Bands and Sprags
5. Torque Converters

3. Manual Transmissions
    1. Fluid Requirements
    2. Operational Theory
    3. Clutch
    4. Gears
4. Front and Rear Axles
    1. Fluid Requirements
    2. Operational Theory
    3. Ring Gear
    4. Pinion Gear
    5. Propshafts
5. Transfer Cases
    1. Fluid Requirements
    2. Electronic and Manual
    3. Operational Theory
    4. Clutches
    5. Gears

13. Safety Restraints
    1. Seat Belts
        1. Installation Concerns
        2. Inspection and Replacement
    2. Airbags
        1. History of Airbags and current technology
        2. Parts Identification
    3. Parts Theory
    4. Inspection and Replacement
    5. Current Government Regulations
14. Automotive Industry Future
    1. Environmental Concerns
    2. Oil Supply Concerns
        1. Middle East Stability
        2. How much is left?
    3. Electronic Integration
        1. Computers
        2. Steering
        3. Braking
        4. Parking
        5. Heads up Displays
        6. Navigation
        7. Entertainment Systems
        8. Communication Systems
        9. Optical Systems
    4. Alternative Fuels
        1. CNG
        2. Propane
        3. Bio-Diesel
        4. E85
        5. Hydrogen
    5. Hybrids
        1. Gasoline/Electric
        2. Diesel/Electric
        3. Hydrogen/Electric

Methods of Instruction:

1. Lecture - Lecture on how to change oil. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
2. Discussion - Group Discussions
3. Audio-visual Activity - Power points to supplement lectures

Typical Outside-of-Class Assignments

A. Writing:
    1. Write a discussion board post on the pros and cons of using synthetic oil.
B. Reading:
    1. Read X chapter and answer ASE style questions

Methods of Evaluating Student Progress

A. Exams/Tests
    1. At least two. Midterm and Comprehensive Final

B. Home Work
    1. Weekly
C. Quizzes
    1. Weekly

Student Learning Outcomes

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

A. Recognize and apply shop safety precautions.
B. Perform an oil change with 100% accuracy.
C. Follow proper vehicle lifting procedures.

Textbooks (Typical):

Textbook:

1. James Duffy *2025 ASE Automotive Suite.*, Goodheart-Wilcox Publishing, 2025.
2. Tim Giles *Automotive Service: Inspection, Maintenance, Repair.* 6 ed., Cengage, 2020.
3. James D Halderman *Automotive Technology.* 7 ed., Pearson, 2024.

Other Materials Required of Students

Other Materials Required of Students:

1. Computer with internet access..

Equity Based Curriculum

- Course Content
  Address
  Group and individual lecture activities. Discuss nomenclature used in the automotive industry and its effects on different groups.
- Methods of Instruction
  Address
  The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
- Methods of Evaluation
  Address
  The course materials and evaluations are based on industry standards.
- Typical Texts
  Address
  The course materials and evaluations are based on industry standards.

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
This class is lecture only, which makes it well-suited to distance education. The lab section of class must be taken at the same time.

Explain how the decision was made to offer this course in a Distance Education mode.
The decision was made after consideration by Automotive faculty.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: Minimum once per week
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Minimum once per week
- **Chat:** *The instructor will use chat to interact with students, textually and/or graphically, in realtime.*
  Frequency: Minimum once per week

Student-Student Interaction

- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: Minimum once per week
- **Web conferencing:** *Students will interact in real time with each other to discuss coursework and assignments.*
  Frequency: Minimum once per week

Student-Content Interaction

- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: Quizzes: at least one quiz per section/chapter. Weekly. Exams: at least two per semester.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: Minimum once per week
- **Video:** *Video will be used to demonstrate procedures and to help students visualize concepts.*
  Frequency: Minimum once per week
- **Other:**
  Frequency: Homework, assigned weekly

Codes and Dates

Course CB Codes

CB00: State ID
CCC000621877

CB03: TOP Code
094800 - Automotive Technology

CB04: Credit Status
N - Non Credit

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
C - Clearly Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category
J - Workforce Preparation

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

Credit for Prior Learning

Credit for Prior Learning Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam Yes
Credit-by-Portfolio No
Credit-by-Military-JST No
Credit-by-Industry-Recognized-Training No
Additional Detail (List articulated courses, etc.) No

6.2. Course Modifications

Course Outline of Record - Effective Term: **Fall 2026**

- AUTO A1 Engine Repair
- AUTO A2 Automatic Transmission/Transaxle
- AUTO A3 Manual Drive Train and Axles
- AUTO A4 Suspension and Steering
- AUTO A6 Electrical/Electronic Systems
- AUTO INT Introduction to Automotive
- JAMS 3 Introduction to Public Relations
- MATH 55C Concurrent Support for Intermediate Algebra
- MATH 101C Concurrent Support for BSTEM Mathematics
- MUS 4 Jazz in American Culture
- MUS 17 Jazz Combo
- MUS 38 Applied Lessons
- NAUT A1 Engine Repair
- NAUT A2 Automatic Transmission/Transaxle
- NAUT A3 Manual Drive Train and Axles
- NAUT A4 Suspension and Steering
- NAUT A6 Electrical/Electronic Systems
- NMAT 201C Concurrent Support for BSTEM Mathematics
- NMAT 255C Concurrent Support for Intermediate Algebra

CPL – Credit-by-Exam for Mirrored Noncredit - Effective Term: **Spring 2026**

- NAUT A1 Engine Repair
- NAUT A2 Automatic Transmission/Transaxle
- NAUT A3 Manual Drive Train and Axles
- NAUT A4 Suspension and Steering
- NAUT A6 Electrical/Electronic Systems

CPL – Credit-by-Exam for Mirrored Noncredit - Effective Term: **Fall 2026**

- NAUT INT Introduction to Automotive

Distance Education (DE) - Effective Term: **Spring 2026**

- AUTO INT Introduction to Automotive
- MATH 55C Concurrent Support for Intermediate Algebra
- NMAT 255C Concurrent Support for Intermediate Algebra

Distance Education (DE) - Effective Term: **Spring 2026**

- NAUT INT Introduction to Automotive

Course Outline of Record - Effective Term: **Fall 2027**

- ANTH C1001 Introduction to Biological Anthropology

- ANTH C1001L Biological Anthropology Lab
- BIOL C1000 Introduction to Biology with Lab

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Course Modification: AUTO A1 - Engine Repair

Course Modification: AUTO A1 - Engine Repair (Launched - Implemented 09-22-2025)
compared with
AUTO A1 - Engine Repair (Active - Implemented 08-15-2021)

Admin Outline for Automotive Technology A1
Engine Repair

Effective: Fall ~~2021~~ 2026

Catalog Description:

AUTO A1 - Engine Repair
4.00 Units

An in depth study of engines: mechanical, measurement, and assembly. A study of the above mentioned components including theory, teardown, evaluate, qualifying, and rebuilding. This class' emphasis is on engines. Students are encouraged to enroll in Automotive Lab concurrently.
2 Units Lecture 2 Units Lab

Prerequisite: ~~AUTO~~ NAUT ~~INTR~~ INTL with a minimum grade of C ~~; or~~ and NAUT ~~INTR~~ INT with a minimum grade of C, or AUTO INTL with a minimum grade of C and AUTO ~~INTZ~~ INT with a minimum grade of C , INT and INTL may be taken concurrently

Course Grading: Optional

Lecture Hours	36
Lab Hours	108
Inside of Class Hours	144
Outside of Class Hours	72

Justification for course proposal

Discipline:

Automotive Technology

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

Upon completion of this course, the student should be able to:
A. Demonstrate the basic safety procedures of handling hazardous waste materials.
B. Explain the history of powertrain evolution.
C. Operate a wide variety of precision measurement equipment.
D. Explain four cycle engine theory and identify key components involved.
E. Teardown typical engine assembly.
F. Take measurements of engine components and compare to specifications.
G. Qualify new and used engine components.
H. Rebuild engine to manufacturer specifications.
I. Explain Ohm's Law.
J. Demonstrate Ohm's Law in practice (series and parallel circuits).
K. Maintain a clean and professional environment.

Course Content:

Lab:

1. Safety
2. Measurement tools usage
3. Engine Tear down
4. Evaluation of replacement components
5. Engine rebuilding
6. Ohm's Law Usage

Lecture:

1. Safety
    1. Tool usage and nomenclature
    2. Proper disposal procedures
    3. Environmentally conscious decisions

2. Powertrain evolution
    1. The first four cycle engines
    2. Current engines
    3. Horsepower and emission trade offs
    4. Environmental decisions driving design
    5. The first automatic transmissions
    6. Current automatic transmissions
        1. More gear ratios
        2. Different fluids
        3. Internal design improvements

3. Measurement tools
    1. Micrometer
        1. Vernier
        2. Caliper
    2. Dial bore gauge
    3. Snap gauges
    4. Straight edge
    5. Feeler gauges
    6. Hole gauges

4. Four cycle engine theory
    1. Intake, compression, power, exhaust
        1. 360 degrees in one degree intervals
        2. Valve overlap
        3. Timing concerns and tricks
        4. Street vs. racing

2. DOHV vs. OHV vs. Valve in block design
    1. Pros and cons of each
    2. Current technology
3. Key Valve train components
4. Key bottom end components
5. Camshaft timing
    1. Static camshaft
    2. Dynamic camshaft
    3. Electronic valves
6. Crankshaft design and balance
7. Cylinder head design
    1. Single valve
    2. Multiple valve

5. Engine Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence
    2. Removal and identification of internal components
        1. Special Procedures
            1. Loosening sequence

6. Component measurement
    1. Specification lookup

2. Comparison
    1. Component diagnosis
        1. Failure analysis

7. Evaluation of replacement components
    1. Correct component?
    2. New and used part comparison

8. Engine rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
            1. Assembly lube
            2. Gaskets and sealers
    2. Dynamic engine torque
    3. Proper engine timing
        1. Camshaft to crankshaft
        2. Crankshaft to balanceshaft

9. Ohm's Law
    1. Series Circuits
    2. Parallel Circuits
    3. Voltage Drop
    4. Resistance
    5. Amperage draw

10. Professionalism

    1. Safety glasses
    2. Working shop expectations
    3. Attitude
    4. Cleanliness
    5. Maintenance of work areas and tools

~~Lecture:~~

1. ~~Safety~~
    1. ~~Tool usage and nomenclature~~
    2. ~~Proper disposal procedures~~
    3. ~~Environmentally conscious decisions~~
2. ~~Powertrain evolution~~
    1. ~~The first four cycle engines~~
    2. ~~Current engines~~
    3. ~~Horsepower and emission trade offs~~
    4. ~~Environmental decisions driving design~~
    5. ~~The first automatic transmissions~~
    6. ~~Current automatic transmissions~~
        1. ~~More gear ratios~~
        2. ~~Different fluids~~
        3. ~~Internal design improvements~~
3. ~~Measurement tools~~
    1. ~~Micrometer~~
        1. ~~Vernier~~
        2. ~~Caliper~~
    2. ~~Dial bore gauge~~
    3. ~~Snap gauges~~
    4. ~~Straight edge~~
    5. ~~Feeler gauges~~
    6. ~~Hole gauges~~
4. ~~Four cycle engine theory~~
    1. ~~Intake, compression, power, exhaust~~
        1. ~~360 degrees in one degree intervals~~
        2. ~~Valve overlap~~

3. ~~Timing concerns and tricks~~
4. ~~Street vs. racing~~

2. ~~DOHV vs. OHV vs. Valve in block design~~
    1. ~~Pros and cons of each~~
    2. ~~Current technology~~
3. ~~Key Valve train components~~
4. ~~Key bottom end components~~
5. ~~Camshaft timing~~
    1. ~~Static camshaft~~
    2. ~~Dynamic camshaft~~
    3. ~~Electronic valves~~
6. ~~Crankshaft design and balance~~
7. ~~Cylinder head design~~
    1. ~~Single valve~~
    2. ~~Multiple valve~~

5. ~~Engine Teardown~~
    1. ~~Removal and identification of external components~~
        1. ~~Special procedures~~
            1. ~~Loosening sequence~~
    2. ~~Removal and identification of internal components~~
        1. ~~Special Procedures~~
            1. ~~Loosening sequence~~

6. ~~Component measurement~~
    1. ~~Specification lookup~~
    2. ~~Comparison~~
        1. ~~Component diagnosis~~
            1. ~~Failure analysis~~

7. ~~Evaluation of replacement components~~
    1. ~~Correct component?~~
    2. ~~New and used part comparison~~

8. ~~Engine rebuilding~~
    1. ~~Manufacturer Procedures~~
        1. ~~Component sequence~~
        2. ~~Torque specifications~~
        3. ~~Tightening sequences~~
        4. ~~Special concerns~~
            1. ~~Assembly lube~~
            2. ~~Gaskets and sealers~~
    2. ~~Dynamic engine torque~~
    3. ~~Proper engine timing~~
        1. ~~Camshaft to crankshaft~~
        2. ~~Crankshaft to balanceshaft~~
9. ~~Ohm's Law~~
    1. ~~Series Circuits~~
    2. ~~Parallel Circuits~~
    3. ~~Voltage Drop~~
    4. ~~Resistance~~
    5. ~~Amperage draw~~
10. ~~Professionalism~~
    1. ~~Safety glasses~~
    2. ~~Working shop expectations~~
    3. ~~Attitude~~
    4. ~~Cleanliness~~
    5. ~~Maintenance of work areas and tools~~

Methods of Instruction:

1. Lab - Group and individual laboratory activities
2. Lecture - Group lecture assignments. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.

Typical Outside-of-Class Assignments

A. ~~Other:~~
Reading:
Read Chapter One in text

A. ~~Lecture based assignments~~
Research:
Engine Construction research for a personal vehicle

1. ~~Lecture on Engine Construction~~

2. ~~Lab based assignments~~

    1. ~~Remove cylinder heads and check for specifications~~

3. ~~Text reading assignments~~

    1. ~~Read Chapter One in text~~

Methods of Evaluating Student Progress

A. Exams/Tests
    1. monthly
B. Lab Activities
    1. weekly
C. Quizzes
    1. weekly

Student Learning Outcomes

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

A. ~~Upon completion of AUTO A1, the student should be able to apply~~ Apply engine repair safety precautions.
B. ~~Upon completion of AUTO A1, the student should be able to apply~~ Apply safety precautions in shop lab exercises.
C. ~~Upon~~ Install ~~completion~~ a ~~of~~ timing ~~AUTO A1, the student should be able to obtain and interpret powertrain data related to the engine~~ chain .

Textbooks (Typical):

Textbook:

1. ~~Chris~~ James ~~Johanson~~ Duffy ~~*Auto*~~ *2025* ~~*Engine*~~ *ASE* ~~*Repair*~~ *Automotive Suite* . ~~5 ed.~~ , Goodheart Wilcox, ~~2021~~ 2025 .
2. ~~James~~ Tim ~~Duffy~~ Giles ~~*Modern*~~ *Automotive* ~~*Technology*~~ *Service: Inspection, Maintenance, Repair* . ~~9~~ 6 ed., ~~Goodheart Wilcox~~ Cengage , 2020.

Other Learning Materials:

1. Literature and lab sheets are provided by the instructor

Other Materials Required of Students

Other Materials Required of Students:

1. Safety Glasses.

Equity Based Curriculum

- Course Content
  Address
  Group and individual lecture activities. Discuss nomenclature used in the automotive industry and its effects on different groups.
- Methods of Instruction
  Address
  The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
- Methods of Evaluation
  Address
  The course materials and evaluations are based on industry standards.
- Typical Texts
  Address
  The course materials and evaluations are based on industry standards.

Requisite Skills

Before entering this course, it is required that a student be able to:

A. ~~AUTO~~ NAUT ~~INTR~~ INTL
    1. Utilize and apply hazardous waste handling;
    2. Identify and describe uses of automotive related tools;
    3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
    4. Discuss four stroke engine cycle and identify engine parts;
    5. Perform basic engine teardown and reassembly;
    6. Apply Ohm's law, read basic schematics, test automotive electrical systems;
    7. Identify emissions components, understand 5 gas theory;
    8. Theorize on the future of the automotive industry.
B. NAUT ~~INTR~~ INT
    1. ~~Utilize and apply hazardous waste handling;~~
    2. Identify and describe uses of automotive related tools;
    3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;

4. Discuss four stroke engine cycle and identify engine parts;
5. ~~Perform~~ Apply Ohm's law, read basic ~~engine~~ schematics, ~~teardown~~ test ~~and~~ automotive ~~reassembly~~ electrical systems ;
6. Identify emissions components, understand 5 gas theory;
7. Theorize on the future of the automotive industry.

C. AUTO INTL
1. Utilize and apply hazardous waste handling;
2. Identify and describe uses of automotive related tools;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Discuss four stroke engine cycle and identify engine parts;
5. Perform basic engine teardown and reassembly;
6. Apply Ohm's law, read basic schematics, test automotive electrical systems;
7. Identify emissions components, understand 5 gas theory;
8. Theorize on the future of the automotive industry.

D. AUTO ~~INTZ~~ INT
1. Identify and describe uses of automotive related tools;
2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
3. Discuss four stroke engine cycle and identify engine parts;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. Identify emissions components, understand 5 gas theory;
6. Theorize on the future of the automotive industry.

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.

~~PO: Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. FO: Same as above, however specialized software can be used to simulate labs online (case by case approved by NATEF). This was done Spring 20 and worked well however students become very frustrated very quickly when they are not getting their hands dirty. 90% of Spring 2020 students stated they would not return to a fully online semester for Fall 2020. Fully online should only be used in extreme situations and for a very short duration.~~

Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. There are exceptions to this as we learned in C-19.

Explain how the decision was made to offer this course in a Distance Education mode.

~~PO: California Automotive Teachers have given this recommendation to allow our students to continue on their career path. FO:Same as above~~

California Automotive Teachers have given this recommendation to allow our students to continue on their career path.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*

Frequency: Weekly, as assignments or labs are turned in
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum Once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Minimum once per week
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: Weekly lab sessions
- **Other:**
  Frequency: ~~PO:~~ Student interaction, fulfillment of SLO's and measurable objectives will be done ~~on campus in the labs,~~ weekly. ~~FO: Student interaction, fulfillment of SLO's and measurable objectives will be monitored through the accounting set up in the online lab software, weekly.~~

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: ~~PO:At least twice per semester FO:~~ At least once every other week.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: ~~Fully online only:~~ Minimum weekly
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: ~~Fully~~ Minimum ~~online only: once every other week~~ weekly
- **Other:**
  Frequency: ~~PO:~~ Students will interact during on-campus weekly labs ~~FO: Student will interact~~ and online in chat.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: ~~Fully online only: weekly~~ Weekly
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: ~~PO and FO:~~ Quizzes: at least one quiz per section/chapter. Weekly. Exams: at least two per semester.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: ~~PO:~~ At least once per week ~~FO:At least once per week~~
- **Simulations:** *Simulations will be used by students so they can participate in and learn from processes.*
  Frequency: ~~FO:~~ Weekly
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: ~~PO:~~ Weekly, in on-campus labs ~~FO:Weekly recorded by student and completed using online software.~~
- **Other:**
  Frequency: ~~Both PO and FO:~~ Homework, assigned weekly

General Education/Transfer Request

General Education/Transfer Request
CSU Transfer
- Transfers to CSU

Codes and Dates

Course CB Codes

CB00: State ID
CCC000622111

CB03: TOP Code
094800 - Automotive Technology

CIP Code

47.0604 - Automobile/Automotive Mechanics Technology/Technician.

CB04: Credit Status
D - Credit - Degree Applicable

CB05: Transfer Status
B - Transferable to CSU only.

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
C - Clearly Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category

Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam ~~Yes~~ No
Credit-by-Portfolio ~~No~~ Yes
Please list the requirements/criteria/possible materials for a student to submit in their portfolio.
Has taken NAUT A1 with a C or better. P/NP does not qualify.
Curriculum Committee Approval Date
Effective Term
Credit-by-Military-JST ~~No~~ Yes
Please list the ACE course(s) equivalent to this course
See Attached
Curriculum Committee Approval Date
Effective Term
Credit-by-Industry-Recognized-Training Yes
Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.
See Attached
Curriculum Committee Approval Date
Additional Detail (List articulated courses, etc.) No
Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files.
Curriculum Committee Approval Date
Effective Term
Curriculum Committee Approval Date
Effective Term

LAS POSITAS COLLEGE

Course Modification: AUTO A2 - Automatic Transmission/Transaxle

Course Modification: AUTO A2 - Automatic Transmission/Transaxle (Launched - Implemented 09-22-2025)
compared with
AUTO A2 - Automatic Transmission/Transaxle (Active - Implemented 08-15-2021)

Admin Outline for Automotive Technology A2
Automatic Transmission/Transaxle

Effective: Fall ~~2021~~ 2026

Catalog Description:

AUTO A2 - Automatic Transmission/Transaxle
4.00 Units

An in depth study of engine, transmission, transaxles: mechanical, measurement, and assembly. An in-depth study of the above mentioned components including theory, teardown, evaluate, qualifying, and rebuilding. Students are encouraged to enroll in Automotive Lab concurrently.
2 Units Lecture 2 Units Lab

Prerequisite: ~~AUTO~~ NAUT ~~INTR~~ INT with a minimum grade of C ~~;~~ ~~or~~ and NAUT ~~INTR~~ INTL with a minimum grade of C, or AUTO INTL with a minimum grade of C and AUTO ~~INTZ~~ INT with a minimum grade of C , INT and INTL may be taken concurrently

Course Grading: Optional

Lecture Hours	36
Lab Hours	108
Inside of Class Hours	144
Outside of Class Hours	72

Justification for course proposal

Discipline:

Automotive Technology

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

Upon completion of this course, the student should be able to:
A. Demonstrate the basic safety procedures of handling hazardous waste materials.
B. Explain the history of powertrain evolution.
C. Operate a wide variety of precision measurement equipment.
D. Explain transmission gear ratio and hydraulic theory.
E. Teardown typical transmission assembly.
F. Take measurements of transmission components and compare to specifications.
G. Qualify new and used transmission components
H. Rebuild transmission to manufacturer specifications.
I. Maintain a clean and professional environment.
J. Demonstrate Ohm's law
K. Test transmission valve bodies and diagnose issues

Course Content:

Lab:

1. Safety
2. Powertrain evolution
    1. Internal design improvements
3. Measurement tools usage
4. Transmission Tear down
    1. Removal and identification of FWD

        1. Special procedures

    2. Removal and identification of RWD
        1. Special procedures

5. Component measurement
6. Qualification of replacement components
7. Transmission rebuilding
8. Ohm's law usage
9. Valve body diagnosis
10. Professionalism

Lecture:

1. Safety
    1. Tool usage and nomenclature
    2. Proper disposal procedures
    3. Environmentally conscious decisions
2. Powertrain evolution
    1. Horsepower and emission trade offs
    2. Environmental decisions driving design
    3. The first automatic transmissions
    4. Current automatic transmissions
        1. More gear ratios
        2. Different fluids
        3. Internal design improvements
3. Measurement tools
    1. Micrometer
        1. Vernier
        2. Caliper
    2. Dial bore gauge
    3. Snap gauges
    4. Straight edge

5. Feeler gauges
6. Hole gauges

4. Automatic Transmission Theory
    1. Gear Ratios
        1. Shift Points
        2. Planetary gear sets
        3. Valves
        4. Clutches
        5. Sprags
    2. Hydraulics
        1. Basic and advanced hydraulics
        2. Hydraulic control components
        3. Fluid pressures
            1. Line
            2. Apply
            3. Release
            4. Clutch
            5. Accumulator
            6. Torque
            7. Servo
            8. D4, D3, D2, D1
    3. Other Components
        1. Final Drives
        2. Torque converters
        3. Apply systems
        4. Differential components
        5. Electrical components
            1. TCM, THECM, PCM
            2. Fluid temperature sensor
            3. TISS and TOSS

4. TCC
5. PRNDL

5. Transmission Teardown
    1. Removal and identification of FWD
        1. Special procedures
    2. Removal and identification of RWD
        1. Special procedures

6. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis
            1. Failure analysis

7. . Qualification of replacement components
    1. Correct component?
    2. New and used part comparison

8. Transmission rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns

2. Assembly lube
3. Gaskets and sealers

9. Ohm's law
10. Valve body diagnosis
11. Professionalism

1. Safety glasses
2. Working shop expectations
3. Attitude
4. Cleanliness
5. Maintenance of work areas and tools

Lecture:

1. Safety
    1. Tool usage and nomenclature
    2. Proper disposal procedures
    3. Environmentally conscious decisions
2. Powertrain evolution
    1. Horsepower and emission trade offs
    2. Environmental decisions driving design
    3. The first automatic transmissions
    4. Current automatic transmissions
        1. More gear ratios
        2. Different fluids
        3. Internal design improvements
3. Measurement tools
    1. Micrometer
        1. Vernier
        2. Caliper
    2. Dial bore gauge
    3. Snap gauges
    4. Straight edge
    5. Feeler gauges
    6. Hole gauges
4. Automatic Transmission Theory

1. Gear Ratios
    1. Shift Points
    2. Planetary gear sets
    3. Valves
    4. Clutches
    5. Sprags
2. Hydraulics
    1. Basic and advanced hydraulics
    2. Hydraulic control components
    3. Fluid pressures
        1. Line
        2. Apply
        3. Release
        4. Clutch
        5. Accumulator
        6. Torque
        7. Servo
        8. D4, D3, D2, D1
3. Other Components
    1. Final Drives
    2. Torque converters
    3. Apply systems
    4. Differential components
    5. Electrical components
        1. TCM, THECM, PCM
        2. Fluid temperature sensor
        3. TISS and TOSS
        4. TCC
        5. PRNDL

5. Transmission Teardown
    1. Removal and identification of FWD
        1. Special procedures
    2. Removal and identification of RWD
        1. Special procedures

6. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis
            1. Failure analysis

7. , Qualification of replacement components
    1. Correct component?
    2. New and used part comparison

8. Transmission rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
    2. Assembly lube
    3. Gaskets and sealers

9. Ohm's law
10. Valve body diagnosis
11. Professionalism
    1. Safety glasses
    2. Working shop expectations
    3. Attitude
    4. Cleanliness
    5. Maintenance of work areas and tools

Methods of Instruction:

1. Lab - Group and individual laboratory activities
2. Lecture - Group lecture activities. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.

Typical Outside-of-Class Assignments

A. ~~Other~~ Reading :
    1. ~~Lecture based assignments~~
        1. ~~Lecture on Automatic transmission clutch packs~~

2. ~~Lab based assignments~~

    1. ~~Remove and measure clutch pack travel, reassemble.~~

3. ~~Text reading assignments~~

    1. Read Chapter One ~~:~~ in text

D. Research:

    1. Transmission replacement research for a personal vehicle

Methods of Evaluating Student Progress

A. Exams/Tests
    1. monthly
B. Lab Activities
    1. weekly
C. Quizzes
    1. weekly

Student Learning Outcomes

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

A. ~~Upon completion of AUTO A2, the student should be able to, obtain~~ Obtain and interpret powertrain data related to the transmission.
B. ~~Upon completion of AUTO A2, the student should be able to apply~~ Apply transmission/Transaxle repair safety precautions .
C. Replace front pump seal .

Textbooks (Typical):

Textbook:

1. ~~Chris~~ Tim ~~Johanson~~ Giles ~~*Automatic*~~ *Automotive* ~~*Transmissions*~~ *Service:* ~~*and*~~ *Inspection.* ~~*transaxles*~~ *Maintenance, Repair* . ~~5~~ 6 ed., ~~Goodheart Wilcox~~ Cengage , ~~2021~~ 2020 .
2. James Duffy ~~*Modern*~~ *2025 ASE Automotive* ~~*Technology*~~ *Suite* . ~~9 ed.~~ , Goodheart Wilcox, ~~2020~~ 2025.
3. James D Halderman *Automotive Technology.* 7 ed., Pearson, 2024 .

Other Materials Required of Students

Other Materials Required of Students:

1. Safety glasses.

Equity Based Curriculum

- Methods of Instruction
  Address
  The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
- Methods of Evaluation
  Address
  The course materials and evaluations are based on industry standards.
- Typical Texts
  Address
  The course materials and evaluations are based on industry standards.

Requisite Skills

Before entering this course, it is required that a student be able to:

A. ~~AUTO~~ NAUT ~~INTR~~ INT
    1. ~~Utilize and apply hazardous waste handling;~~
    2. Identify and describe uses of automotive related tools ;
    3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
    4. Discuss four stroke engine cycle and identify engine parts ;
    5. Apply Ohm's law, read basic schematics, test automotive electrical systems;
    6. ~~Discuss~~ Identify ~~heating~~ emissions ~~and cooling systems~~ components , ~~perform~~ understand ~~basic~~ 5 ~~cooling~~ gas ~~systems tests~~ theory ;
    7. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
B. NAUT ~~INTR~~ INTL
    1. Utilize and apply hazardous waste handling;
    2. Identify and describe uses of automotive related tools;
    3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;

4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. ~~Discuss~~ Identify ~~heating~~ emissions ~~and cooling systems~~ components , ~~perform~~ understand ~~basic~~ 5 ~~cooling~~ gas ~~systems tests~~ theory ;
6. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
7. Theorize on the future of the automotive industry.

C. AUTO INTL
1. Utilize and apply hazardous waste handling;
2. Identify and describe uses of automotive related tools;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. ~~Discuss~~ Identify ~~heating~~ emissions ~~and cooling systems~~ components , ~~perform~~ understand ~~basic~~ 5 ~~cooling~~ gas ~~systems tests~~ theory ;
6. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
7. Theorize on the future of the automotive industry.

D. AUTO ~~INTZ~~ INT
1. Identify and describe uses of automotive related tools ;
2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile ;
3. Apply Ohm's law, read basic schematics, test automotive electrical systems;
4. ~~Discuss~~ Identify ~~heating~~ emissions ~~and cooling systems~~ components , ~~perform~~ understand ~~basic~~ 5 ~~cooling~~ gas ~~systems tests~~ theory ;
5. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
6. Theorize on the future of the automotive industry.

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.

~~PO: Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. FO: Same as above, however specialized software can be used to simulate labs online (case by case approved by NATEF). This was done Spring 20 and worked well however students become very frustrated very quickly when they are not getting their hands dirty. 90% of Spring 2020 students stated they would not return to a fully online semester for Fall 2020. Fully online should only be used in extreme situations and for a very short duration.~~

Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. There are exceptions to this as we learned in C-19.

Explain how the decision was made to offer this course in a Distance Education mode.

~~PO: California Automotive Teachers have given this recommendation to allow our students to continue on their career path. FO:Same as above~~

California Automotive Teachers have given this recommendation to allow our students to continue on their career path.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Weekly, as assignments or labs are turned in

- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum Once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Minimum once per week
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: Weekly lab sessions
- **Other:**
  Frequency: PO: Student interaction, fulfillment of SLO's and measurable objectives will be done on campus in the labs, weekly. FO: Student interaction, fulfillment of SLO's and measurable objectives will be monitored through the accounting set up in the online lab software, weekly.

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: PO:At least twice per semester FO:At least once every other week.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: Fully online only: Minimum weekly
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: Fully online only: once every other week
- **Other:**
  Frequency: PO: Students will interact during on-campus weekly labs FO: Student will interact online in chat.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: Fully online only: weekly
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: PO and FO: Quizzes: at least one quiz per section/chapter. Weekly. Exams: at least two per semester.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: PO:At least once per week FO:At least once per week
- **Simulations:** *Simulations will be used by students so they can participate in and learn from processes.*
  Frequency: FO:Weekly
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: PO: Weekly, in on-campus labs FO:Weekly recorded by student and completed using online software.
- **Other:**
  Frequency: Both PO and FO: Homework, assigned weekly

General Education/Transfer Request

General Education/Transfer Request
CSU Transfer
- Transfers to CSU

Codes and Dates

Course CB Codes

CB00: State ID
CCC000569977

CB03: TOP Code
094800 - Automotive Technology

CIP Code

CB04: Credit Status
D - Credit - Degree Applicable

CB05: Transfer Status
B - Transferable to CSU only.

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
D - Possibly Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category

Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam Yes
Credit-by-Portfolio ~~No~~ Yes
Please list the requirements/criteria/possible materials for a student to submit in their portfolio.
Has Taken NAUT A2 with a C or better. P/NP does not qualify.
Curriculum Committee Approval Date
Effective Term
Credit-by-Military-JST No
Please list the ACE course(s) equivalent to this course
Curriculum Committee Approval Date
Effective Term
Credit-by-Industry-Recognized-Training Yes
Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.
See attached
Curriculum Committee Approval Date
Additional Detail (List articulated courses, etc.) No
Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files.
Curriculum Committee Approval Date
Effective Term
Curriculum Committee Approval Date
Effective Term

LAS POSITAS COLLEGE

Course Modification: AUTO A3 - Manual Drive Train and Axles

Course Modification: AUTO A3 - Manual Drive Train and Axles (Launched - Implemented 09-22-2025)
compared with
AUTO A3 - Manual Drive Train and Axles (Active - Implemented 08-15-2021)

Admin Outline for Automotive Technology A3
Manual Drive Train and Axles

Effective: Fall ~~2021~~ 2026

Catalog Description:

AUTO A3 - Manual Drive Train and Axles
4.00 Units

An in-depth study of manual gearboxes, rear axle, front axle, and transfer cases: mechanical, measurement, and assembly. Including theory, teardown, qualifying, and rebuilding. - Students are encouraged to enroll in Automotive Lab concurrently.
2 Units Lecture 2 Units Lab

Prerequisite: ~~AUTO~~ NAUT ~~INTR~~ INTL with a minimum grade of C ~~;~~ ~~or~~ and NAUT ~~INTR~~ INT with a minimum grade of C, or AUTO INTL with a minimum grade of C and AUTO ~~INTZ~~ INT with a minimum grade of C , INT and INTL may be taken concurrently

Course Grading: Optional

Lecture Hours	36
Lab Hours	108
Inside of Class Hours	144
Outside of Class Hours	72

Justification for course proposal

Discipline:

Automotive Technology

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

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

A. Demonstrate the basic safety procedures of handling hazardous waste materials.
B. Explain the history of powertrain evolution.
C. Operate a wide variety of precision measurement equipment
D. Explain rear axle gear theory;
E. Teardown typical rear axle assembly;
F. Make measurements of rear axle components and compare to specifications;
G. Qualify new and used rear axle components.
H. Properly rebuild rear axle to manufacturer specifications;
I. Explain front axle gear theory;
J. Teardown typical front axle assembly;
K. . Make measurements of front axle components and compare to specifications;
L. Qualify new and used front axle components.
M. Properly rebuild front axle to manufacturer specifications;
N. Explain transfer case gear and power flow theory;
O. Tear down typical transfer case assembly;
P. Make measurements of transfer case components and compare to specifications;
Q. Qualify new and used transfer case components.
R. Properly rebuild transfer case to manufacturer specifications;
S. Maintain a clean and professional environment.

Course Content:

Lab:

1. Safety
2. Measurement tool usage
3. Rear Axle rebuild

4. Rear Axle Teardown
5. Component measurement
6. Evaluation of replacement components
7. Front Axle Rebuild
8. Front Axle Teardown
9. Component measurement
10. Front Axle rebuilding
11. Transfer Case theory
12. Transfer case Teardown
13. Component measurement
14. Two speed axles
15. Electrical application to axles
16. Professionalism
17. ~~Safety~~

Lecture:

1. - Safety
    1. Tool usage and nomenclature
    2. - Proper disposal procedures
    3. - Environmentally conscious decisions

2. - Powertrain evolution
    1. - The first axle assemblies
    2. - Current axle assemblies
        1. - Internal design improvements
    3. - Environmental decisions driving design

3. - Measurement tools
    1. - Micrometer
        1. - Vernier
        2. - Caliper
    2. - Dial bore gauge
    3. - Snap gauges
    4. - Straight edge
    5. - Feeler gauges

6. Hole gauges

4. Rear Axle theory
    1. Gear Design
        1. Straight Cut
        2. Hypoid Cut
        3. Diagonal Cut
        4. Street vs. racing
    2. Pinion Design
    3. Ring Gear Design
    4. Locking/Non-Locking Design
    5. Full/Free Floating Design

5. Rear Axle Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence
    2. Removal and identification of internal components
        1. Special Procedures
            1. Loosening sequence

6. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis
            1. Failure analysis

7. Evaluation of replacement components
    1. Correct component?
    2. New and used part comparison
8. Rear Axle rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
        1.
            1. ~~Assembly lube~~
            2. Gaskets and sealers
            3. Assembly lube
    2. Pinion Depth setting
    3. Backlash setting
    4. Rotational toque
9. Front Axle theory
    1. Gear Design
        1. Straight Cut
        2. Hypoid Cut
        3. Diagonal Cut
        4. Street vs. racing
    2. Pinion Design
    3. Ring Gear Design
    4. Locking/Non-Locking Design

10. Front Axle Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence
    2. Removal and identification of internal components
        1. Special Procedures
            1. Loosening sequence
11. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis
            1. Failure analysis
12. Evaluation of replacement components
    1. Correct component?
    2. New and used part comparison
13. Front Axle rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
            1. Assembly lube

2. Gaskets and sealers

2. Pinion Depth setting
3. Backlash setting
4. Rotational torque

14. Transfer Case theory

1. Gear Design

1. Straight Cut
2. Hypoid Cut
3. Diagonal Cut
4. Street vs. Off Road

2. Drive Chain Design
3. Active/Passive Design
4. 4wd Hi/4WD Lo Design and usage

15. Transfer case Teardown

1. Removal and identification of external components

1. Special procedures

1. Loosening sequence

2. Removal and identification of internal components

1. Special Procedures

1. Loosening sequence

16. Component measurement

1. Specification lookup
2. Comparison

1. Component diagnosis
    1. Failure analysis

17. Evaluation of replacement components
    1. Correct component?
    2. New and used part comparison

18. Transfer case rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
            1. Assembly lube
    2. Gaskets and sealers

19. Two speed axles
20. Electrical theory and application to axles
21. Professionalism
    1. Safety glasses
    2. Working shop expectations
    3. Attitude
    4. Cleanliness
    5. Maintenance of work areas and tools

Lecture:

1. Safety
    1. Tool usage and nomenclature
    2. Proper disposal procedures
    3. Environmentally conscious decisions

2. Powertrain evolution
    1. The first axle assemblies
    2. Current axle assemblies
        1. Internal design improvements
    3. Environmental decisions driving design
3. Measurement tools
    1. Micrometer
        1. Vernier
        2. Caliper
    2. Dial bore gauge
    3. Snap gauges
    4. Straight edge
    5. Feeler gauges
    6. Hole gauges
4. Rear Axle theory
    1. Gear Design
        1. Straight Cut
        2. Hypoid Cut
        3. Diagonal Cut
        4. Street vs. racing
    2. Pinion Design
    3. Ring Gear Design
    4. Locking/Non-Locking Design
    5. Full/Free Floating Design
5. Rear Axle Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence
    2. Removal and identification of internal components
        1. Special Procedures
            1. Loosening sequence
6. Component measurement

1. Specification lookup
2. Comparison
    1. Component diagnosis
        1. Failure analysis

7. Evaluation of replacement components
    1. Correct component?
    2. New and used part comparison

8. Rear Axle rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
        1.
            1. Assembly lube
            2. Gaskets and sealers
    2. Pinion Depth setting
    3. Backlash setting
    4. Rotational toque

9. Front Axle theory
    1. Gear Design
        1. Straight Cut
        2. Hypoid Cut
        3. Diagonal Cut
        4. Street vs. racing
    2. Pinion Design
    3. Ring Gear Design
    4. Locking/Non-Locking Design

10. Front Axle Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence

2. Removal and identification of internal components
    1. Special Procedures
        1. Loosening sequence

11. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis
            1. Failure analysis

12. Evaluation of replacement components
    1. Correct component?
    2. New and used part comparison

13. Front Axle rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
            1. Assembly lube
            2. Gaskets and sealers
    2. Pinion Depth setting
    3. Backlash setting
    4. Rotational torque

14. Transfer Case theory
    1. Gear Design
        1. Straight Cut
        2. Hypoid Cut
        3. Diagonal Cut
        4. Street vs. Off Road
    2. Drive Chain Design
    3. Active/Passive Design

4. 4wd Hi/4WD Lo Design and usage

15. Transfer case Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence
    2. Removal and identification of internal components
        1. Special Procedures
            1. Loosening sequence

16. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis
            1. Failure analysis

17. Evaluation of replacement components
    1. Correct component?
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    2. Gaskets and sealers

19. Two speed axles
20. Electrical theory and application to axles
21. Professionalism
    1. Safety glasses
    2. Working shop expectations
    3. Attitude
    4. Cleanliness

5. Maintenance of work areas and tools

Methods of Instruction:

1. Lab - Group and individual laboratory activities
2. Lecture - Group lecture activities. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.

Typical Outside-of-Class Assignments

A. ~~Other:~~
Reading:
Read Chapter One in text

A. ~~Lecture based assignments~~
Research:
Rear axle gear research for a personal vehicle

1. ~~Lecture on pinion depth measurements~~

2. ~~Lab based assignments~~

1. ~~Measure pinion depth~~

3. ~~Text based assignments~~

1. ~~Read Chapter One~~

Methods of Evaluating Student Progress

A. Exams/Tests
1. monthly
B. Lab Activities
1. weekly
C. Quizzes
1. weekly

Student Learning Outcomes

Upon the completion of this course, the student should be able to:
A. ~~obtain~~ Obtain and interpret powertrain data related to manual gearboxes and axles.
B. ~~apply~~ Apply Manual Drive Train and axle repair safety precautions .
C. Measure pinion preload .

Textbooks (Typical):

Textbook:
1. ~~Chris~~ James ~~Johanson~~ Duffy ~~*Manual*~~ *2025* ~~*Drivetrains*~~ *ASE* ~~*and*~~ *Automotive* ~~*Axles*~~ *Suite* . ~~*5 ed.*~~ , Goodheart Wilcox, ~~2021~~ 2025 .
2. James ~~Duffy~~ D Halderman ~~*Modern*~~ *Automotive Technology.* ~~9~~ 7 ed., ~~Goodheart~~ Pearson, ~~Wilcox~~ 2024.
3. Tim Giles *Automotive Service: Inspection, Maintenance, Repair.* 6 ed., Cengage , 2020.

Other Materials Required of Students

Other Materials Required of Students:
1. Safety glasses.

Equity Based Curriculum

- Methods of Instruction
Address
The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
- Methods of Evaluation

Address
The course materials and evaluations are based on industry standards.

- Typical Texts

Address
The course materials and evaluations are based on industry standards.

Requisite Skills

Before entering this course, it is required that a student be able to:

A. ~~AUTO~~ NAUT ~~INTR~~ INTL
1. Utilize and apply hazardous waste handling;
2. Identify and describe uses of automotive related tools ;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. Identify emissions components, understand 5 gas theory ;
6. Discuss braking systems, perform a brake inspection, identify parts;
7. Differentiate between suspension and steering system types, inspect and qualify components;
8. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
9. Theorize on the future of the automotive industry.

B. NAUT ~~INTR~~ INT
1. ~~Utilize and apply hazardous waste handling;~~
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C. AUTO INTL
1. Utilize and apply hazardous waste handling;
2. Identify and describe uses of automotive related tools ;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. Identify emissions components, understand 5 gas theory ;
6. Discuss braking systems, perform a brake inspection, identify parts;
7. Differentiate between suspension and steering system types, inspect and qualify components;
8. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
9. Theorize on the future of the automotive industry.

D. AUTO ~~INTZ~~ INT
1. Identify and describe uses of automotive related tools;
2. ~~Discuss~~ Describe ~~heating~~ the importance of preventative maintenance and ~~cooling~~ inspection ~~systems~~ procedures as they relate to the automobile;
3. Apply Ohm's law , ~~perform~~ read basic ~~cooling~~ schematics, test automotive electrical systems ~~tests~~ ;
4. Identify ~~air~~ emissions ~~conditioning systems~~ components , understand ~~cycles~~ 5 ~~of~~ gas ~~refrigerant~~ theory ;
5. Discuss braking systems, perform a brake inspection, identify parts;
6. Differentiate between suspension and steering system types, inspect and qualify components;
7. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
8. Theorize on the future of the automotive industry.

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
~~PO: Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. FO: Same as above, however specialized software can be used to simulate labs online (case by case approved by NATEF). This was done Spring 20 and worked well however students become very frustrated very quickly when they are not getting their hands dirty. 90% of Spring 2020 students stated they would not return to a fully online semester for Fall 2020. Fully online should only be used in extreme situations and for a very short duration.~~

Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. There are exceptions to this as we learned in C-19.

Explain how the decision was made to offer this course in a Distance Education mode.
~~PO: California Automotive Teachers have given this recommendation to allow our students to continue on their career path. FO:Same as above~~

California Automotive Teachers have given this recommendation to allow our students to continue on their career path.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.

- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Weekly, as assignments or labs are turned in
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum Once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Minimum Once per week
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: Weekly lab sessions
- **Other:**
  Frequency: PO: Student interaction, fulfillment of SLO's and measurable objectives will be done on campus in the labs, weekly. FO: Student interaction, fulfillment of SLO's and measurable objectives will be monitored through the accounting set up in the online lab software, weekly.

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: PO:At least twice per semester FO:At least once every other week.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: Fully online only: Minimum weekly
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: Fully online only: once every other week
- **Other:**
  Frequency: PO: Students will interact during on-campus weekly labs FO: Student will interact online in chat.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: Fully online only: weekly
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: ~~PO and FO:~~ Quizzes: at least one quiz per section/chapter. Weekly. Exams: at least two per semester.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: ~~PO:At least once per week FO:~~ At least once per week
- **Simulations:** *Simulations will be used by students so they can participate in and learn from processes.*
  Frequency: FO:Weekly
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: PO: Weekly, in on-campus labs FO:Weekly recorded by student and completed using online software.
- **Other:**
  Frequency: ~~Both PO and FO:~~ Homework, assigned weekly

General Education/Transfer Request

General Education/Transfer Request

CSU Transfer

- Transfers to CSU

Codes and Dates

Course CB Codes

CB00: State ID

CCC000622189

CB03: TOP Code

094800 - Automotive Technology

CIP Code

47.0604 - Automobile/Automotive Mechanics Technology/Technician.

CB04: Credit Status
D - Credit - Degree Applicable

CB05: Transfer Status
B - Transferable to CSU only.

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
C - Clearly Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category

Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam ~~Yes~~ No
Credit-by-Portfolio ~~No~~ Yes
Please list the requirements/criteria/possible materials for a student to submit in their portfolio.
Has Taken NAUT A3 with a C or better. P/NP does not qualify.
Curriculum Committee Approval Date
Effective Term
Credit-by-Military-JST ~~No~~ Yes
Please list the ACE course(s) equivalent to this course
See Attached
Curriculum Committee Approval Date
Effective Term
Credit-by-Industry-Recognized-Training Yes
Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.
See attached
Curriculum Committee Approval Date
Additional Detail (List articulated courses, etc.) No
Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files.
Curriculum Committee Approval Date
Effective Term
Curriculum Committee Approval Date
Effective Term

LAS POSITAS COLLEGE

Course Modification: AUTO A4 - Suspension and Steering

Course Modification: AUTO A4 - Suspension and Steering (Launched - Implemented 09-22-2025)
compared with
AUTO A4 - Suspension and Steering (Active - Implemented 08-15-2021)

Admin Outline for Automotive Technology A4
Suspension and Steering

Effective: Fall ~~2021~~ 2026

Catalog Description:

AUTO A4 - Suspension and Steering
4.00 Units

Diagnosis, evaluation, testing, adjustment, alignment and repair of steering and suspension systems. Including all common automotive steering and suspension systems both car and truck. Future systems will also be covered. Students are strongly recommended to enroll in Automotive Lab concurrently.
2 Units Lecture 2 Units Lab

Prerequisite: ~~AUTO~~ NAUT ~~INTR~~ INTL with a minimum grade of C ~~;~~ ~~or~~ and NAUT ~~INTR~~ INT with a minimum grade of C, or AUTO INTL with a minimum grade of C and AUTO ~~INTZ~~ INT with a minimum grade of C , INT and INTL may be taken concurrently.

Course Grading: Optional

Lecture Hours	36
Lab Hours	108
Inside of Class Hours	144
Outside of Class Hours	72

Justification for course proposal

Discipline:

Automotive Technology

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

Upon completion of this course, the student should be able to:
A. Understand and apply Hazardous waste handling;
B. Identify and describe uses of automotive related tools;
C. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
D. Understand four stroke engine cycle and identify engine parts;
E. Perform basic engine teardown and reassembly;
F. Apply Ohm's law, read basic schematics, test automotive electrical systems;
G. Identify emissions components, understand 5 gas theory;
H. Understand heating and cooling systems, perform basic cooling systems tests;
I. Identify air conditioning systems, understand cycles of refrigerant;
J. Understand braking systems, perform a brake inspection, identify parts;
K. Differentiate between suspension and steering system types, inspect and qualify components;
L. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
M. Restraints system identification, know safety concerns of each system and inspection of restraint systems;
N. Theorize on the future of the automotive industry.

Course Content:

Lab:

1. System geometry and alignment specifications
2. Perform alignment
3. Diagnosis vibration, electrical, and mechanical concerns
4. Alignments
5. Tire and wheel problems
6. Vibration concerns

7. McPherson strut and “A” –Arm type suspension systems
8. Electrical Steering systems
9. Electrical Suspension systems
10. Professional environment

Lecture:

1. - Fundamentals and theory of automotive steering and suspension systems
    1. - System geometry and alignment specifications
    2. - Fundamental principals of electrical flow, and component operation
2. - Applied principal competencies
    1. - Perform alignment
    2. - Diagnosis vibration, electrical, and mechanical concerns
3. - Electronic components
    1. - Identify and list functionality of electronic components
    2. - Test and verify functionality of components
    3. - Demonstrate use of a scanner, and volt/ohm testers
4. - Alignments
    1. - Perform two wheel alignments
    2. - Perform four-wheel alignments
    3. - Conduct toe only adjustments
    4. - Check cradle adjustments
5. - Tire and wheel problems
    1. Check radial and lateral variations on both tires and wheels
    2. Make bearing pre-load adjustments
    3. Perform vibration correction tests to isolate customer concerns
6. Vibration concerns
    1. Perform vibration correction tests
    2. Isolate vibrations
    3. Identify type, frequency, and order of vibrations

7. McPherson strut and "A" –Arm type suspension systems

    1. Identify types of suspensions
    2. Perform adjustments pertaining to type of system
    3. Describe safety precautions and warning
    4. List benefits for each type system

8. Electronic Theory
9. Electrical Steering systems
10. Electrical Suspension systems
11. Professional environment

    1. Safety glasses (Clear lens) worn in all Laboratory areas
    2. No loose clothing (Coveralls strongly recommended)
    3. Long Hair secured
    4. No open toe shoes (safety shoes recommended)
    5. Work areas maintained; clean free of debris and spills

Lecture:

1. Fundamentals and theory of automotive steering and suspension systems
    1. System geometry and alignment specifications
    2. Fundamental principals of electrical flow, and component operation
2. Applied principal competencies
    1. Perform alignment
    2. Diagnosis vibration, electrical, and mechanical concerns
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    1. Identify and list functionality of electronic components
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    3. Long Hair secured
    4. No open toe shoes (safety shoes recommended)
    5. Work areas maintained; clean free of debris and spills

Methods of Instruction:

1. Lab - Student hands-on laboratory activities and assignments
2. Lecture - Group lecture assignments. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.

Typical Outside-of-Class Assignments

A. ~~Other~~ Reading :
    1. ~~Lecture based assignments~~
        1. ~~Lecture on Alignment procedures~~
    2. ~~Lab based assignments~~
        1. ~~Perform 4-wheel alignment on 3 vehicles~~
    3. ~~Text based assignments~~
        1. Read Chapter One in text

D. Research:
    1. Suspension modification research for a personal vehicle

Methods of Evaluating Student Progress

A. Exams/Tests
   1. monthly
B. Lab Activities
   1. weekly
C. Quizzes
   1. weekly

Student Learning Outcomes

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

A. ~~apply~~ Apply steering and suspension repair safety precautions.
B. ~~obtain~~ Obtain and interpret powertrain data related to the steering and suspension system .
C. Perform an alignment .

Textbooks (Typical):

Textbook:

1. ~~Chris~~ James ~~Johanson~~ Duffy ~~*Auto* *2025* *Suspension* *ASE* *and* *Automotive* *Steering* *Suite* . 5 ed.~~ , Goodheart Wilcox, ~~2021~~ 2025 .
2. James ~~Duffy~~ D Halderman ~~*Modern*~~ *Automotive Technology.* ~~9~~ 7 ed., ~~Goodheart~~ Pearson, ~~Wilcox~~ 2024.
3. Tim Giles *Automotive Service: Inspection, Maintenance, Repair.* , Cengage , 2020.

Other Materials Required of Students

Other Materials Required of Students:

1. Safety Glasses.

Equity Based Curriculum

- Methods of Instruction
  Address
  The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
- Methods of Evaluation
  Address
  The course materials and evaluations are based on industry standards.
- Typical Texts
  Address
  The course materials and evaluations are based on industry standards.

Requisite Skills

Before entering this course, it is required that a student be able to:

A. ~~AUTO~~ NAUT ~~INTR~~ INTL
   1. Utilize and apply hazardous waste handling;
   2. Identify and describe uses of automotive related tools;
   3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
   4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
   5. Discuss braking systems, perform a brake inspection, identify parts;
   6. Differentiate between suspension and steering system types, inspect and qualify components;
   7. Theorize on the future of the automotive industry.

B. NAUT ~~INTR~~ INT
   1. ~~Utilize and apply hazardous waste handling;~~
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D. AUTO ~~INTZ~~ INT
   1. Identify and describe uses of automotive related tools;

2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
3. Apply Ohm's law, read basic schematics, test automotive electrical systems;
4. Discuss braking systems, perform a brake inspection, identify parts;
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DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.

~~PO: Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. FO: Same as above, however specialized software can be used to simulate labs online (case by case approved by NATEF). This was done Spring 20 and worked well however students become very frustrated very quickly when they are not getting their hands dirty. 90% of Spring 2020 students stated they would not return to a fully online semester for Fall 2020. Fully online should only be used in extreme situations and for a very short duration.~~

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Explain how the decision was made to offer this course in a Distance Education mode.

~~PO: California Automotive Teachers have given this recommendation to allow our students to continue on their career path. FO:Same as above~~

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- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

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- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
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- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum Once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Minimum Once per week
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: Weekly lab sessions
- **Other:**
  Frequency: ~~PO:~~ Student interaction, fulfillment of SLO's and measurable objectives will be done ~~on campus in the labs,~~ weekly. ~~FO: Student interaction, fulfillment of SLO's and measurable objectives will be monitored through the accounting set-up in the online lab software, weekly.~~

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: ~~PO:At least twice per semester FO:~~ At least once every other week.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*

Frequency: Fully online only: Minimum weekly
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: Fully online only: once every other week
- **Other:**
  Frequency: ~~PO:~~ Students will interact during on-campus weekly labs ~~FO:~~ ~~Student will interact~~ and online in chat.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: ~~Fully online only: weekly~~ Weekly
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: ~~PO and FO:~~ Quizzes: at least one quiz per section/chapter. Weekly. Exams: at least two per semester.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: ~~PO:~~ At least once per week ~~FO:At least once per week~~
- **Simulations:** *Simulations will be used by students so they can participate in and learn from processes.*
  Frequency: ~~FO:Weekly~~ At least once per week
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: ~~PO:~~ Weekly, in on-campus labs ~~FO:Weekly recorded by student and completed using online software.~~
- **Other:**
  Frequency: ~~Both PO and FO:~~ Homework, assigned weekly

General Education/Transfer Request

General Education/Transfer Request
CSU Transfer
- Transfers to CSU

Codes and Dates

Course CB Codes
CB00: State ID
CCC000569953
CB03: TOP Code
094800 - Automotive Technology
CIP Code
CB04: Credit Status
D - Credit - Degree Applicable
CB05: Transfer Status
B - Transferable to CSU only.
CB08: Basic Skills Status
N - Not Basic Skills
CB09: SAM Code
B - Advanced Occupational
CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.
CB11: Course Classification Status
CB13: Special Class Status
N - Course is not a special class.
CB21: Course Prior to College
Y - Not applicable
CB22: Non Credit Course Category

Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)
CB24: Program Status
1 - Program Applicable
CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course
CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam ~~Yes~~ No
Credit-by-Portfolio ~~No~~ Yes
Please list the requirements/criteria/possible materials for a student to submit in their portfolio.
Has Taken NAUT A4 with a C or better. P/NP does not qualify.
Curriculum Committee Approval Date

Effective Term

Credit-by-Military-JST ~~No~~ Yes

Please list the ACE course(s) equivalent to this course

See Attached

Curriculum Committee Approval Date

Effective Term

Credit-by-Industry-Recognized-Training Yes

Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.

See attached

Curriculum Committee Approval Date

Additional Detail (List articulated courses, etc.) No

Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files.

Curriculum Committee Approval Date

Effective Term

Curriculum Committee Approval Date

Effective Term

LAS POSITAS COLLEGE

Course Modification: AUTO A6 - Electrical/Electronic Systems

Course Modification: AUTO A6 - Electrical/Electronic Systems (Launched - Implemented 09-22-2025)
compared with
AUTO A6 - Electrical/Electronic Systems (Active - Implemented 08-15-2022)

Admin Outline for Automotive Technology A6
Electrical/Electronic Systems

Effective: Fall ~~2022~~ 2026

Catalog Description:

AUTO A6 - Electrical/Electronic Systems
5.00 Units

Automotive electrical/electronic systems, including electrical circuits, Ohm's Law, battery, starting, charging, ignition, fuel, accessories, brakes, chassis, suspension, steering, HVAC, and wiring systems. Emphasis on diagnosis of electrical troubles, assembly, repair of components, and diagnostic equipment usage. Students are strongly recommended to enroll in Automotive Lab concurrently.
3 Units Lecture 2 Units Lab

Prerequisite: ~~AUTO~~ NAUT ~~INTR~~ INT with a minimum grade of C ~~;~~ ~~or~~ and NAUT ~~INTR~~ INTL with a minimum grade of C, or AUTO INTL with a minimum grade of C and AUTO ~~INTZ~~ INT with a minimum grade of C , INT and INTL may be taken concurrently

Course Grading: Optional

Lecture Hours	54
Lab Hours	108
Inside of Class Hours	162
Outside of Class Hours	108

Justification for course proposal

Discipline:

Automotive Technology

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

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

A. Diagnose and repair basic automotive battery, starting, charging systems;
B. Use electrical test equipment for accurate diagnosis of electrical systems and sub-systems;
C. Use problem-solving skills to categorize systems faults in automotive circuits and make needed repairs;
D. Identify types of ignition systems;
E. Describe and evaluate fuel control circuits for proper operation;
F. Explain the fundamentals of electronic and electrical theories;
G. Conduct circuit and wire repairs;
H. Demonstrate safe and appropriate hazardous material handling;
I. Maintain a clean and professional environment.

Course Content:

Lab:

1. Diagnosing and repairing electrical issues
2. Electrical test equipment usage
3. Problem solving
4. Identifying types of ignition systems
5. Fuel control: operation and evaluation
6. Fundamentals of electronics and electrical
7. Diagnosis of connected systems
8. Circuit and wire repairs

9. Hazardous material handling
10. Professional environment

Lecture:

1. - Diagnosing and repair:
    1. - Outline and perform procedures for the testing of batteries, charging systems, starting systems
    2. - Categorize type of problem, isolate cause and make needed repairs
2. - Electrical test equipment
    1. - Digital volt meters, for diagnosing electrical and electronic components and systems
    2. - Volt Amp Tester (VAT), for diagnosing Batteries, Charging systems, starting systems
3. - Problem solving
    1. - Classify type of electrical faults
    2. - Evaluate needed diagnostic procedure
    3. - Research proper diagnostic path as outlined by the manufacture or industry standards and make needed repairs
    4. - Perform needed test to confirm repairs
4. - Identifying types of ignition systems
    1. Standard, electronic, high energy, distributor, non-distributor
    2. Safety precautions while diagnosing
    3. Identify circuitry, current theory and concepts
5. Fuel control: operation and evaluation
    1. - Identify type of controller
    2. - Describe trigger mechanism
    3. - Categorize type of injectors used
    4. - Evaluate proper operation of system
    5. - Perform pressure checks
    6. - Explain scanner readings, meter readings and scope readings
6. - Fundamentals of electronics and electrical theory
    1. Explain Ohm's Law
    2. Perform Electrical Conversion factors
    3. Demonstrate a working knowledge of meter usage

4. Research and list manufactures specifications
5. Identify proper diagnostic steps for a proper conclusion for repairs needed

7. Diagnosis of connected system
    1. Brakes and ABS system
    2. Steering
    3. Suspension
    4. HVAC
8. - Circuit and wire repairs
    1. - Lay out and perform solder repairs
    2. - Lay out and perform splice repairs
    3. - Lay out and perform terminal and connector repairs
    4. - Produce sound diagnostic approach to identify faults
9. - Hazardous material handling
    1. Explain safety precautions concerning battery acid (electrolyte) hazards
    2. List steps to help someone that has been exposed to battery acid (electrolyte)
10. Professional environment
    1. Safety glasses (Clear lens) worn in all Laboratory areas
    2. No loose clothing (Coveralls strongly recommended)
    3. Long Hair secured
    4. No open toe shoes (safety shoes recommended)
    5. ~~Work areas maintained, clean, free of debris and spills~~

~~**Lecture:**~~

1. ~~Diagnosing and repair:~~
    1. ~~Outline and perform procedures for the testing of batteries, charging systems, starting systems~~
    2. ~~Categorize type of problem, isolate cause and make needed repairs~~
2. ~~Electrical test equipment~~
    1. ~~Digital volt meters, for diagnosing electrical and electronic components and systems~~
    2. ~~Volt Amp Tester (VAT), for diagnosing Batteries, Charging systems, starting systems~~
3. ~~Problem solving~~
    1. ~~Classify type of electrical faults~~
    2. ~~Evaluate needed diagnostic procedure~~
    3. ~~Research proper diagnostic path as outlined by the manufacture or industry standards and make needed repairs~~

4. ~~Perform needed test to confirm repairs~~

4. ~~Identifying types of ignition systems~~
    1. ~~Standard, electronic, high energy, distributor, non-distributor~~
    2. ~~Safety precautions while diagnosing~~
    3. ~~Identify circuitry, current theory and concepts~~

5. ~~Fuel control: operation and evaluation~~
    1. ~~Identify type of controller~~
    2. ~~Describe trigger mechanism~~
    3. ~~Categorize type of injectors used~~
    4. ~~Evaluate proper operation of system~~
    5. ~~Perform pressure checks~~
    6. ~~Explain scanner readings, meter readings and scope readings~~

6. ~~Fundamentals of electronics and electrical theory~~
    1. ~~Explain Ohm's Law~~
    2. ~~Perform Electrical Conversion factors~~
    3. ~~Demonstrate a working knowledge of meter usage~~
    4. ~~Research and list manufactures specifications~~
    5. ~~Identify proper diagnostic steps for a proper conclusion for repairs needed~~

7. ~~Diagnosis of connected system~~

    1. ~~Brakes and ABS system~~
    2. ~~Steering~~
    3. ~~Suspension~~
    4. ~~HVAC~~

8. ~~Circuit and wire repairs~~
    1. ~~Lay out and perform solder repairs~~
    2. ~~Lay out and perform splice repairs~~
    3. ~~Lay out and perform terminal and connector repairs~~
    4. ~~Produce sound diagnostic approach to identify faults~~

9. ~~Hazardous material handling~~
    1. ~~Explain safety precautions concerning battery acid (electrolyte) hazards~~
    2. ~~List steps to help someone that has been exposed to battery acid (electrolyte)~~

10. ~~Professional environment~~
    1. ~~Safety glasses (Clear lens) worn in all Laboratory areas~~

2. ~~No loose clothing (Coveralls strongly recommended)~~
3. ~~Long Hair secured~~
4. ~~No open toe shoes (safety shoes recommended)~~
5. Work areas maintained; clean free of debris and spills

Methods of Instruction:

1. Lab - Student Hands-on laboratory activities and assignments
2. Lecture - Group lecture assignments. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.

Typical Outside-of-Class Assignments

A. ~~Other~~ Reading:
Read Chapter One in text

B. Research :
~~A. Lecture based assignments~~

~~1. Lecture on Ohm's law~~

Vehicle electrical construction research for a personal vehicle

~~B. Text reading~~

~~1. Read Chapter One~~

~~C. Lab based assignments~~

~~1. Perform Voltage drop on starter circuit~~

Methods of Evaluating Student Progress

A. Exams/Tests
   1. monthly
B. Lab Activities
   1. weekly
C. Quizzes
   1. weekly

Student Learning Outcomes

Upon the completion of this course, the student should be able to:
A. ~~Upon completion of AUTO A6, the student should be able to apply~~ Apply electrical precautions.
B. ~~Upon completion of AUTO A6, the student should be able to obtain~~ Obtain and interpret data related to the electrical system
C. Use a fluke meter to measure voltage.

Textbooks (Typical):

Textbook:
1. James ~~Duffy~~ D Halderman ~~*Modern*~~ *Automotive Technology.* ~~9~~ 7 ed., ~~Goodheart-Wilcox~~ Pearson , ~~2020~~ 2024 .
2. ~~Chris~~ James ~~Johanson~~ Duffy *2025 ASE Automotive* ~~*Electricity and Electronics*~~ *Suite* . ~~5 ed.~~ , Goodheart Wilcox, ~~2021~~ 2025.
3. Tim Giles *Automotive Service: Inspection, Maintenance, Repair.* 6 ed., Cengage, 2020 .

Other Materials Required of Students

Other Materials Required of Students:
1. Safety Glasses.

Equity Based Curriculum

- ~~Measurable~~ Methods ~~Objectives~~ of Instruction

Address

~~Industry-Standard~~ The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.

- Methods of Evaluation

  Address

  The course materials and evaluations ~~will~~ are ~~be~~ based ~~used for lab work.Students being able to acquire~~ on industry ~~certificates~~ standards.
- ~~which~~ Typical Texts

  Address

  The course materials and evaluations are ~~not~~ based ~~held~~ on ~~in~~ industry ~~high quantities by miorities. This will help them get a job~~ standards .

Requisite Skills

Before entering this course, it is required that a student be able to:

A. ~~AUTO~~ NAUT ~~INTR~~ INT
1. Identify and describe uses of automotive related tools;
2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
3. Apply Ohm's law, read basic schematics, test automotive electrical systems;
4. Identify emissions components, understand 5 gas theory;
5. Restraints system identification, know safety concerns of each system and inspection of restraint systems;
6. Theorize on the future of the automotive industry.

B. NAUT INTL
1. Utilize and apply hazardous waste handling;
2. Identify and describe uses of automotive related tools;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. Identify emissions components, understand 5 gas theory;
6. ~~Discuss heating and cooling systems, perform basic cooling systems tests;~~
7. ~~Identify air conditioning systems, understand cycles of refrigerant;~~
8. ~~Discuss braking systems, perform a brake inspection, identify parts;~~
9. ~~Differentiate between suspension and steering system types, inspect and qualify components;~~
10. ~~Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;~~
11. Restraints system identification, know safety concerns of each system and inspection of restraint systems;

3. ~~NAUT~~ Theorize ~~INTR~~
1. ~~Utilize~~ on ~~and~~ the ~~apply hazardous waste handling;~~
2. ~~Identify and describe uses~~ future of ~~automotive related tools;~~
3. ~~Describe~~ the ~~importance of preventative maintenance and inspection procedures as they relate to the automobile;~~
4. ~~Apply Ohm's law, read basic schematics, test~~ automotive ~~electrical systems;~~
5. ~~Identify emissions components, understand 5 gas theory;~~
6. ~~Discuss heating and cooling systems, perform basic cooling systems tests;~~
7. ~~Identify air conditioning systems, understand cycles of refrigerant;~~
8. ~~Discuss braking systems, perform a brake inspection, identify parts;~~
9. ~~Differentiate between suspension and steering system types, inspect and qualify components;~~
10. ~~Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;~~
11. ~~Restraints system identification, know safety concerns of each system and inspection of restraint systems;~~ industry.

D. AUTO INTL
1. Utilize and apply hazardous waste handling;
2. Identify and describe uses of automotive related tools;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. Identify emissions components, understand 5 gas theory;
6. ~~Discuss heating and cooling systems, perform basic cooling systems tests;~~
7. ~~Identify air conditioning systems, understand cycles of refrigerant;~~
8. ~~Discuss braking systems, perform a brake inspection, identify parts;~~
9. ~~Differentiate between suspension and steering system types, inspect and qualify components;~~
10. ~~Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;~~
11. Restraints system identification, know safety concerns of each system and inspection of restraint systems;
12. Theorize on the future of the automotive industry.

E. AUTO ~~INTZ~~ INT
1. Identify and describe uses of automotive related tools;
2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
3. Apply Ohm's law, read basic schematics, test automotive electrical systems;
4. Identify emissions components, understand 5 gas theory;
5. ~~Discuss heating and cooling systems, perform basic cooling systems tests;~~
6. ~~Identify air conditioning systems, understand cycles of refrigerant;~~
7. ~~Discuss braking systems, perform a brake inspection, identify parts;~~
8. ~~Differentiate between suspension and steering system types, inspect and qualify components;~~
9. ~~Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;~~
10. Restraints system identification, know safety concerns of each system and inspection of restraint systems;
11. Theorize on the future of the automotive industry.

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
~~PO: Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. FO: Same as above, however specialized software can be used to simulate labs online (case by case approved by NATEF). This was done Spring 20 and worked well however students become very frustrated very quickly when they are not getting their hands dirty. 90% of Spring 2020 students stated they would not return to a fully online semester for Fall 2020. Fully online should only be used in extreme situations and for a very short duration.~~

Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. There are exceptions to this as we learned in C-19.

Explain how the decision was made to offer this course in a Distance Education mode.
~~PO: California Automotive Teachers have given this recommendation to allow our students to continue on their career path. FO:Same as above~~

California Automotive Teachers have given this recommendation to allow our students to continue on their career path.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Weekly, as assignments or labs are turned in
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum Once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Minimum Once per week
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: Weekly lab sessions

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: ~~PO:At least twice per semester FO:~~ At least once every other week.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: Fully online only: Minimum weekly
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: ~~Fully~~ Minimum ~~online only: once every other week~~ weekly

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: ~~Fully online only:~~ Minimum weekly
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: ~~PO and FO:~~ Quizzes: at least one quiz per section/chapter. Weekly. Exams: at least two per semester.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: ~~PO:~~ At least once per week ~~FO:At least once per week~~
- **Simulations:** *Simulations will be used by students so they can participate in and learn from processes.*
  Frequency: ~~FO:~~ Weekly
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: ~~PO:~~ Weekly, in on-campus labs ~~FO:Weekly recorded by student and completed using online software.~~

General Education/Transfer Request

General Education/Transfer Request
CSU Transfer
- Transfers to CSU

Codes and Dates

Course CB Codes
CB00: State ID
CCC000622190
CB03: TOP Code
094800 - Automotive Technology
CIP Code
CB04: Credit Status
D - Credit - Degree Applicable
CB05: Transfer Status
B - Transferable to CSU only.
CB08: Basic Skills Status
N - Not Basic Skills
CB09: SAM Code
B - Advanced Occupational
CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.
CB11: Course Classification Status
CB13: Special Class Status
N - Course is not a special class.
CB21: Course Prior to College
Y - Not applicable
CB22: Non Credit Course Category

Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)
CB24: Program Status
1 - Program Applicable
CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course
CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam ~~Yes~~ No
Credit-by-Portfolio ~~No~~ Yes
Please list the requirements/criteria/possible materials for a student to submit in their portfolio.
Has Taken NAUT A6 with a C or better. P/NP does not qualify.
Curriculum Committee Approval Date
Effective Term
Credit-by-Military-JST Yes
Please list the ACE course(s) equivalent to this course
See Attached
Curriculum Committee Approval Date
Effective Term
Credit-by-Industry-Recognized-Training Yes
Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.
See files in Attached Files Section
Curriculum Committee Approval Date
Additional Detail (List articulated courses, etc.) No
Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files.
Curriculum Committee Approval Date
Effective Term
Curriculum Committee Approval Date
Effective Term

LAS POSITAS COLLEGE

Course Modification: AUTO INT - Introduction to Automotive

Course Modification: AUTO INT - Introduction to Automotive (Launched - Implemented 09-22-2025)
compared with
AUTO INTZ - Automotive Service and Introduction Lecture (Active - Implemented 08-15-2021)

Admin Outline for Automotive Technology ~~INTZ~~ INT ~~Automotive Service and~~ Introduction ~~Lecture~~ to Automotive

Effective: Fall ~~2021~~ 2026

Catalog Description:

AUTO ~~INTZ~~ INT - ~~Automotive Service and~~ Introduction ~~Lecture~~ to Automotive
2.00 Units

This class is lecture only, AUTO INTL must also be taken concurrently. Bumper-to-Bumper Automotive Knowledge. Starting with hazardous waste handling, tool identification, maintenance, and lubrication, moving into engine mechanical, emissions controls, suspension systems, air conditioning, airbags and safety, transmissions, axles, and finishing off with the future of the automotive industry. This is an introductory class for people who want to know more about their vehicle or who are planning an automotive career. This class is preparation for ASE G1.

2 Units Lecture

Corequisite: AUTO INTL ~~Need to take Lecture and Lab together~~ .

Course Grading: Optional

Lecture Hours	36
Inside of Class Hours	36
Outside of Class Hours	72

Justification for course proposal

Discipline:

Automotive Technology

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

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

A. Identify and describe uses of automotive related tools;
B. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
C. Discuss four stroke engine cycle and identify engine parts;
D. Apply Ohm's law, read basic schematics, test automotive electrical systems;
E. Identify emissions components, understand 5 gas theory;
F. Discuss heating and cooling systems, perform basic cooling systems tests;
G. Identify air conditioning systems, understand cycles of refrigerant;
H. Discuss braking systems, perform a brake inspection, identify parts;
I. Differentiate between suspension and steering system types, inspect and qualify components;
J. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
K. Restraints system identification, know safety concerns of each system and inspection of restraint systems;
L. Theorize on the future of the automotive industry.

Course Content:

1. Safety and Handling of hazardous waste materials
    1. Occupational Safety Health Administration (OSHA) Shop standards applied
    2. Industry safety standards applied
    3. Hazardous material handling; waste oil, as well as other chemicals related to the automobile
2. Tool Identification
    1. Ratchets, Sockets, Wrenches, Screwdrivers

2. Torque Wrenches
3. Hammers, Pliers
4. Specialty Tools

3. Maintenance and inspection

    1. Manufacturing recommendations
    2. Periodic inspections for unusual conditions
    3. Component failure inspections
    4. Chassis lubrication
    5. Engine oil changes

        1. Oil Types, Conventional and Synthetic
        2. Oil change intervals
        3. Theory

    6. Fluid inspection and service

        1. Leaks
        2. Power steering
        3. Transmission
        4. Axles
        5. Washer
        6. Coolant/Antifreeze

4. Operational theory Four stroke Engine Cycle

    1. Intake
    2. Compression
    3. Power
    4. Exhaust
    5. Timing

        1. Spark
        2. Camshaft

5. Gasoline Engine Component Identification and Teardown

1. History of design and metallurgy of engines
2. Engine Block components
3. Cylinder Head components
4. Intake, Exhaust and other major bolt on components

6. Electrical Systems
    1. Ohms law Theory
    2. Electrical Schematic Icons and drawings
    3. Battery Basics
    4. Alternator/Generator Basics
    5. Starter Motor Basics
    6. Electrical Testing
        1. Battery
            1. Theory
        2. Alternator
            1. Theory
        3. Starter
            1. Theory

7. Emissions Systems
    1. Parts Identification
    2. Parts Theory
    3. Reading Emissions Labels
    4. 5 gas Theory
    5. Smog Controls
        1. California and Federal Requirements
        2. History of the Smog Program
        3. Government and Manufacturer laws and regulations

6. Environmental Responsibilities

8. Heating and Cooling

    1. History and current innovations of heating and cooling systems
    2. Parts Identification
    3. Heating Theory and operation
    4. Heating Systems Testing

        1. Theory

    5. Coolant Systems Testing

        1. Theory

9. Air Conditioning Systems

    1. Environmental concerns
    2. Parts Identification
    3. Parts Theory

10. Braking systems

    1. Base Systems

        1. Brake systems history and improvements through time
        2. Fluid differences and cautions
        3. Parts Identification
        4. Parts Theory

    2. Antilock Systems

        1. Differences from base systems
        2. Theory of operation
        3. Parts Identification

11. Steering and Suspension Systems

    1. Historical information and current technology

2. Steering
    1. Fluid usage current and historical
    2. Different steering systems
    3. Parts Identification
    4. Parts theory
3. Steering
    1. Different suspension systems
    2. Parts Identification
    3. Parts theory

12. Transmissions and Axles
    1. History of the transmission
    2. Automatic Transmissions
        1. Fluid Requirements
        2. Operational Theory
        3. Gears sets
        4. Clutches, Bands and Sprags
        5. Torque Converters
    3. Manual Transmissions
        1. Fluid Requirements
        2. Operational Theory
        3. Clutch
        4. Gears
    4. Front and Rear Axles
        1. Fluid Requirements
        2. Operational Theory
        3. Ring Gear
        4. Pinion Gear
        5. Propshafts

5. Transfer Cases
    1. Fluid Requirements
    2. Electronic and Manual
    3. Operational Theory
    4. Clutches
    5. Gears

13. Safety Restraints
    1. Seat Belts
        1. Installation Concerns
        2. Inspection and Replacement
    2. Airbags
        1. History of Airbags and current technology
        2. Parts Identification
    3. Parts Theory
    4. Inspection and Replacement
    5. Current Government Regulations

14. Automotive Industry Future
    1. Environmental Concerns
    2. Oil Supply Concerns
        1. Middle East Stability
        2. How much is left?
    3. Electronic Integration
        1. Computers
        2. Steering
        3. Braking
        4. Parking
        5. Heads up Displays
        6. Navigation

7. Entertainment Systems
8. Communication Systems
9. Optical Systems

4. Alternative Fuels
    1. CNG
    2. Propane
    3. Bio-Diesel
    4. E85
    5. Hydrogen

5. Hybrids
    1. Gasoline/Electric
    2. Diesel/Electric
    3. Hydrogen/Electric

Methods of Instruction:

1. Lecture - Lecture on how to change oil , The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
2. Discussion - Group Discussions
3. Audio-visual Activity - Power points to supplement lectures

Typical Outside-of-Class Assignments

A. ~~Other~~ Writing:
Write a discussion board post on the pros and cons of using synthetic oil.

B. Reading :
    1. Read X chapter and answer ASE style questions -
    2. ~~Discuss the pros and cons of using synthetic oil.~~

Methods of Evaluating Student Progress

A. Exams/Tests
    1. At least two. Midterm and Comprehensive Final
B. Home Work
    1. Weekly
C. Quizzes
    1. Weekly

Student Learning Outcomes

Upon the completion of this course, the student should be able to:
A. ~~recognize~~ Recognize and apply shop safety precautions.
B. ~~perform~~ Perform ~~and~~ an oil change with 100% accuracy .
C. follow proper vehicle lifting procedures .

Textbooks (Typical):

Textbook:
1. James ~~D~~ Duffy ~~Halderman~~ *2025 ASE Automotive Suite.* , Goodheart-Wilcox Publishing, 2025.

2. Tim Giles *Automotive Service: Inspection, Maintenance ~~and Light~~ , Repair.* 6 ed., ~~Pearson~~ Cengage , 2020.
3. James ~~Duffy~~ D Halderman ~~*Modern*~~ *Automotive Technology.* ~~9~~ 7 ed., ~~Goodheart-Wilcox~~ Pearson , ~~2020~~ 2024 .

Other Materials Required of Students

Other Materials Required of Students:

1. Computer with internet access..

Equity Based Curriculum

- Course Content
  Address
  Group and individual lecture activities. Discuss nomenclature used in the automotive industry and its effects on different groups.
- Methods of Instruction
  Address
  The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
- Methods of Evaluation
  Address
  The course materials and evaluations are based on industry standards.
- Typical Texts
  Address
  The course materials and evaluations are based on industry standards.

Requisite Skills

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
This class is lecture only, which makes it well-suited to distance education. The lab section of class must be taken at the same time.

Explain how the decision was made to offer this course in a Distance Education mode.
The decision was made after consideration by Automotive faculty.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: Minimum once per week
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*

Frequency: Minimum once per week
- **Chat:** *The instructor will use chat to interact with students, textually and/or graphically, in realtime.*
  Frequency: Minimum once per week

Student-Student Interaction

- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: Minimum once per week
- **Web conferencing:** *Students will interact in real time with each other to discuss coursework and assignments.*
  Frequency: Minimum once per week

Student-Content Interaction

- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: Quizzes: at least one quiz per section/chapter. Weekly. Exams: at least two per semester.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: Minimum once per week
- **Video:** *Video will be used to demonstrate procedures and to help students visualize concepts.*
  Frequency: Minimum once per week
- **Other:**
  Frequency: Homework, assigned weekly

General Education/Transfer Request

General Education/Transfer Request
CSU Transfer
- Transfers to CSU - Approved

Codes and Dates

Course CB Codes

CB00: State ID
CCC000621877

CB03: TOP Code
094800 - Automotive Technology

CIP Code

47.0604 - Automobile/Automotive Mechanics Technology/Technician.

CB04: Credit Status
D - Credit - Degree Applicable

CB05: Transfer Status
B - Transferable to CSU only.

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
C - Clearly Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category

Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning Yes

Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam - No
Credit-by-Portfolio - Yes
Please list the requirements/criteria/possible materials for a student to submit in their portfolio. -
Two years of hands-on automotive work besides an oil change or tire establishment. This option will give credit for both INTL and INT.
or
Taken and passed NAUT INT with a C or better P/NP does not meet the qualifications.
or
ATECH 50 taken at Chabot within the last 5 years. This option will give credit for both INTL and INT.
Curriculum Committee Approval Date -
Effective Term -
Credit-by-Military-JST - Yes
Please list the ACE course(s) equivalent to this course -
See Attached
Curriculum Committee Approval Date -
Effective Term -
Credit-by-Industry-Recognized-Training - Yes
Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.
-
ASE G1 Test passed within the last 5 years.
Curriculum Committee Approval Date -
Additional Detail (List articulated courses, etc.) - No
Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files. -
Curriculum Committee Approval Date -
Effective Term -
Curriculum Committee Approval Date -
Effective Term -

LAS POSITAS COLLEGE

Course Modification: JAMS 3 - Introduction to Public Relations

Course Modification: JAMS 3 - Introduction to Public Relations (Launched - Implemented 09-22-2025)
compared with
JAMS 3 - Introduction to Public Relations (Active - Implemented 08-15-2025)

Admin Outline for Journalism and Media Studies 3
Introduction to Public Relations

Effective: Fall ~~2025~~ 2026

Catalog Description:

JAMS 3 - Introduction to Public Relations
3.00 Units

Introduction to the principles, history, development, and professional practice of modern public relations. Includes concepts of planning and executing effective communication strategies, including message design and distribution, for any organization.

3 Units Lecture

Recommended Course Preparation: Eligibility for ENGL C1000.

Course Grading: Optional

Lecture Hours	54
Inside of Class Hours	54
Outside of Class Hours	108

Justification for course proposal

Discipline:

Mass Communication, or Journalism

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

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

A. Describe and apply the principles and current practices of public relations
B. Define and differentiate the concepts of public relations, advertising, press agency, marketing, journalism, and public affairs
C. Describe the evolution of the field of public relations from historical to current practices
D. Describe a public relation practitioner's training, characteristics, work assignments, and employment prospects
E. Plan and prepare publicity programs, press releases, memos, and online public relations for different types of organizations
F. Apply theories of public relations to different types of organizations and audiences
G. Apply legal and ethical concepts of public relations to different types of organizations
H. Discuss and analyze the roles and techniques of research, strategic planning, action and communication, and evaluation in public relations practice
I. Define and differentiate among the publics and targets served by public relations practitioners
J. Discuss and analyze the future trends in public relations with emphasis on the role of technology in public relations
K. Discuss and analyze the use of public relations strategies in the mainstream and social media

Course Content:

1. Principles and current practices in public relations
    1. Definition of public relations
    2. Contrast of one-way and two-way communication systems
    3. Current use of public relations by different organizations
2. Public relations distinguished from related fields
    1. Advertising
    2. Press agency
    3. Marketing

4. Journalism
5. Public affairs

3. Evolution of public relations
    1. Pre-modern public relations
    2. Public relations as a new industry
    3. Public relations and war
    4. Pubic relations and social activism
    5. Public relations and advertising
    6. Public relations and new media
    7. Public relations and politics

4. The practice of modern public relations
    1. Areas of employment
        1. Corporations
        2. Non-profit organizations
        3. Trade associations
        4. Government
        5. Public relations agencies
        6. Public relations consultants
    2. Characteristics and training
    3. Activities and duties
    4. Working conditions and job prospects

5. Tools of public relations practitioners
    1. Publicity packages
    2. Press releases
    3. Memos
    4. Online public relations

6. Theories of public relations
    1. Communication theories
    2. Motivation
    3. Persuasion
    4. Social influence

7. Legal and ethical issues in public relations
    1. Code of ethics
    2. Cultural issues
    3. Trust and corporate social responsibility
    4. Legal issues
        1. The first amendment
        2. Government and business regulation
        3. The internet
        4. Crisis management
        5. Litigation

8. The Process of Public Relations
    1. Research
    2. Strategic planning
    3. Action and communication
    4. Evaluation of effectiveness

9. The Different Publics or Targets
    1. The media
    2. Employees
    3. Community
    4. Consumers
    5. Investors
    6. Governments
    7. Nontraditional publics

10. The future of public relations
    1. Online public relations
    2. Viral marketing
    3. Global public relations
    4. Evolving roles for public relations practitioners

11. The use of public relations strategies in the mainstream and social media

Methods of Instruction:

1. Guest Lecturers - Guest presentations by public relations specialists
2. Written Exercises - Complete exercises applying principles of public relations to case studies.
3. Lecture - Lecture on the history of public relations.

4. Projects - Event planning and event planning simulations
5. Student Presentations - As a group, present a public relations strategy for a local entertainer.
6. Critique - Individual/group evaluation of student and professional prose
7. Discussion - Small group and whole-class discussion
8. Research - Research best methods for promoting a local event.
9. Classroom Activity - Work in groups to create a social media strategy for a local entertainer.
10. Instructor conferences

Typical Outside-of-Class Assignments

A. Project:
    1. Public relations project:
        1. Prepare and execute a public relations event for an organization. For example, prepare and execute a magazine release party for the campus magazine.
B. Writing:
    1. Written analysis of ethical issues presented in a movie:
        1. View *Thank You for Smoking* and describe the application of Public Relations Society of America's Code of Professional Standards for the Practice of Public Relations to the actions of one of the public relations practitioners in the movie.
C. Other:
    1. Oral presentation of group research and discussion:
        1. Compare one-way communication to two-way communication using principles of public relations discussed in class.
        2. Define and explain the changing role of the public relations practitioner in the age of new media.
    2. Oral presentations on public relations project:
        1. Provide an oral report describing the public relations event you created and evaluate its effectiveness.
    3. Essay examinations – Typical questions:
        1. Explain the significance of public relations in the history of women's suffrage.
        2. Describe and differentiate two of the publics served by public relations specialists.
        3. What is viral marketing and how has it changed the practice of public relations?

Methods of Evaluating Student Progress

A. Class Participation
    1. Daily
B. Exams/Tests
    1. Monthly
C. Group Projects
    1. Monthly
D. Oral Presentation
    1. Weekly
E. Papers
    1. Weekly
F. Quizzes
    1. Weekly
G. Research Projects
    1. 1 or more per semester

Student Learning Outcomes

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

A. Create and pitch a professional public relations proposal that exhibits writing skills, creativity, understanding of (social) media and audiences, problem-solving abilities, and grasp of modern PR techniques.

Textbooks (Typical):

OER:

1. Professor Rosemary Martinelli *The Evolving World of Public Relations: Creating Value.* 1st /e, University of Texas San Antonio, 2024. https://utsa.pressbooks.pub/publicrelationscreatingvalue/.

Textbook:

1. Billings, Angela *Command the Crisis: Navigate Chaos with Battle-Tested Public Relations and Communication Strategies.* 1st ed., The Virago Circle, 2024.
2. Dennis L. Wilcox, Glen T. Cameron, Bryan H. Reber *Public Relations: Strategies and Tactics.* ~~11th~~ 12th ed., Pearson, ~~2015.~~
3. ~~David W. Guth, Charles Marsh *Public Relations: A Values-Driven Approach.* 6th ed., Pearson, 2016.~~
4. ~~Lattimore, D., et al., *Public Relations: The Profession and the Practice.* 4th ed., McGraw-Hill, 2011.~~
5. ~~Newsom, D., et al., *Cengage Advantage Books: This is PR: The Realities of Public Relations.* 11th ed., Wadsworth, 2013~~ 2023 .

Other Materials Required of Students

Equity Based Curriculum

- DE Course Interaction
  Address
  Optional weekly office hours. Canvas shell and course materials optimized for accessibility.
- Measurable Objectives
  Address
  The following directly reference concepts of equity, while most others include them.

  1. Apply theories of public relations to different types of organizations and audiences.

2. Plan and prepare publicity programs, press releases, memos, and online public relations for different types of organizations
3. Apply legal and ethical concepts of public relations to different types of organizations
4. Define and differentiate among the publics and targets served by public relations practitioners

- Course Content
  Address
  The course specifically addresses how the field of public relations has evolved in response to societal, political, and global changes.
- Methods of Instruction
  Address
  The course uses methods of instruction that facilitate different learners; these methods include lecture, discussion, readings, movies, and group work, among others

Requisite Skills

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
After consulting with my dean and colleague, we decided to offer Introduction to Public Relations as a Fully Online course in case of an emergency situation. This ensures that students are not prolonging their time in college to complete courses due to an emergency beyond their control. This course is included in three degrees, including one transfer degree, and one certificate at LPC.

Explain how the decision was made to offer this course in a Distance Education mode.
The decision was made after discussion with my colleague and our dean and after hearing from students in the program.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: This will be done on a weekly basis, at minimum.
- **Discussion board:** *The instructor will regularly participate in discussions that deal with academic content, will consistently provide substantive feedback, and will facilitate all discussions.*
  Frequency: This will be used to discuss class content on a weekly basis.
- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: This will be done on a weekly basis.
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: This will be done on a weekly basis, at minimum.
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: We will meet as a class one time per week. Individual web conferencing will also take place as a supplement.
- **Blogs:** *Blogs will be used as an interactive writing tool for the instructor and students to publicly discuss and give feedback on topics relating to the course.*
  Frequency: This will be done on a weekly basis.
- **Social networking:** *A social networking tool will be used to disseminate academic information and allow for student comments.*
  Frequency: This will be done on a weekly basis.
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: This will be done on a weekly basis.
- **Chat:** *The instructor will use chat to interact with students, textually and/or graphically, in realtime.*
  Frequency: This will be done on a weekly basis.

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: Students will be encouraged to email each other on a weekly basis.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: This will be used to discuss class content on a weekly basis.
- **Group work:** *Students will work in teams to complete group projects. The projects will then be shared with the rest of the class.*
  Frequency: Students will work with each other on a weekly basis to discuss and complete assignments.
- **Blogs:** *Students will use blogs to discuss topics in the course.*
  Frequency: Students will use blogs on a weekly basis.
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: This will be done on a weekly basis.
- **Peer-editing/critiquing:** *Students will complete peer-editing assignments.*
  Frequency: This will be done on a weekly basis.
- **Social networking:** *A social network tool will be used so students can communicate on course topics.*
  Frequency: Students will use social networking on a weekly basis.
- **Web conferencing:** *Students will interact in real time with each other to discuss coursework and assignments.*
  Frequency: We will meet as a class once per week. Students will interact with each other during these conferences and may set up additional times to meet.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: This will be used to discuss class content on a weekly basis.
- **Group work:** *Students will collaborate in private groups to solve problems, become experts on certain topics, etc. They will then present their findings to the class.*
  Frequency: This will occur on a weekly basis.
- **Written papers:** *Papers will be written on various topics.*
  Frequency: This will occur on a weekly basis.
- **Research Assignments:** *Students will use the Internet and library resources to research questions,problems, events, etc.*
  Frequency: This will occur on a weekly basis.
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: Quizzes or exams will be included in the class on a weekly basis. A final project will be due during finals week.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: Once per week synchronous lectures and discussions are part of the class.
- **Video:** *Video will be used to demonstrate procedures and to help students visualize concepts.*
  Frequency: This will be used on a monthly basis.
- **Field Trips:** *Students will attend live or virtual field trips.*
  Frequency: Students may attend virtual conferences during the semester.
- **Brainstorming:** *Brainstorming will be used to promote creative thinking.*
  Frequency: This will be done on a weekly basis.
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: This will be done on a weekly basis.
- **Blogs:** *Students will use blogs to discuss course content.*
  Frequency: Students will blog on a weekly basis.
- **Case studies:** *Students will evaluate real-world problems, situations, etc.*
  Frequency: This will be done on a weekly basis.
- **Other:**
  Frequency: This will be done on a weekly basis.

General Education/Transfer Request

General Education/Transfer Request
CSU Transfer

- Transfers to CSU - Approved

C-ID: JOUR 150 - Approved

Codes and Dates

Course CB Codes

CB00: State ID
CCC000512773

CB03: TOP Code
060600 - Public Relations

CIP Code

CB04: Credit Status
D - Credit - Degree Applicable

CB05: Transfer Status
B - Transferable to CSU only.

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
D - Possibly Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category

Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning - Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam - No
Credit-by-Portfolio - Yes
Please list the requirements/criteria/possible materials for a student to submit in their portfolio.
A portfolio in public relations should include most of the following for one or more organizations:

-example of a publicity program developed for a specific audience
-example of a press release developed for a specific audience
-example of an internal memo developed for a specific audience
-examples of social media posts for different platforms developed for different audiences with an emphasis on current social media trends
-example of website or website posts developed for different audiences
-examples of legal and/or ethical issues encountered in the development of public relations campaigns
-examples of research, strategic planning, action, and communication, and/or evaluation of a campaign
Curriculum Committee Approval Date
Effective Term
Credit-by-Military-JST - Yes
Please list the ACE course(s) equivalent to this course
3 hours in Media Relations (Recruiter)
Curriculum Committee Approval Date
Effective Term
Credit-by-Industry-Recognized-Training - No
Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.

Curriculum Committee Approval Date
Additional Detail (List articulated courses, etc.) - No
Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files.
Curriculum Committee Approval Date
Effective Term
Curriculum Committee Approval Date
Effective Term

LAS POSITAS COLLEGE

Course Modification: MATH 55C - Concurrent Support for Intermediate Algebra

Course Modification: MATH 55C - Concurrent Support for Intermediate Algebra (Launched - Implemented 09-22-2025)
compared with
MATH 55C - Concurrent Support for Intermediate Algebra (Active - Implemented 08-15-2019)

Admin Outline for Mathematics 55C
Concurrent Support for Intermediate Algebra

Effective: Fall ~~2019~~ 2026

Catalog Description:

MATH 55C - Concurrent Support for Intermediate Algebra
1.00 Units

This course is concurrent support for Intermediate Algebra. The course is designed to provide additional, formal support to students who are currently taking an Intermediate Algebra. It includes a review of arithmetic, algebraic and geometric concepts that are relevant to their Intermediate Algebra course, study strategies that promote understanding and improve performance, and more in-depth investigation of core concepts that are difficult for students to master. Embedded are learning skills such as growth mindset, brain research, time management, study skills, test taking, math anxiety and more.
~~0 Units Lecture~~ 1 Units Lab

Corequisite: MATH 55 ~~This is a one-way corequisite for Math 55. Everyone taking this Math 55 concurrent support course must be taking a Math 55 class concurrently. However, not everyone taking Math 55 would have to take this Math 55 concurrent support course.~~ , or NMAT 255 ~~This~~ These ~~is a~~ are one-way ~~corequisite for NMAT 255. Everyone taking this NMAT 255 concurrent support course must be taking a NMAT 255 class concurrently. However, not everyone taking NMAT 255 would have to take this NMAT 255 concurrent support course. , or MATH 50 This is a one-way corequisite for Math 50. Everyone taking this Math 50 concurrent support course must be taking a Math 50 class concurrently. However, not everyone taking Math 50 would have to take this Math 50 concurrent support course. , or NMAT 250 This is a one-way corequisite for NMAT 250~~ corequisites . Everyone taking this MATH 55C concurrent support course must be taking a MATH 55 class or an NMAT ~~250~~ 255 class concurrently. However, ~~not~~ a ~~everyone~~ student ~~taking~~ enrolled in a MATH 55 class or an NMAT ~~250~~ 255 ~~would~~ class ~~have~~ is not required to take this MATH 55C concurrent support course.

Course Grading: Pass/No Pass

~~**Lecture Hours**~~	
Lab Hours	54
Inside of Class Hours	54

Justification for course proposal

Discipline:

Mathematics

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

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

A. Use learning strategies to identify and communicate in their own words the key concepts of Intermediate Algebra.
B. Use effective strategies to read mathematical text for understanding.
C. Organize and justify their mathematical thinking on Intermediate Algebra problems.
D. Apply Intermediate Algebra concepts at a higher level.
E. Use problem solving process to read mathematical problems with understanding, identify relevant information, define variables, execute relevant procedures and interpret results in the context of the problem.
F. Develop study skills and life skills that will improve the student's likelihood of succeeding in their academic goals, such as identifying his/her individual growth mindset, brain research, and learn personal time management, study skills, test taking and conquering math anxiety strategies, etc.

Course Content:

Lab:
Lecture:

1. Regular classroom and small group discussion will focus on identifying and communicating what learning objectives were covered in their Intermediate Algebra class.

    1. Students will learn note-taking skills and refer to the notes for understanding.
    2. Students will learn how to synthesize big ideas in the material.
    3. Students will identify examples or problems that are relevant to the learning objectives.

2. Practice organizing their thinking and justifying each mathematical steps while simplifying or solving Intermediate Algebra problems.
3. Read mathematical text for understanding.
    1. Make a skeleton outline of material covered in the class and textbook.
    2. Highlight important facts in the material or textbook.
4. Review Intermediate Algebra concepts and practice completing many Intermediate Algebra problems.
5. Successfully solve Intermediate Algebra context problems by learning how to:
    1. Read context problems with understanding
    2. Identify relevant information.
    3. Define variables.
    4. Execute relevant procedures.
    5. Interpret results in the context of the problem.
6. Learn appropriate skills necessary to become more productive, successful and independent learners.
    1. Students will engage in metacognitive discussions around new math concepts.
    2. Students will participate in Growth Mindset, Brain Research and learning skills discussions.
    3. Students will learn about free resources available on campus and on the internet to enhance their learning of mathematics.
    4. Students will actively participate in classroom discussions around topics such as time management, note-taking, study habits, test taking strategies and dealing with math anxiety.

Methods of Instruction:

1. Discussion - Instructor should allow regular time to discuss what main Intermediate Algebra concepts were covered in their Math 55 course, what the big ideas are, citing their classroom notes and mathematical textbook for evidence.
2. Audio-visual Activity - Personalized learning supports and practice on prerequisite material.
3. Lecture - Lecture will only be in small, relevant amounts, with specific skills-building goal in mind and time left for students to practice applying the demonstrated skill described.
4. Individualized Instruction - Instructor will provide individualized instruction as often as possible.
5. Demonstration - Instructor should model examples of what a mathematician should do when approaching the Intermediate Algebra content. Students should then practice applying those strategies to additional problems.
6. Directed Study - Class will spend time in directed Intermediate Algebra content discussions, with students practicing applying concepts individually or in small groups.

Typical Outside-of-Class Assignments

A. ~~Other~~ Reading:
Read from the text each section covered in the Intermediate Algebra class that week. Create a skeleton outline of material covered in the textbook. Identify the key concepts covered in these sections. Discuss what these concepts entail and practice applying them to problems.

B. Laboratory :
    1. ~~In Class Discussions~~
        1. ~~Read from the text each section covered in the Intermediate Algebra class that week. Create a skeleton outline of material covered in the textbook.~~ Discuss ~~Identify the key concepts covered in these sections. Discuss what these concepts entail and practice applying them to problems.~~
        2. ~~Learn appropriate skills necessary to become more productive, successful and independent learners by discussing and completing assignments on~~ leading research around growth mindset, learning, study skills, test preparation, math anxiety, etc.
    2. ~~In Class Collaborations~~
        1. Students work collaboratively on applying math concepts from Intermediate Algebra. Sample ~~learning~~ assignment: Given the key concepts discussed in Intermediate Algebra this week, what are some relevant real-world applications? ~~Work collaboratively on problem solving method to set up, solve, communicate the problem~~

~~solving strategy and solution.~~

Methods of Evaluating Student Progress

A. Class Participation

~~1. Class will spend time in directed Intermediate Algebra content discussions, with students practicing applying concepts individually or in small groups.~~

1. Class will spend time every meeting in directed Intermediate Algebra content discussions, with students practicing applying concepts individually or in small groups.

B. Class Work
   1. Daily learning tasks will be assigned.

C. ~~Home Work~~

~~1. Homework will be personalized to the student's individual learning needs.~~

D. Quizzes

~~1. Frequent quizzes will be given to assess understanding of prerequisite and concurrent concepts.~~

1. Weekly quizzes will be given to assess understanding of prerequisite and concurrent concepts.

E. Simulation

~~1. Computer simulation of mathematical concepts will be assigned.~~

1. Computer simulation of mathematical concepts will be assigned monthly.

Student Learning Outcomes

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

A. ~~Upon completion of Math 55C, a student should be able to use~~ Use effective strategies to read mathematical text for understanding.
B. ~~Upon completion of Math 55C, a student should be able to develop~~ Develop study skills and life skills that will improve the student's likelihood of succeeding in - their academic goals (such as time management, study skills, identifying his/her individual growth mindset, brain research on learning).
C. ~~Upon completion of Math 55C, a student should be able to organize~~ Organize and justify their mathematical thinking on Intermediate Algebra problems.
D. ~~Upon completion of Math 55C, a student should be able to use~~ Use a problem-solving process to read mathematical problems with understanding, identify - relevant information, define variables, execute relevant procedures and interpret results in the context of the problem.
E. ~~Upon completion of Math 55C, a student should be able to use~~ Use learning strategies to identify and communicate in their own words the key concepts of - Intermediate Algebra.

Textbooks (Typical):

OER:

1. Amy Baldwin *College Success.* 1 /e, OpenStax, 2020. https://openstax.org/books/college-success/pages/1-introduction.

Textbook:

1. ~~Gary K Rockswold, Terry A Krieger~~ ~~*Beginning and Intermediate Algebra with Applications & Visualization.*~~ ~~3rd ed., Pearson, 2016.~~
2. Lynn Marecek Marecek, MaryAnne Anthony-Smith *Strategies For Success: Study Skills for the College Math Student.* 2nd ed., Pearson Publishing, 2014.
3. Paul D Nolting *Math Study Skills Workbook.* 5 ed., Cengage, 2016.

Other Materials Required of Students

Equity Based Curriculum

- Course Content
  Address
  Course covers best practices for learning any content, as well as mathematics specifically, so it is translatable to other subjects.
- Methods of Evaluation
  Address
  There will be a mix of ways for students to receive feedback on their understanding of the material, including homework, class work, quizzes, lab activities and exams. That way students will have multiple opportunities for feedback and assessment.
- Typical Texts
  Address
  Free, open-source course materials have been developed and are available for offerings of this course.
- Other Materials Required of Students
  Address
  Free calculator apps are allowed, or class set of calculators are loaned

Requisite Skills

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Online with the Flexible In-Person Component (OFI)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.

This course is similar in scope to our existing NMAT 200C courses, which have an approved DE component. Offering this course via online instruction will increase access to this learning support, allow working students the flexibility they need to participate in this concurrent support while continuing to work. This concurrent support course is designed to offer students personalized instruction to help them be successful in their concurrently enrolled math class. Students will be given a rigorous assessments that will ensure that their experience is focused and personalized. Online software and instructor supports will be available to students to support their math learning goals from anywhere.

Explain how the decision was made to offer this course in a Distance Education mode.

~~This concurrent support course is designed to offer students personalized instruction to help them be successful in their concurrently enrolled math class. Students will be given a rigorous assessments that will ensure that their experience is focused and personalized. Online software and instructor supports will be available to students to support their math learning goals from anywhere. Offering this course via web-hybrid (and possible future online only due to OEI interest) instruction will increase access to this learning support, allow working students the flexibility they need to participate in this concurrent support while continuing to work. The decision was made to offer this course as Web-Hybrid (or future DE online only if part of the OEI) by experienced math faculty, used to teaching Hybrid and Online courses. In addition, from anecdotal observation from similar classes, such as Math Jam, students would cumulatively miss hours of the course due to work schedules but were able to successfully make up the time and material missed in class using the online material from home.~~

The decision was made to offer this course as both face-to-face and online by experienced math faculty, used to teaching Hybrid and Online courses. In addition, from anecdotal observation from similar classes, such as Math Jam, students would cumulatively miss hours of the course due to work schedules but were able to successfully make up the time and material missed in class using the online material from home.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: ~~Email~~ Weekly email will be an essential means of communication between student and instructor in a hybrid course. The instructor will use it to make announcements, answer individual questions, form groups, send reminders for tests, etc.
- **Discussion board:** *The instructor will regularly participate in discussions that deal with academic content, will consistently provide substantive feedback, and will facilitate all discussions.*
  Frequency: ~~The~~ Bi-monthly ~~Class~~ class discussion Board will be utilized for introductions, recommending websites, and other student-instructor interactions. One of the more common uses of the Discussion Board will be instructor posted responses to students' questions on group work, homework, etc. For example, a math question such as "Your friend is struggling with answering the following math problem… Please describe how you would help them understand how to approach the problem and describe each step to solve." Instructors would then read each students' response and provide personalized feedback as well as students to student feedback.
- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Within a week, instructors will provide regular substantive and academic feedback to students on assignments and assessments. Rubrics will be used for grading all assignments.
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*

Frequency: ~~Any important~~ Weekly announcements will be posted on the announcements page in Canvas. Any important announcements will also be emailed to the entire class.

- **Chat:** *The instructor will use chat to interact with students, textually and/or graphically, in realtime.*
  Frequency: Daily chat will be utilized. An appropriate ~~webconferencing~~ web-conferencing tool , such as Conferzoom , will be utilized to help give individual assistance to students. The instructor and tutors will hold virtual help sessions and use it to go through problems in a step by step fashion.

Student-Student Interaction

- ~~**Email:** - *Students will be encouraged to email each other to ask questions about the course, including assignments.*~~
  ~~**Frequency:** - Student-to-student email will mostly be used by groups needing to communicate about collaborative assignments. Students may communicate about homework, exam study groups, etc. at their own comfort level~~
- ~~-~~ **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: ~~Students~~ Daily, students will use this to set up and work with study groups and ask/answer any student-to-student questions. Students will also complete group assignments and post them in the Discussion Board. They will be responsible for answering questions on their assignments in the Discussion Board and responding to other student's posts. For example, an instructor assignment may be to post three sample questions from the chapter as part of a review and then post three responses to other student posted questions. Instructors would then read each students' response and provide personalized feedback as well as students to student feedback .
- **Group work:** *Students will work in teams to complete group projects. The projects will then be shared with the rest of the class.*
  Frequency: ~~Students~~ Daily students will work in groups both in-class and online (via Discussion Board and email). Group work may include projects, presentations, and reading assignments. Study groups for exams will be encouraged.
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: ~~An~~ Daily appropriate webconferencing tool , such as Conferzoom , will be utilized to help give individual assistance to students. The Chatroom and virtual classroom may be used by students to ask/answer questions, critique group assignments (as directed by the instructor), and get help from one another.
- ~~- **Other:** -~~
  ~~**Frequency:** - Communicating about mathematics is a core component of this course. Students will be asked to explain their reasoning (via Discussion Board) and critique the reasoning of others (in a manner directed by the instructor).~~

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: ~~Students~~ Monthly students will use this to introduce themselves to each other, and ask/answer any student-to-student questions. A typical classroom discussion prompt will be "What strategies can you use during the semester when you get stuck on a math problem?" or "Your friend is struggling with answering the following math problem... Please describe how you would help them understand how to approach the problem and describe each step to solve." Instructors would then read each students' response and provide personalized feedback as well as students to student feedback. Other parts of the Discussion board will be used for group projects, and any important instructor posted responses to questions ~~:~~
- ~~- **Group work:** - *Students will collaborate in private groups to solve problems, become experts on certain topics, etc. They will then present their findings to the class.*~~
  ~~**Frequency:** - Working collaboratively is a key component of this course. Group work may be initiated in the classroom and completed on-line, utilizing Discussion Board, Chatroom, or email. Group work will be used to introduce concepts, explore key aspects of the content, practice skills, and prepare for exams. Students may self-select or be placed into a group by their instructor. Groups may be asked to present their work to the class. Groups may be working on the same exercises or each group may be given a different type of problem which they will solve and then present to the class, explaining/justifying their reasoning. Students will be encouraged to explore different ways of problem solving through group interaction. Groups may be asked to complete an assignment outside of class and then post their results on-line in the Class Discussion Board. The students would be asked to review and critique the posted results.~~
- ~~- **Written papers:** - *Papers will be written on various topics.*~~
  ~~**Frequency:** - Many instructors use written assignments in their face-to-face courses to help students better understand their learning styles and the content. Written assignments may also be used to have students respond in a reflective to a video or reading assignment. In the proposed hybrid course, the same assignments could be given~~ .
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: ~~Short on-line quizzes may be used to test students understanding of core concepts/processes/skills assigned by way of reading or homework sets. For example, students may be assigned a reading or video and then asked a few questions about what they have read/seen.~~
- ~~-~~ **Practice quizzes, tests/exams:** ~~-~~ ~~*Practice*~~ *Weekly quizzes will be given* ~~*periodically throughout the course so students will be able*~~ *to* ~~*gauge their*~~ *assess understanding of* ~~*the*~~ *prerequisite* ~~*content.*~~
  ~~**Frequency:**~~ **and concurrent** ~~**Prior to each in-class exam, there will be a practice exam study guide available to help the students prepare for the test. the solutions key to each practice exam will be posted so that students can check their work. Students may be required to turn in their completed practice exams on the day of the in-class exam**~~ **concepts .**
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: Daily video mini-lectures targeting core concepts or skills may be assigned or recommended for viewing prior to class, to prepare students for the new content to be learned or explored in class ~~**:**~~
- ~~- **Simulations:** - *Simulations will be used by students so they can participate in and learn from processes.*~~
  ~~**Frequency:** - **Interactive eManipulatives will be used to illustrate core concepts such as domain and range. These will be highly recommended, but need not be required** .~~

General Education/Transfer Request

General Education/Transfer Request

Codes and Dates

Course CB Codes
CB00: State ID
CCC000601595
CB03: TOP Code
~~**170100 - Mathematics, General**~~

170200 - Mathematics Skills

CIP Code

27.0301 - Applied Mathematics, General.

CB04: Credit Status
C - Credit - Not Degree Applicable

CB05: Transfer Status
C - Not transferable

CB08: Basic Skills Status
B - Basic Skills

CB09: SAM Code
E - Non-Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
B - Two levels below transfer

CB22: Non Credit Course Category

Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
2 - Not Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
S - Course is a support course.

CB27: Upper Division Status

LAS POSITAS COLLEGE

Technical Course Revision: MATH 101C - Concurrent Support for BSTEM Mathematics

Technical Course Revision: MATH 101C - Concurrent Support for BSTEM Mathematics (Launched - Implemented 10-06-2025)
compared with
MATH 101C - Concurrent Support for BSTEM Mathematics (Active - Implemented 08-15-2025)

Admin Outline for Mathematics 101C
Concurrent Support for BSTEM Mathematics

Effective: Fall ~~2025~~ 2026

Catalog Description:

MATH 101C - Concurrent Support for BSTEM Mathematics
1.00 Units

Concurrent Support for BSTEM Mathematics is for students interested in Business, Science, Technology, Engineering and Mathematical fields. This course offers structured support to students who are concurrently enrolled in a STEM-sequence math course, such as Calculus I, Precalculus, ~~College Algebra,~~ Trigonometry, and Business Calculus. The support course includes material to prepare students for the rigor of the transfer math course by teaching learning skills necessary to succeed in college courses as well as review of relevant prerequisite algebraic and geometric concepts, and more in-depth investigation of core concepts in their concurrent math course.
1 Units Lab

Corequisite: MATH 21, or MATH ~~22, or MATH 30~~ 34 , or MATH 39 ~~, or MATH 34~~ .

Course Grading: Pass/No Pass

Lab Hours	54
Inside of Class Hours	54

Justification for course proposal

Discipline:

Mathematics

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

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

A. Develop study skills and life skills that will improve the student's likelihood of succeeding in their academic goals, such as identifying his/her individual growth mindset and learning about brain research, personal time management, study skills, test taking and conquering math anxiety strategies, etc.
B. Use a problem solving process to read mathematical problems with understanding, identify relevant information, define variables, execute relevant procedures and interpret results in the context of the problem.
C. Apply relevant prerequisite math concepts at a higher level.
D. Organize and justify their mathematical thinking on relevant math problems.
E. Use effective strategies to monitor their own understanding of math concepts.
F. Use learning strategies to identify and communicate in their own words key mathematical concepts.

Course Content:

1. Learn appropriate skills necessary to become more productive, successful and independent learners.
    1. Students will engage in metacognitive activities around new math concepts.
    2. Students will participate in Growth Mindset, Brain Research and learning skills activities.
    3. Students will learn about free resources available on campus and on the internet to enhance their learning of mathematics.
    4. Students will actively participate in activities around topics such as time management, note-taking, study habits, test taking strategies and dealing with math anxiety.
2. Successfully solve context problems by learning how to:
    1. Read context problems with understanding
    2. Identify relevant information.
    3. Define variables.
    4. Execute relevant procedures.
    5. Interpret results in the context of the problem.
3. Review Algebraic and Geometric concepts and practice completing many math problems.
4. Read mathematical text for understanding.
    1. Make a skeleton outline of material covered in the class and textbook.
    2. Highlight important facts in the material or textbook.
5. Learn and apply effective strategies to monitor understanding.
    1. Create summary sheets and/or practice exams before assessments.
    2. Correct any assessments and practice explaining the concepts to someone else.
6. Practice organizing their thinking and justifying each mathematical steps while simplifying or solving math problems.
7. Regular small group workshops will focus on identifying and mastering key mathematical learning objectives.
    1. Students will learn how to communicate their thinking on math problems.

2. Students will learn how to synthesize big ideas in the material.

Methods of Instruction:

1. Discussion - Instructor should allow time during workshops to discuss what main algebraic and geometric concepts were covered in their math course, what the big ideas are, citing their classroom notes and mathematical textbook for evidence.
2. Demonstration - Instructor should model examples of what a mathematician should do when approaching the math content. Students should then practice applying those strategies to additional problems.
3. Directed Study - Class will spend time in directed math content activities, with students practicing applying concepts individually, in workshops, or in small groups.
4. Lecture - Lecture will only be in small, relevant amounts, with specific skills-building goal in mind and time left for students to practice applying the demonstrated skill described.
5. Individualized Instruction - Instructor will provide individualized instruction as often as possible.
6. Audio-visual Activity - Personalized learning supports and practice on prerequisite material.

Typical Outside-of-Class Assignments

A. Other:
    1. Attend three Smart Shops based on their independent learning needs
    2. Homework - students will be encouraged to continue work outside of class each day towards the following:
        1. Mastery of key mathematical concepts
        2. Developing study and life skills that will improve the student's likelihood of succeeding in their academic and career goals.

B. Laboratory:
    1. Workshops: Review of relevant basic and secondary education prerequisiste algebraic and geometric concepts, and more in-depth investigation of core concepts in their concurrent math course.
        1. Students will regularly participate in workshops
        2. Students will then complete worksheets on the material to test for understanding.
    2. Students will read, watch videos, practice problems, and study material based on their personalized learning goals.
    3. Work independently and in collaboration with other students, supported by the instructor and/or tutors to master the math concepts.
    4. Complete assignments around such topics as Growth Mindset, Brain Research, Financial Aid, Time Management skills, Test Taking Strategies, Career Development, and dealing with Math Anxiety.
    5. Monitor their progress in their concurrent math course by utilizing study skills learned such as correcting graded assignments, practicing time management, etc.

Methods of Evaluating Student Progress

A. Class Participation
    1. Attendance will be recorded hourly

B. Class Work
    1. Regular assignments and workshops on learning skills and mastery of relevant mathematical concepts

C. Home Work
    1. Students will monitor their progress under the supervision of instructors and/or tutors by completing daily homework

Student Learning Outcomes

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

A. Develop study skills and life skills that will improve the likelihood of succeeding in their academic goals, such as identifying individual growth mindset and learning about brain research, personal time management, study skills, test taking and conquering math anxiety strategies, etc.
B. Identify challenging mathematics topics and be able to communicate in writing the correct strategies and processes for solving relevant mathematics problems.
C. Read mathematical writing with understanding and use this skill as preparation to solve relevant mathematics problems.
D. Utilize online and other technological resources effectively to enhance their understanding of a mathematics topic.

Textbooks (Typical):

OER:

1. Dave Dillon *Blueprint for Success in College - Indispensable Study Skills and Time Management Strategies.* current /e, LibreTexts, 2024. https://socialsci.libretexts.org/Bookshelves/Counseling_and_Guidance/Blueprint_for_Success_in_College_-_Indispensable_Study_Skills_and_Time_Management_Strategies_(Dillon).
,
2. Jennifer Freidenreich *Corequisite Companion to Precalculus.* current /e, LibreTexts, 2024. https://commons.libretexts.org/book/math-83105.
,
3. Katherine Skelton *Corequisite Precalculus.* current /e, LibreTexts, 2024. https://math.libretexts.org/Courses/Highline_College/MATH_141%3A_Precalculus_I_(2nd_Edition).

Other Materials Required of Students

Other Materials Required of Students:

1. Access to a computer and internet.

Equity Based Curriculum

- Course Content
  Address
  Each of the math topics includes a look at applications to the real world. It is an important component of this course that students understand how the material matters to them in their daily life, career and industry, as well as how it will be used in their future studies. We will have opportunities to celebrate the diversity of mathematicians and scientists, in ethnicity, gender identification, and age in this course.
- Methods of Instruction
  Address
  We deliver the material in a variety of ways in order to accommodate a range of different learning styles. This course can be offered in-person or online. Students will learn the material through study groups, interactive assignments, and individually.
- Assignments
  Address

Assignments will include students learning about themselves as math students and learners to support students holistically. Exploration of Careers and Academic Pathways is also included. Math support assignments will include real-world problems so students can see how the material relates to their personal lives and links to career and industry.

- Typical Texts
  Address
  Free, open-source course materials are used in this course.

Requisite Skills

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Online with the Flexible In-Person Component (OFI)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
This course has been taught HyFlex since 2020.

Explain how the decision was made to offer this course in a Distance Education mode.
This concurrent support course is designed to offer students personalized instruction to help them be successful in their concurrently enrolled math class. Students will be given a rigorous assessments that will ensure that their experience is focused and personalized. Online software and instructor supports will be available to students to support their math learning goals from anywhere. Offering this course via web-hybrid (and possible future online only due to OEI interest) instruction will increase access to this learning support, allow working students the flexibility they need to participate in this concurrent support while continuing to work. The decision was made to offer this course as Web-Hybrid (or future DE online only if part of the OEI) by experienced math faculty, used to teaching Hybrid and Online courses. In addition, from anecdotal observation from similar classes, such as Math Jam, students would cumulatively miss hours of the course due to work schedules but were able to successfully make up the time and material missed in class using the online material from home.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: Weekly email will be an essential means of communication between student and instructor in a hybrid course. The instructor will use it to make announcements, answer individual questions, form groups, send reminders for tests, etc.
- **Discussion board:** *The instructor will regularly participate in discussions that deal with academic content, will consistently provide substantive feedback, and will facilitate all discussions.*
  Frequency: Bi-monthly class discussion Board will be utilized for introductions, recommending websites, and other student-instructor interactions. One of the more common uses of the Discussion Board will be instructor posted responses to students' questions on group work, homework, etc. For example, a math question such as "Your friend is struggling with answering the following math problem… Please describe how you would help them understand how to approach the problem and describe each step to solve." Instructors would then read each students' response and provide personalized feedback as well as students to student feedback.
- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Within a week, instructors will provide regular substantive and academic feedback to students on assignments and assessments. Rubrics will be used for grading all assignments.
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Weekly announcements will be posted on the announcements page in Canvas. Any important announcements will also be emailed to the entire class.
- **Chat:** *The instructor will use chat to interact with students, textually and/or graphically, in realtime.*
  Frequency: Daily chat will be utilized. An appropriate web-conferencing tool, such as Conferzoom, will be utilized to help give individual assistance to students. The instructor and tutors will hold virtual help sessions and use it to go through problems in a step by step fashion.

Student-Student Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: Daily, students will use this to set up and work with study groups and ask/answer any student-to-student questions. Students will also complete group assignments and post them in the Discussion Board. They will be responsible for answering questions on their assignments in the Discussion Board and responding to other student's posts. For example, an instructor assignment may be to post three sample questions from the chapter as part of a review and then post three responses to other student posted questions. Instructors would then read each students' response and provide personalized feedback as well as students to student feedback.
- **Group work:** *Students will work in teams to complete group projects. The projects will then be shared with the rest of the class.*
  Frequency: Daily students will work in groups both in-class and online (via Discussion Board and email). Group work may include projects, presentations, and reading assignments. Study groups for exams will be encouraged.
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: Daily appropriate webconferencing tool, such as Conferzoom, will be utilized to help give individual assistance to students. The Chatroom and virtual classroom may be used by students to ask/answer questions, critique group assignments (as directed by the instructor), and get help from one another.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: Monthly students will use this to introduce themselves to each other, and ask/answer any student-to-student questions. A typical classroom discussion prompt will be "What strategies can you use during the semester when you get stuck on a math problem?" or "Your friend is struggling with answering the following math problem… Please describe how you would help them understand how to approach the problem and describe each step to solve." Instructors would then read each students' response and provide personalized feedback as well as students to student feedback. Other parts of the Discussion board will be used for group projects, and any important instructor posted responses to questions.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: Daily video mini-lectures targeting core concepts or skills may be assigned or recommended for viewing prior to class, to prepare students for the new content to be learned or explored in class.
- **Other:**
  Frequency: Students will monitor their progress under the supervision of instructors and/or tutors by completing daily homework

General Education/Transfer Request

General Education/Transfer Request

Codes and Dates

Course CB Codes

CB00: State ID
CCC000601352

CB03: TOP Code
170200 - Mathematics Skills

CIP Code

27.0301 - Applied Mathematics, General.

CB04: Credit Status
C - Credit - Not Degree Applicable

CB05: Transfer Status
C - Not transferable

CB08: Basic Skills Status
B - Basic Skills

CB09: SAM Code
E - Non-Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
A - One level below transfer

CB22: Non Credit Course Category
Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
2 - Not Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

LAS POSITAS COLLEGE

Course Modification: MUS 4 - Jazz in American Culture

Course Modification: MUS 4 - Jazz in American Culture (Launched - Implemented 09-22-2025)
compared with
MUS 4 - Jazz in American Culture (Active - Implemented 08-15-2021)

Admin Outline for Music 4
Jazz in American Culture

Effective: Fall ~~2021~~ 2026

Catalog Description:

MUS 4 - Jazz in American Culture
3.00 Units

History, trends and influences of the phenomenon of jazz through integration of the cultures of (but not limited to) African-American, European-American and the Latin-American communities. Required listening, reading and concert attendance will guide the student to value jazz as a form of self ~~-~~ - expression and improve the ability to listen and understand the various eras in jazz from pre-Dixieland to present day.
3 Units Lecture

Course Grading: Optional

Lecture Hours	54
Inside of Class Hours	54
Outside of Class Hours	108

Justification for course proposal

Discipline:

Music

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

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

A. ~~Communicate in technical aspects of the art;~~
B. Analyze and interpret ~~music~~ Jazz as a form of ~~self-~~ musical expression ~~through written listening quizzes ;~~
C. Describe the history of music in the western European, African, and Latin traditions, both sacred and secular;
D. Recognize the differing styles of jazz from the pre-Dixieland, Blues, Ragtime, Dixieland, Swing, Bebop, Cool, Fusion and present day eras;
E. Compare jazz elements with similar elements found in today's music including but not limited to rock, pop, country and classical;
F. Explain the similarities and differences between spirituals, gospel music and the blues;
G. Distinguish between various musical ensembles;
H. Listen perceptively to music, whether familiar or unfamiliar.

Course Content:

1. Historical Background
    1. Slavery
    2. The Caribbean
    3. Brazil
    4. Cuba
    5. The United States
2. Contributions From Africa
    1. Africa Today
    2. Africa Music
    3. Tribal Roots

4. Survivals in Jazz
    1. Verse-Chorus Form
    2. Call-and-Response
    3. Solo Breaks
    4. Riffs
    5. Polyrhythms and Cross-rhythms
    6. Improvisation
    7. Blue notes

3. Contributions From Western Europe
    1. Geography and Culture
    2. Rhythm
    3. Form
    4. Melody
    5. Harmony
    6. Marching Bands
        1. Instruments
        2. Importance of Musical Literacy
    7. Formal Concerts

4. Born In the U.S.
    1. The Minstrel Show
    2. Religious Music
        1. Spirituals
        2. Early Gospel
        3. Modern Gospel
    3. Folk Music
        1. ~~cries~~ Cries , hollars, shouts
        2. ~~work~~ Work songs
        3. Ballads
        4. Dances
        5. Tin Pan Alley

5. Afro-American Music
    1. Ragtime
        1. Scott Joplin
    2. The Blues
        1. Country Blues
        2. City Blues
        3. Blues Continues
    3. New Orleans
        1. Brass Bands
        2. Dixieland
    4. Jazz: Origins and Meaning
6. Dixieland Era
    1. Race Records
    2. The move to Chicago
        1. Louis Armstrong
        2. Bix Beiderbacke
        3. Jelly Roll Morton
    3. Impact of the Depression
7. Swing Era – Big Band Era
    1. Larger bands
    2. Dance styles
        1. Lindy Hop
        2. Swing four
        3. Charleston swings
    3. Leading Big Bands
        1. Benny Goodman
        2. Count Basie
        3. Duke Ellington
    4. Popular Bands Commercial

        1. Glen Miller
        2. The Dorsey Brothers
        3. Cab Calloway

    5. Vocalists
        1. Billie Holiday
        2. Ella Fitzgerald
        3. Joe Williams
        4. Sarah Vaughan

8. Bebop Era
    1. Instrumental vs. Dance music
    2. New harmonic structures
    3. Rise of soloist – fall of Big Bands
    4. Revolutionaries
        1. Charlie Parker
        2. Dizzy Gillespie
        3. Thelonious Monk
        4. Bud Posell

    5. Hard Bop
        1. Straight Ahead
        2. Funky
        3. Clifford Brown
        4. Art Blakey
        5. Horace Silver

    6. Bebop: In the Mainstream Today

9. Latin tinge
    1. Cuba
        1. ~~clave~~ Clave
        2. ~~contradonza~~ Contradonza
        3. ~~sacred~~ Sacred – Lacumi
        4. Dances – secular
            1. Son

        2. Mambo
        3. Rumba
        4. Chachacha

    5. Instruments
        1. Claves
        2. Bajo Sexto
        3. Bata
        4. Bongo e Conga
        5. Trumpets
        6. Violins

2. Brazil
    1. Samba
    2. Bossa Nova
        1. Star Getz
        2. Gil and Astrud Gilberto
        3. Antonio Carlos Jobim

3. Argentina
    1. The Tango
    2. Astor Piazzolla

10. Cool Era
    1. Merger of classical and Latin elements
        1. Forms
        2. Instruments

    2. Musicians – composers
        1. Miles Davis
        2. Gil Evans
        3. Gerry Mulligan
        4. Bill Evans

3. Third Stream
    1. Modern Jazz Quartet

4. Progressive
    1. Big Bands playing bebop harmonies
    2. Stan Kenton
    3. Woody Herman
    4. Dizzy Gillespie

11. Free/Avant Garde
    1. ~~collective~~ Collective Improvisation
    2. Break all traditional rules
    3. Artist more important over listener
    4. Astists
        1. Ornette Coleman
        2. John Coltrane and Eric Dolphy
        3. ~~Anthory~~ Anthony Braxton and Cecil Taylor
        4. Sun Ra and his Arkestra

12. Fusion
    1. Blending in Rock elements
        1. Electric instruments
        2. Rock rhythms
    2. Miles Davis “Bitches Brew”
    3. Chick Corea
    4. Weather Report “Birdland”

13. Present and Future Status of Jazz
    1. Influences
        1. Third-World Culture
        2. Government support
        3. Commercialism
    2. Jazz at the Movies-Film

3. Acoustic Jazz
4. New Orleans
    1. Marsalis Family
    2. Harry Conrick Jr.
5. Education
6. Survival
    1. Clubs
    2. Recording
    3. Jazz Festivals
7. Young Lions - Keeping jazz alive

Methods of Instruction:

1. Field Trips - Live or livestreamed performances of jazz music.
2. Discussion - Weekly discussion board assignments
3. Demonstration - Musical examples, both audio and visual
4. Classroom Activity - Live performances, group/individual presentations.
5. Guest Lecturers - Performers, historians, photographers.
6. Lecture - Weekly

Typical Outside-of-Class Assignments

A. ~~Other~~ Reading :
    1. ~~Reading:~~
        1. Read Chapter Five, "Dixieland 1900-1920's" in Jazz pages 53-66 and be prepared to discuss the six differences between New Orleans and Chicago Dixieland.
        2. Read Chapter Three, "The Blues" in Jazz pages 27-39 then select a blues melody, such as the first twelve measures of "St Louis Blues", and adapt a sonnet or original poem to this melody. (Tell/Sing me your own blues story!)

B. Writing ~~, Listening, Problem-solving/critical thinking~~ :
    1. Attend a concert. Give a critical response to the elements of jazz used and the possible social/cultural significance.
    2. Select three or four different recording of blues artists mentioned in our book or in class. Listen for the specific techniques used by the artist to achieve her or his effects. ~~compare~~ Compare and contrast your findings. Try to copy the jazz phrases on paper or reproduce them vocally.

C. ~~In collaborative learning~~ Project :
    1. Group presentation. Choose any jazz musician or style and be prepared to do an oral report (not to exceed 20 minutes) cover the history, style, anything important relating to subject. You may use video, CD, cassette, records, as well as guest artists.
    2. Form groups. Select a blues melody with text. Learn to sing the blues song; then, with each repetition add a new phrase (with continuing story lyrics). this may be done individually within each group, as well as group to group. Example: each student/group creates own 12-bar blues iambic pentameter, pg. 29 in text JAZZ

Methods of Evaluating Student Progress

A. Class Participation
    1. Weekly
B. Class Work
    1. Daily
C. Exams/Tests
    1. 2
D. Home Work
    1. Weekly

E. Papers
   1. 1-2
F. Projects
   1. 1-2
G. Quizzes

   ~~1. At least monthly~~

   1. 1-3 per month

H. Research Projects
   1. 1-2

Student Learning Outcomes

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

A. ~~Upon completion of MUS 4, the student will be able to analyze~~ Analyze particular musical works with regard to style, technical elements.
B. ~~Upon completion of MUS 4, the student will be able to compare~~ Compare the parallel political and social climate that has affected jazz's evolution.
C. ~~Upon completion of MUS 4, the student will be able to through~~ Through informed listening and reading, students should be able to apply critical thinking and - writing to distinguish the different styles of jazz and its most important pioneers and innovators.

Textbooks (Typical):

Textbook:

1. ~~Bruce~~ ~~Johnson~~ Richard J. Lawn (Author), Justin G. Binek *Experiencing Jazz.* 3rd ed., Routledge, 2024.
2. José Dias, Christa Bruckner Haring ~~*Jazz Diaspora: Music*~~ *Women* *and* ~~*Globalisation*~~ *Jazz European Perspectives from Female Researchers and Artists* . 1st ed., Routledge, ~~2020~~ 2025 .
3. Paul Tanner, David Megill *JAZZ.* ~~13th~~ 14th ed., McGraw-Hill, ~~2019.~~
4. ~~Donald Megill and Richard Demory,~~ ~~*Introduction to Jazz History.*~~ ~~5th ed., Prentice-Hall, 2001.~~
5. ~~Peter Mather and Rita McCarthy~~ ~~*Reading and All That Jazz.*~~ ~~6 ed., McGraw-Hill, 2016.~~
6. ~~Thomas E Larson~~ ~~*History and Tradition of Jazz.*~~ ~~6 ed., Kendall Hunt, 2018~~ 2024 .

Other Materials Required of Students

Equity Based Curriculum

- Course Content
  Address
  This class covers the music of primarily African-American and Latin-American performers and composers.
- Typical Texts
  Address
  Music from diverse populations will be studied.

Requisite Skills

DE Proposal

Delivery Methods

- **Fully Online (FO)**

Rationale for DE

Explain why this course should be offered in Distance Education mode.

In discussing with my music colleagues, we felt that there was a good way to offer MUS 4 Fully Online even in a non-emergency situation. This greatly improves access for many students.

Explain how the decision was made to offer this course in a Distance Education mode.

The decision was made after consulting faculty and students.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.

- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: Email and Canvas Messaging will be used frequently.
- **Discussion board:** *The instructor will regularly participate in discussions that deal with academic content, will consistently provide substantive feedback, and will facilitate all discussions.*
  Frequency: 1-3 discussion boards per month.
- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Feedback on every assignment, quiz, and exam.
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: 1-3 Announcements per month.
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: 1 web-conferencing session per week.

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: Weekly.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: 1-3 discussion boards per month.
- **Group work:** *Students will work in teams to complete group projects. The projects will then be shared with the rest of the class.*
  Frequency: One per semester.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: 1-3 discussion boards per month.
- **Written papers:** *Papers will be written on various topics.*
  Frequency: 2 per semester.
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: At least 10 Quizzes. Three exams including final examination.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: 2 per week.
- **Video:** *Video will be used to demonstrate procedures and to help students visualize concepts.*
  Frequency: Weekly.
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: 2-5 per semester.
- **Other:**
  Frequency: One paper per semester.
- **Other:**
  Frequency: Weekly reading and listening assignments. Three concert reviews.

General Education/Transfer Request

General Education/Transfer Request

~~Chabot College GE~~ Cal-GETC

- ~~AC. American Cultures~~
- ~~III. Humanities~~

~~CSU GE~~

- ~~C1~~ 3A - Arts ~~(Arts, - Cinema, Dance, Music, Theater)~~ Approved

CSU Transfer

- Transfers to CSU - Approved

~~IGETC~~ Las Positas College GE

- ~~3A~~ 3 - Arts and Humanities - Approved

UC Transfer

- Transfers to UC - Approved

Codes and Dates

Course CB Codes

CB00: State ID
CCC000381787

CB03: TOP Code
100400 - Music

CIP Code

50.0901 - Music, General.

CB04: Credit Status
D - Credit - Degree Applicable

CB05: Transfer Status
A - Transferable to both UC and CSU.

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
E - Non-Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category

Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

LAS POSITAS COLLEGE

Course Modification: MUS 17 - Jazz Combo

Course Modification: MUS 17 - Jazz Combo (Launched - Implemented 09-22-2025)
compared with
MUS 17A - Jazz Combo 1 (Active - Implemented 08-15-2025)

Admin Outline for Music ~~17A~~ 17
Jazz Combo ~~1~~
Effective: Fall ~~2025~~ 2026

Catalog Description:

MUS ~~17A~~ 17 - Jazz Combo ~~1~~
1.00 Units

For instrumentalists who want experience in performing and interpreting small-group literature. Covers important aspects of small jazz band development and works of many styles and periods. Emphasis will be on improvisation, stylistic differences, arranging, and common performance practices of the various periods of jazz music.
1 Units Lab

Recommended Course Preparation: MUS 6 with a minimum grade of C, MUS 18A with a minimum grade of C, **Enrollment Limitation:** Audition Required.

Course Grading: Optional

Lab Hours	54
Inside of Class Hours	54

Justification for course proposal

Discipline:

Music

Number of Times Course May Be Taken for Credit:

4

Course Objectives:

Upon completion of this course, the student should be able to:
A. Demonstrate advanced facility and technique in performing and arranging jazz literature.
B. Rehearse effectively to ensure successful ensemble performances.
C. Demonstrate the ability to play, memorize, and interpret jazz literature in the following styles: swing, bossa nova, fusion, funk, waltz, and contemporary.
D. Compile effective setlists, and perform as a cohesive unit.
E. Perform with effective articulation, intonation, style, expression, blending, and balance.

Course Content:

1. Concentrated study of blues and modal jazz compositions to maximize opportunities for creative improvisation
2. Special focus on phrasing, the use of space, tension and release, contour, and reacting to others in the ensemble
3. Ensemble performance skills such as intonation, rhythmic precision, and dynamics
    1. Focus on playing in tune, with a solid groove, and appropriate dynamic levels
4. Public performance in a variety of venues: classroom, outdoor, concert hall, etc.
5. Facility and technique in performing repertoire in a variety of styles such as bossa nova, fusion, swing, modal, waltz, funk, etc.
6. Awareness and implementation of individual responsibility to the success of ensemble performance
    1. Emphasis on professionalism in rehearsal and concert settings

Methods of Instruction:

1. Classroom Activity -
2. Student Presentations -
3. Individualized Instruction -
4. Observation -
5. Audio-visual Activity -
6. Demonstration -
7. Guest Lecturers -
8. Lecture -
9. Outside practice

Typical Outside-of-Class Assignments

A. Other:

    1. ~~Reading 1:~~

1. ~~Read the internet article on the difference in articulation and phrasing between medium swing and Latin jazz and be prepared to demonstrate them.~~

2. ~~Reading 2:~~

    1. ~~Read through your part of an assigned chart. Locate difficult passages and formulate an approach for effective practice of these passages.~~

3. ~~Performance~~

    1. Perform a jazz standard with the combo. Improvise using appropriate scales and swing feel.

4. ~~Arranging:~~

    1. Choose a jazz standard and arrange it for the combo. Demonstrate a good understanding of orchestration, voicings, transpositions, and formal concepts.

5. ~~Composition:~~

    1. Compose a 5-7 minute piece for the combo and lead the rehearsal by pointing out key elements like form, structure, improvised sections, etc.

F. Reading:

    1. Read the internet article on the difference in articulation and phrasing between medium swing and Latin jazz and be prepared to demonstrate them.
    2. Read through your part of an assigned chart. Locate difficult passages and formulate an approach for effective practice of these passages.

Methods of Evaluating Student Progress

A. Class Participation
    1. Weekly.
B. Class Performance
    1. Weekly.
C. Final Class Performance
    1. One per semester.
D. Final Public Performance
    1. One per semester.
E. Home Work
    1. Weekly practice.
F. Lab Activities
    1. Weekly.
G. Projects
    1. At least one per semester.

Student Learning Outcomes

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

A. ~~Upon completion of MUS 17A, the student will be able to develop~~ Develop mastery of improvisation based on study of jazz masters.
B. ~~Upon completion of MUS 17A, the student will be able to perform~~ Perform jazz repertoire at an introductory level.
C. ~~Upon completion of MUS 17A, the student will be able to transcribe~~ Transcribe and perform basic musical licks in all 12 keys.

Textbooks (Typical):

Textbook:

1. Hal Leonard Corp. *Jazz Funk Play-Along: Real Book Multi-Tracks Volume 5* . 1st ed., Hal Leonard, 2017.
2. Hal Leonard Corp. *The Real Bebop Book: C Edition.* 1st ed., Hal Leonard, 2017.
3. Jamey Aebersold *A Practical Approach To Jazz Improvisation.* 1st e ed., Jamey Aebersold, 2015.
4. Jason Curry *Simple Kiss.* 1st ed., Devmusic, 2020.
5. Rick Hirsch *Surly.* 1st ed., Hirsch Music Publishing, 2020.
6. Elvis Presley, Carl Perkins, Kirby Shaw *Blue Suede Shoes.* 1st ed., Hal Leonard Corporation, 2020.
7. Terry Lynne Carrington *New Standards: 101 Lead Sheets By Women Composers* . 1st ed., Berklee Press, 2022.
8. mDecks Music *Bebop Lines You Should Know.* 1st ed., Independently published, 2022.
9. Richard Lawn *Jazz Scores and Analysis, Vol. 2.* 1st ed., Sher Music Co., 2022.

Other Materials Required of Students

Equity Based Curriculum

- Course Content
  Address
  Jazz music is an African-American tradition. Latin Jazz will also be studied and performed. More broadly, composers and improvisers from a variety of cultural backgrounds will be studied.
- Assignments
  Address
  Students will transcribe and perform jazz solos from improvisers who come from a variety of cultural backgrounds.
- Typical Texts
  Address
  Sheet music written by composers from variety of cultural backgrounds will be studied and performed.

Requisite Skills

Before entering this course, it is recommended that a student be able to:

A. MUS 6
1. ~~interpret notation of both pitch and rhythm;~~
2. ~~identify and notate key signatures;~~
3. ~~identify and construct triads and seventh chords;~~
4. ~~identify and construct simple intervals;~~
5. ~~interpret expressive markings such as dynamic indications, accents, repeats;~~
6. ~~recognize and construct scales: major, minor (3 forms), chromatic, whole-tone;~~
7. ~~perform simple exercises in ear training and sight singing.~~

B. MUS 18A
1. ~~Define jazz musical symbols and terminology;~~

DE Proposal

Delivery Methods

- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
In discussion and practice with my music colleagues, we felt that (though not ideal) MUS 17A is able to meet course outcomes fully online. It can also meet them partially online even under normal circumstances.

Explain how the decision was made to offer this course in a Distance Education mode.
The decision was made after consulting faculty and students.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Discussion board:** *The instructor will regularly participate in discussions that deal with academic content, will consistently provide substantive feedback, and will facilitate all discussions.*
  Frequency: 1-3 discussion boards per semester.
- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Feedback on every assignment, recording, and performance.
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: 1-3 Announcements per month.
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*

Frequency: 2-5 web-conferencing sessions per month.
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: Performances (at least 2 per semester) and rehearsals (at least 1 per month) would take place face-to-face.

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: Weekly.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: 1-3 discussion boards per semester.
- **Group work:** *Students will work in teams to complete group projects. The projects will then be shared with the rest of the class.*
  Frequency: 5 per semester.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: 1-3 discussion boards per semester.
- **Group work:** *Students will collaborate in private groups to solve problems, become experts on certain topics, etc. They will then present their findings to the class.*
  Frequency: Group rehearsals, recording, and performing opportunities (at least 1 per month).
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: 10 times per semester.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: 2-5 per month.
- **Video:** *Video will be used to demonstrate procedures and to help students visualize concepts.*
  Frequency: 1-3 per month.
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: 6 per semester.
- **Other:**
  Frequency: Daily practice. At least 2 performances per semester.

General Education/Transfer Request

General Education/Transfer Request
CSU Transfer
- Transfers to CSU - Approved

UC Transfer
- Transfers to UC - Approved

C-ID ; MUS 180, 185 - Approved

Codes and Dates

Course CB Codes
CB00: State ID
CCC000569957
CB03: TOP Code
100400 - Music
CIP Code

50.0901 - Music, General.

CB04: Credit Status
D - Credit - Degree Applicable
CB05: Transfer Status
A - Transferable to both UC and CSU.
CB08: Basic Skills Status
N - Not Basic Skills
CB09: SAM Code
E - Non-Occupational
CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.
CB11: Course Classification Status
CB13: Special Class Status
N - Course is not a special class.
CB21: Course Prior to College
Y - Not applicable
CB22: Non Credit Course Category
Y - Not Applicable, Credit course
CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)
CB24: Program Status
1 - Program Applicable
CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course
CB27: Upper Division Status

LAS POSITAS COLLEGE

Technical Course Revision: MUS 38 - Applied Lessons

Technical Course Revision: MUS 38 - Applied Lessons (Launched - Implemented 10-03-2025)
compared with
MUS 38 - Applied Lessons (Active - Implemented 08-15-2025)

Admin Outline for Music 38
Applied Lessons
Effective: Fall ~~2025~~ 2026

Catalog Description:

MUS 38 - Applied Lessons
1.00 Units

Individualized study of the appropriate techniques and repertoire for the specific instrument, voice, or composition being studied. The emphasis is on the progressive development of skills needed for solo performance or composition. Achievement is evaluated through a juried performance. Enrollment subject to a standardized audition demonstrating basic competencies in technique and musicianship in a student's major performance or composition medium.
1 Units Lab

Enrollment Limitation: Enrollment subject to a standardized audition demonstrating basic competencies in technique and musicianship in a student's major performance or composition medium., **Corequisite:** Concurrent enrollment in one music theory class (MUS 8A, MUS 8B, MUS 10A or MUS 10B) and one performing ensemble (MUS 11, MUS 15, MUS 16, MUS ~~17A~~ 17 , MUS 41, MUS 44, MUS 45, MUS 46 or MUS 48).

Course Grading: Letter Grade Only

Lab Hours	54
Inside of Class Hours	54

Justification for course proposal

Discipline:

Music

Number of Times Course May Be Taken for Credit:

4

Course Objectives:

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

A. Define and demonstrate basic musical symbols and terminology
B. Gain increased proficiency on the instrument of choice, voice, or composition
C. Present a recital consisting of repertoire learned from memory, or a portfolio of original compositions
D. Demonstrate advanced techniques resulting in improved tone quality and interpretation
E. Perform several scales (major, minor, chromatic, etc.) in a proficient manner
F. Develop an understanding and appreciation of the literature performed
G. Perform in a jury

Course Content:

1. Perform assigned musical repertoire composed by diverse composers with good dynamics, tempo, and technique
2. Implement effective practice approaches
3. Tone quality and interpretation
4. Scales
    1. Major
    2. Minor
    3. Blues
    4. Chromatic
5. Understand cultural and historical context of the literature performed or composed
6. Prepare weekly for an end-of-semester jury or recital.
7. Composers will develop a personal compositional style with a solid technical foundation, and add original works to a portfolio of 4-5 pieces.

Methods of Instruction:

1. Discussion - Weekly discussion will occur about practice and compositional approaches, and how to refine musicianship
2. Directed Study - Faculty will assign repertoire from a diverse array of composers to be practice and performed
3. Individualized Instruction - One-on-one lessons will occur weekly
4. Demonstration - Faculty will demonstrate proper technique on instrument, voice, or composition
5. Projects - Composition students will be work on one major original piece each semester
6. Critique - Faculty will offer feedback in lessons, juries, recitals, and forums about student performance or composition

Typical Outside-of-Class Assignments

A. Other:
   1. Practice and perform major and minor scales in all 12 keys at an appropriate tempo with good technique
B. Project:
   1. Compose a 3-5 minute string quartet using industry standard notation software and appropriate symbols such as dynamics, tempo markings, and expressive techniques
   2. Prepare for a recital or jury performance by practicing daily with weekly one-on-one lessons. Diverse repertoire is appropriate, by composers from a wide variety of cultural backgrounds

Methods of Evaluating Student Progress

A. Class Performance
   1. Monthly jury performances for peers and faculty
B. Final Public Performance
   1. Once a semester as a jury or recital
C. Portfolios
   1. For composition students, 1-2 Portfolio projects per semester
D. Projects
   1. 2-3 musical pieces of repertoire by composers of diverse backgrounds per semester
E. Quizzes
   1. Monthly
F. Individual Practice - Daily - Sight-reading various pieces in a variety of styles - Instructor's discretion - Periodic review of assigned musical selections - Instructor's discretion Progress testing of assigned technical studies - Instructor's discretion - Periodic recital performance - Instructor's discretion - End of the semester jury - One

Student Learning Outcomes

Upon the completion of this course, the student should be able to:
A. Successfully demonstrate the Applied Lessons Requirements (organize by semester of study) as outlined by the music department faculty.
B. Complete successful music performances and final jury or recital demonstrating overall improvements and advancement in individual study.
C. Complete the required number of lessons, on-campus practice hours, musical exercises, and repertoire as assigned by the instructor.

Textbooks (Typical):

Textbook:
1. Charlie Parker *Charlie Parker Omnibook - Volume 1: C Instruments Edition with Online Audio* . 1st ed., Hal Leonard, 2019.
2. Hal Leonard Corp. *28 Italian Songs & Arias of the 17th and 18th Centuries* . 1st ed., G. Schirmer, Inc., 2016.
3. Stephan Beneking *16 Nocturnes-Etudes for One Hand Alone.* 1st ed., CreateSpace Independent Publishing Platform , 2016.
4. Tony Caramia *Fascinatin' Rhythms Six piano etudes in jazz rhythms.* 1st ed., Kjos Music Company, 2016.
5. Hal Leonard Corp. *Chart Hits of 2018-2019: 18 Hot Singles.* 1st ed., Hal Leonard, 2019.
6. Laurence Juber *The Evolution of Fingerstyle Guitar.* 1st ed., Hal Leonard, 2019.

Other Learning Materials:
1. Sheet music by diverse composers

Other Materials Required of Students

Other Materials Required of Students:
1. Manuscript Paper.

Equity Based Curriculum

- Course Content
  Address
  Music by composers of diverse backgrounds will be studied, analyzed, and performed.
- Methods of Instruction
  Address
  Music by composers of diverse backgrounds will be studied, analyzed, and performed.
- Assignments
  Address
  Music by composers of diverse backgrounds will be studied, analyzed, and performed.
- Typical Texts
  Address
  Music by composers of diverse backgrounds.

Requisite Skills

DE Proposal

Delivery Methods
- **Online with the Flexible In-Person Component (OFI)**
- **Partially Online**
- **Emergency Fully Online (EFO)**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
The material can be learned online effectively via zoom and canvas. We have been doing this since 2020 and it is a proven modality.

Explain how the decision was made to offer this course in a Distance Education mode.

In consultation with faculty.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: Weekly
- **Discussion board:** *The instructor will regularly participate in discussions that deal with academic content, will consistently provide substantive feedback, and will facilitate all discussions.*
  Frequency: 1-2 per month
- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Weekly
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: 1-2 per month
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Weekly
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: 1-2 per month

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: Monthly
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: Monthly
- **Web conferencing:** *Students will interact in real time with each other to discuss coursework and assignments.*
  Frequency: Monthly

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: Monthly
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: Monthly quizzes
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: Weekly lessons
- **Video:** *Video will be used to demonstrate procedures and to help students visualize concepts.*
  Frequency: Weekly
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: 2-3 musical pieces of repertoire by composers of diverse backgrounds per semester

General Education/Transfer Request

General Education/Transfer Request

CSU Transfer

- Transfers to CSU - Approved

UC Transfer

- Transfers to UC - Approved

C-ID: MUS 160 - Approved

Codes and Dates

Course CB Codes

CB00: State ID
CCC000553076

CB03: TOP Code
100400 - Music

CIP Code

50.0901 - Music, General.

CB04: Credit Status
D - Credit - Degree Applicable

CB05: Transfer Status
A - Transferable to both UC and CSU.

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
E - Non-Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category
Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

LAS POSITAS COLLEGE

Course Modification: NAUT A1 - Engine Repair

Course Modification: NAUT A1 - Engine Repair (Launched - Implemented 09-22-2025)
compared with
NAUT A1 - Engine Repair (Active - Implemented 08-15-2021)

Admin Outline for Noncredit Automotive Technology A1
Engine Repair

Effective: Fall ~~2021~~ 2026

Catalog Description:

NAUT A1 - Engine Repair
216 Hours

An in depth study of engines: mechanical, measurement, and assembly. A study of the above mentioned components including theory, teardown, evaluate, qualifying, and rebuilding. This class' emphasis is on engines. Students are encouraged to enroll in Automotive Lab concurrently.

Prerequisite: ~~AUTO~~ NAUT ~~INTR~~ INT with a minimum grade of C ~~;~~ ~~or~~ and NAUT ~~INTR~~ INTL with a minimum grade of C, or AUTO INTL with a minimum grade of C and AUTO ~~INTZ~~ INT with a minimum grade of C , INT and INTL may be taken concurrently.

Course Grading: ~~Pass/No Pass~~ Optional

Total Lecture Hours	36
Total Lab Hours	108
Total Inside of Class Hours	144
Total Outside of Class Hours	72
Total Noncredit Hours	216

Justification for course proposal

Discipline:

Automotive Technology

Number of Times Course May Be Taken for Credit:

Course Objectives:

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

A. Demonstrate the basic safety procedures of handling hazardous waste materials.
B. Explain the history of powertrain evolution.
C. Operate a wide variety of precision measurement equipment.
D. Explain four cycle engine theory and identify key components involved.
E. Teardown typical engine assembly.
F. Take measurements of engine components and compare to specifications.
G. Qualify new and used engine components.
H. Rebuild engine to manufacturer specifications.
I. Explain Ohm's Law.
J. Demonstrate Ohm's Law in practice, series, parallel circuits.
K. Maintain a clean and professional environment.

Course Content:

Lab:

1. Safety
2. Measurement tools usage
3. Engine tear down
4. Evaluation of replacement components
5. Engine rebuilding
6. Ohm's Law Usage

Lecture:

1. Safety

1. Tool usage and nomenclature
2. Proper disposal procedures
3. Environmentally conscious decisions

2. Powertrain evolution
    1. The first four cycle engines
    2. Current engines
    3. Horsepower and emission trade offs
    4. Environmental decisions driving design
    5. The first automatic transmissions
    6. Current automatic transmissions
        1. More gear ratios
        2. Different fluids
        3. Internal design improvements

3. Measurement tools
    1. Micrometer
        1. Vernier
        2. Caliper
    2. Dial bore gauge
    3. Snap gauges
    4. Straight edge
    5. Feeler gauges
    6. Hole gauges

4. Four cycle engine theory
    1. Intake, compression, power, exhaust
        1. 360 degrees in one degree intervals
        2. Valve overlap
        3. Timing concerns and tricks
        4. Street vs. racing

2. DOHV vs. OHV vs. Valve in block design
    1. Pros and cons of each
    2. Current technology
3. Key Valve train components
4. Key bottom end components
5. Camshaft timing
    1. Static camshaft
    2. Dynamic camshaft
    3. Electronic valves
6. Crankshaft design and balance
7. Cylinder head design
    1. Single valve
    2. Multiple valve

5. Engine Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence
    2. Removal and identification of internal components
        1. Special Procedures
            1. Loosening sequence

6. Component measurement
    1. Specification lookup
    2. Comparison

        1. Component diagnosis
            1. Failure analysis

7. Evaluation of replacement components
    1. Correct component?
    2. New and used part comparison

8. Engine rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
            1. Assembly lube
            2. Gaskets and sealers
    2. Dynamic engine torque
    3. Proper engine timing
        1. Camshaft to crankshaft
        2. Crankshaft to balance shaft

9. Ohm's Law
    1. Series Circuits
    2. Parallel Circuits
    3. Voltage Drop
    4. Resistance
    5. Amperage draw

10. Professionalism

1. Safety glasses
2. Working shop expectations
3. Attitude
4. Cleanliness
5. Maintenance of work areas and tools

Methods of Instruction:

1. Lab - Group and individual laboratory activities
2. Lecture - Group lecture assignments. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.

Typical Outside-of-Class Assignments

A. ~~Other:~~
Reading:
Read Chapter One in text

A. ~~Lecture based assignments~~
Research:
Engine Construction research for a personal vehicle

1. ~~Lecture on Engine Construction~~

2. ~~Lab based assignments~~

1. ~~Remove cylinder heads and check for specifications~~

3. ~~Text reading assignments~~

1. ~~Read Chapter One in text~~

Methods of Evaluating Student Progress

A. Exams/Tests
1. monthly
B. Lab Activities
1. weekly
C. Quizzes
1. weekly

Student Learning Outcomes

Upon the completion of this course, the student should be able to:
A. ~~Upon completion of NAUT A1, the student should be able to apply~~ Apply engine repair safety - precautions.
B. ~~Upon completion of NAUT A1, the student should be able to apply~~ Apply safety precautions - in shop lab exercises .
C. Install a timing chain .

Textbooks (Typical):

Textbook:
1. ~~Chris~~ James ~~Johanson~~ D Halderman ~~*Auto*~~ *Automotive* ~~*Engine Repair*~~ *Technology* . ~~5~~ 7 ed., ~~Goodheart Wilcox~~ Pearson , ~~2021~~ 2024 .
2. James Duffy ~~*Modern*~~ *2025 ASE Automotive* ~~*Technology*~~ *Suite.* . Goodheart Wilcox, 2025.
3. Tim Giles *Automotive Service: Inspection, Maintenance, Repair* . ~~9~~ 6 ed., ~~Goodheart Wilcox~~ Cengage , 2020.

Other Materials Required of Students

Other Materials Required of Students:
1. Safety Glasses.

Equity Based Curriculum

- Course Content
  Address
  Group and individual lecture activities. Discuss nomenclature used in the automotive industry and its effects on different groups.
- Methods of Instruction
  Address
  The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
- Methods of Evaluation
  Address
  The course materials and evaluations are based on industry standards.
- Typical Texts
  Address
  The course materials and evaluations are based on industry standards.

Requisite Skills

Before entering this course, it is required that a student be able to:

A. ~~AUTO~~ NAUT ~~INTR~~ INT
1. Identify and describe uses of automotive related tools;
2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
3. Discuss four stroke engine cycle and identify engine parts;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. Identify emissions components, understand 5 gas theory;

B. NAUT INTL
1. Utilize and apply hazardous waste handling;
2. Identify and describe uses of automotive related tools;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Discuss four stroke engine cycle and identify engine parts;
5. Perform basic engine teardown and reassembly;

3. ~~NAUT~~ Apply ~~INTR~~
1. ~~Utilize~~ Ohm's ~~and~~ law, ~~apply~~ read ~~hazardous~~ basic ~~waste~~ schematics, ~~handling~~ test automotive electrical systems ;
2. Identify ~~and~~ emissions ~~describe~~ components, ~~uses~~ understand ~~of~~ 5 ~~automotive~~ gas ~~related tools;~~
3. ~~Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;~~
4. ~~Discuss four stroke engine cycle and identify engine parts;~~
5. ~~Perform basic engine teardown and reassembly~~ theory ;

D. AUTO INTL
1. Utilize and apply hazardous waste handling;
2. Identify and describe uses of automotive related tools;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Discuss four stroke engine cycle and identify engine parts;
5. Perform basic engine teardown and reassembly;
6. Apply Ohm's law, read basic schematics, test automotive electrical systems;
7. Identify emissions components, understand 5 gas theory;

E. AUTO ~~INTZ~~ INT
1. Identify and describe uses of automotive related tools;
2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
3. Discuss four stroke engine cycle and identify engine parts ;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. Identify emissions components, understand 5 gas theory ;

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.

~~PO: Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. FO: Same as above, however specialized software can be used to simulate labs online (case by case approved by NATEF). This was done Spring 20 and worked well however students become very frustrated very quickly when they are not getting their hands dirty. 90% of Spring 2020 students stated they would not return to a fully online semester for Fall 2020. Fully online should only be used in extreme situations and for a very short duration.~~

Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. There are exceptions to this as we learned in C-19.

Explain how the decision was made to offer this course in a Distance Education mode.

~~PO: California Automotive Teachers have given this recommendation to allow our students to continue on their career path. FO:Same as above~~

California Automotive Teachers have given this recommendation to allow our students to continue on their career path.

Accessibility:

- Closed captioning for videos.

- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Weekly, as assignments or labs are turned in
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum Once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Minimum once per week
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: Weekly lab sessions
- **Other:**
  Frequency: ~~PO:~~ Student interaction, fulfillment of SLO's and measurable objectives will be done ~~on campus in the labs,~~ weekly. ~~FO: Student interaction, fulfillment of SLO's and measurable objectives will be monitored through the accounting set up in the online lab software, weekly.~~

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: ~~PO:At least twice per semester FO:~~ At least once every other week.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: ~~Fully online only:~~ Minimum weekly
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: ~~Fully~~ Minimum ~~online only: once every other week~~ weekly
- **Other:**
  Frequency: ~~PO:~~ Students will interact during on-campus weekly labs ~~FO: Student will interact~~ and online in chat.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: ~~Fully online only:~~ weekly
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: ~~PO and FO:~~ Quizzes: at least one quiz per section/chapter. Weekly. Exams: ~~Monthly~~ at least two per semester .
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: ~~PO:At least once per week FO:~~ At least once per week
- **Simulations:** *Simulations will be used by students so they can participate in and learn from processes.*
  Frequency: ~~FO:~~ Weekly
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: ~~PO:~~ Weekly ~~, in on-campus labs FO:Weekly recorded by student and completed using online software.~~
- **Other:**
  Frequency: ~~Both PO and FO:~~ Homework, assigned weekly

General Education/Transfer Request

General Education/Transfer Request -
~~CSU Transfer~~

- ~~Transfers to CSU~~

Codes and Dates

Course CB Codes

CB00: State ID
CCC000621886

CB03: TOP Code
094800 - Automotive Technology

CIP Code

47.0604 - Automobile/Automotive Mechanics Technology/Technician.

CB04: Credit Status
N - Non Credit

CB05: Transfer Status
C - Not transferable

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
C - Clearly Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category

I - Short-term Vocational: Includes programs with high employment potential

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning _ Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam _ Yes
Credit-by-Portfolio _ No
Please list the requirements/criteria/possible materials for a student to submit in their portfolio. _
Curriculum Committee Approval Date _
Effective Term _
Credit-by-Military-JST _ No
Please list the ACE course(s) equivalent to this course _
Curriculum Committee Approval Date _
Effective Term _
Credit-by-Industry-Recognized-Training _ No
Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.
_
Curriculum Committee Approval Date _
Additional Detail (List articulated courses, etc.) _ No
Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files. _
Curriculum Committee Approval Date _
Effective Term _
Curriculum Committee Approval Date _
Effective Term _

LAS POSITAS COLLEGE

Course Modification: NAUT A2 - Automatic Transmission/Transaxle

Course Modification: NAUT A2 - Automatic Transmission/Transaxle (Launched - Implemented 09-22-2025)
compared with
NAUT A2 - Automatic Transmission/Transaxle (Active - Implemented 08-15-2021)

Admin Outline for Noncredit Automotive Technology A2
Automatic Transmission/Transaxle

Effective: Fall ~~2021~~ 2026

Catalog Description:

NAUT A2 - Automatic Transmission/Transaxle
216 Hours

An in depth study of engine, transmission, transaxles: mechanical, measurement, and assembly. An in-depth study of the above mentioned components including theory, teardown, evaluate, qualifying, and rebuilding. Students are encouraged to enroll in Automotive Lab concurrently.

Prerequisite: ~~AUTO~~ NAUT ~~INTR~~ INT with a minimum grade of C ~~; or~~ and NAUT ~~INTR~~ INTL with a minimum grade of C, or AUTO INTL with a minimum grade of C and AUTO ~~INTZ~~ INT with a minimum grade of C INT and INTL may be taken concurrently

Course Grading: ~~Pass/No Pass~~ Optional

Total Lecture Hours	36
Total Lab Hours	108
Total Inside of Class Hours	144
Total Outside of Class Hours	72
Total Noncredit Hours	216

Justification for course proposal

Discipline:

Automotive Technology

Number of Times Course May Be Taken for Credit:

Course Objectives:

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

A. Demonstrate the basic safety procedures of handling hazardous waste materials.
B. Explain the history of powertrain evolution.
C. Operate a wide variety of precision measurement equipment.
D. Explain transmission gear ratio and hydraulic theory.
E. Teardown typical transmission assembly.
F. Take measurements of transmission components and compare to specifications.
G. Qualify new and used transmission components
H. Rebuild transmission to manufacturer specifications.
I. Maintain a clean and professional environment.
J. Demonstrate Ohm's law in practice
K. Test transmission valve bodies and diagnose issues

Course Content:

Lab:

1. Safety
2. Powertrain evolution
    1. Internal design improvements
3. Measurement tools usage
4. Transmission Tear down
    1. Removal and identification of FWD
        1. Special procedures

2. Removal and identification of RWD
    1. Special procedures

5. Component measurement
6. Qualification of replacement components
7. Transmission rebuilding
8. Ohm's law usage
9. Valve body diagnosis
10. Professionalism

Lecture:

1. Safety
    1. Tool usage and nomenclature
    2. Proper disposal procedures
    3. Environmentally conscious decisions
2. Powertrain evolution
    1. Horsepower and emission trade offs
    2. Environmental decisions driving design
    3. The first automatic transmissions
    4. Current automatic transmissions
        1. More gear ratios
        2. Different fluids
        3. Internal design improvements
3. Measurement tools
    1. Micrometer
        1. Vernier
        2. Caliper
    2. Dial bore gauge
    3. Snap gauges
    4. Straight edge
    5. Feeler gauges

6. Hole gauges

4. Automatic Transmission Theory
    1. Gear Ratios
        1. Shift Points
        2. Planetary gear sets
        3. Valves
        4. Clutches
        5. Sprags
    2. Hydraulics
        1. Basic and advanced hydraulics
        2. Hydraulic control components
        3. Fluid pressures
            1. Line
            2. Apply
            3. Release
            4. Clutch
            5. Accumulator
            6. Torque
            7. Servo
            8. D4, D3, D2, D1
    3. Other Components
        1. Final Drives
        2. Torque converters
        3. Apply systems
        4. Differential components
        5. Electrical components
            1. TCM, THECM, PCM
            2. Fluid temperature sensor
            3. TISS and TOSS
            4. TCC

5. PRNDL

5. Transmission Teardown
    1. Removal and identification of FWD
        1. Special procedures
    2. Removal and identification of RWD
        1. Special procedures

6. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis
            1. Failure analysis

7. . Qualification of replacement components
    1. Correct component?
    2. New and used part comparison

8. Transmission rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
    2. Assembly lube

3. Gaskets and sealers

9. Ohm's law
10. Valve body diagnosis
11. Professionalism

    1. Safety glasses
    2. Working shop expectations
    3. Attitude
    4. Cleanliness
    5. Maintenance of work areas and tools

Lecture:

1. Safety
    1. Tool usage and nomenclature
    2. Proper disposal procedures
    3. Environmentally conscious decisions
2. Powertrain evolution
    1. Horsepower and emission trade offs
    2. Environmental decisions driving design
    3. The first automatic transmissions
    4. Current automatic transmissions
        1. More gear ratios
        2. Different fluids
        3. Internal design improvements
3. Measurement tools
    1. Micrometer
        1. Vernier
        2. Caliper
    2. Dial bore gauge
    3. Snap gauges
    4. Straight edge
    5. Feeler gauges
    6. Hole gauges
4. Automatic Transmission Theory
    1. Gear Ratios

1. Shift Points
2. Planetary gear sets
3. Valves
4. Clutches
5. Sprags

2. Hydraulics
    1. Basic and advanced hydraulics
    2. Hydraulic control components
    3. Fluid pressures
        1. Line
        2. Apply
        3. Release
        4. Clutch
        5. Accumulator
        6. Torque
        7. Servo
        8. D4, D3, D2, D1

3. Other Components
    1. Final Drives
    2. Torque converters
    3. Apply systems
    4. Differential components
    5. Electrical components
        1. TCM, THECM, PCM
        2. Fluid temperature sensor
        3. TISS and TOSS
        4. TCC
        5. PRNDL

5. Transmission Teardown
    1. Removal and identification of FWD
        1. Special procedures

    2. Removal and identification of RWD
        1. Special procedures

6. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis
            1. Failure analysis

7. Qualification of replacement components
    1. Correct component?
    2. New and used part comparison

8. Transmission rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
    2. Assembly lube
    3. Gaskets and sealers

9. Ohm's law
10. Valve body diagnosis
11. Professionalism
    1. Safety glasses
    2. Working shop expectations
    3. Attitude
    4. Cleanliness
    5. Maintenance of work areas and tools

Methods of Instruction:

1. Lab - Group and individual laboratory activities
2. Lecture - Group lecture activities. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.

Typical Outside-of-Class Assignments

A. ~~Other~~ Reading :
    1. ~~Lecture based assignments~~
        1. ~~Lecture on Automatic transmission clutch packs~~
    2. ~~Lab based assignments~~

1. ~~Remove and measure clutch pack travel, reassemble.~~

3. ~~Text reading assignments~~

1. Read Chapter One ~~:~~ in text

D. Research:

1. Transmission replacement research for a personal vehicle

Methods of Evaluating Student Progress

A. Exams/Tests
   1. monthly
B. Lab Activities
   1. weekly
C. Quizzes
   1. weekly

Student Learning Outcomes

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

A. ~~Upon~~ Apply ~~completion of NAUT A2, the student should be able to apply~~ transmission/Transaxle repair safety precautions.
B. ~~Upon completion of NAUT A2, the student should be able to obtain~~ Obtain and interpret ~~-~~ powertrain data related to the transmission .
C. Replace front pump seal .

Textbooks (Typical):

Textbook:

1. ~~Chris~~ Tim ~~Johanson~~ Giles ~~*Automatic*~~ *Automotive* ~~*Transmissions*~~ *Service:* ~~*and*~~ *Inspection,* ~~*transaxles*~~ *Maintenance, Repair* . ~~5~~ 6 ed., ~~Goodheart Wilcox~~ Cengage , ~~2021~~ 2020 .
2. James Duffy ~~*Modern*~~ *2025 ASE Automotive* ~~*Technology*~~ *Suite* . ~~9 ed.~~ , Goodheart Wilcox, ~~2020~~ 2025.
3. James D Halderman *Automotive Technology,* 7 ed., Pearson, 2024 .

Other Materials Required of Students

Other Materials Required of Students:

1. Safety glasses.

Equity Based Curriculum

- Methods of Instruction
  Address
  The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
- Methods of Evaluation
  Address
  The course materials and evaluations are based on industry standards.
- Typical Texts
  Address
  The course materials and evaluations are based on industry standards.

Requisite Skills

Before entering this course, it is required that a student be able to:

A. ~~AUTO~~ NAUT ~~INTR~~ INT
   1. Identify and describe uses of automotive related tools;
   2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
   3. Discuss four stroke engine cycle and identify engine parts;
   4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
   5. Identify emissions components, understand 5 gas theory;
B. NAUT INTL
   1. Utilize and apply hazardous waste handling;
   2. Identify and describe uses of automotive related tools;
   3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
   4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
   5. ~~Discuss~~ Identify ~~heating~~ emissions ~~and cooling systems~~ components , ~~perform~~ understand ~~basic~~ 5 ~~cooling~~ gas ~~systems tests~~ theory ;
   6. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
3. ~~NAUT~~ Theorize ~~INTR~~

1. ~~Utilize~~ on ~~and~~ the ~~apply hazardous waste handling;~~
2. ~~Identify and describe uses~~ future of ~~automotive related tools;~~
3. ~~Apply Ohm's law, read basic schematics, test~~ the automotive ~~electrical systems;~~
4. ~~Discuss heating and cooling systems, perform basic cooling systems tests;~~
5. ~~Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;~~ industry.

D. AUTO INTL
1. Utilize and apply hazardous waste handling;
2. Identify and describe uses of automotive related tools;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. ~~Discuss~~ Identify ~~heating~~ emissions ~~and cooling systems~~ components , ~~perform~~ understand ~~basic~~ 5 ~~cooling~~ gas ~~systems tests~~ theory ;
6. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
7. Theorize on the future of the automotive industry.

E. AUTO ~~INTZ~~ INT
1. Identify and describe uses of automotive related tools ;
2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile ;
3. Apply Ohm's law, read basic schematics, test automotive electrical systems;
4. ~~Discuss~~ Identify ~~heating~~ emissions ~~and cooling systems~~ components , ~~perform~~ understand ~~basic~~ 5 ~~cooling~~ gas ~~systems tests~~ theory ;
5. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
6. Theorize on the future of the automotive industry.

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.

~~PO: Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. FO: Same as above, however specialized software can be used to simulate labs online (case by case approved by NATEF). This was done Spring 20 and worked well however students become very frustrated very quickly when they are not getting their hands dirty. 90% of Spring 2020 students stated they would not return to a fully online semester for Fall 2020. Fully online should only be used in extreme situations and for a very short duration.~~

Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. There are exceptions to this as we learned in C-19.

Explain how the decision was made to offer this course in a Distance Education mode.

~~PO: California Automotive Teachers have given this recommendation to allow our students to continue on their career path. FO:Same as above~~

California Automotive Teachers have given this recommendation to allow our students to continue on their career path.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*

Frequency: Weekly, as assignments or labs are turned in
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum Once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Minimum once per week
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: Weekly lab sessions
- **Other:**
  Frequency: PO: Student interaction, fulfillment of SLO's and measurable objectives will be done on campus in the labs, weekly. FO: Student interaction, fulfillment of SLO's and measurable objectives will be monitored through the accounting set up in the online lab software, weekly.

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: PO:At least twice per semester FO:At least once every other week.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: Fully online only: Minimum weekly
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: Fully online only: once every other week
- **Other:**
  Frequency: PO: Students will interact during on-campus weekly labs FO: Student will interact online in chat.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: Fully online only: weekly
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: ~~PO and FO:~~ Quizzes: at least one quiz per section/chapter. Weekly. Exams: Monthly.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: ~~PO:~~ At least once per week ~~FO:At least once per week~~
- **Simulations:** *Simulations will be used by students so they can participate in and learn from processes.*
  Frequency: FO:Weekly
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: PO: Weekly, in on-campus labs FO:Weekly recorded by student and completed using online software.
- **Other:**
  Frequency: Both PO and FO: Homework, assigned weekly

General Education/Transfer Request

General Education/Transfer Request -
~~CSU Transfer~~

- ~~Transfers to CSU~~

Codes and Dates

Course CB Codes

CB00: State ID
CCC000621887

CB03: TOP Code
094800 - Automotive Technology

CIP Code

CB04: Credit Status
N - Non Credit

CB05: Transfer Status
C - Not transferable

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
C - Clearly Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category
J - Workforce Preparation

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status

Y. Not Applicable

CB26: Course Support Course Status

N - Course is not a support course

CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning _ Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam _ Yes
Credit-by-Portfolio _ No
Please list the requirements/criteria/possible materials for a student to submit in their portfolio. _
Curriculum Committee Approval Date _
Effective Term _
Credit-by-Military-JST _ No
Please list the ACE course(s) equivalent to this course _
Curriculum Committee Approval Date _
Effective Term _
Credit-by-Industry-Recognized-Training _ No
Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.
_
Curriculum Committee Approval Date _
Additional Detail (List articulated courses, etc.) _ No
Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files. _
Curriculum Committee Approval Date _
Effective Term _
Curriculum Committee Approval Date _
Effective Term _

LAS POSITAS COLLEGE

Course Modification: NAUT A3 - Manual Drive Train and Axles

Course Modification: NAUT A3 - Manual Drive Train and Axles (Launched - Implemented 09-22-2025)
compared with
NAUT A3 - Manual Drive Train and Axles (Active - Implemented 08-15-2021)

Admin Outline for Noncredit Automotive Technology A3
Manual Drive Train and Axles

Effective: Fall ~~2021~~ 2026

Catalog Description:

NAUT A3 - Manual Drive Train and Axles
216 Hours

An in-depth study of manual gearboxes, rear axle, front axle, and transfer cases: mechanical, measurement, and assembly. Including theory, teardown, qualifying, and rebuilding. Students are encouraged to enroll in Automotive Lab concurrently.

Prerequisite: ~~AUTO~~ NAUT ~~INTR~~ INTL with a minimum grade of C ; ~~or~~ and NAUT ~~INTR~~ INT with a minimum grade of C, or AUTO INTL with a minimum grade of C and AUTO ~~INTZ~~ INT with a minimum grade of C INT and INTL may be taken concurrently.

Course Grading: ~~Pass/No Pass~~ Optional

Total Lecture Hours	36
Total Lab Hours	108
Total Inside of Class Hours	144
Total Outside of Class Hours	72
Total Noncredit Hours	216

Justification for course proposal

Discipline:

Automotive Technology

Number of Times Course May Be Taken for Credit:

Course Objectives:

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

A. Demonstrate the basic safety procedures of handling hazardous waste materials.
B. Explain the history of powertrain evolution.
C. Operate a wide variety of precision measurement equipment
D. Explain rear axle gear theory;
E. Teardown typical rear axle assembly;
F. Make measurements of rear axle components and compare to specifications;
G. Qualify new and used rear axle components.
H. Properly rebuild rear axle to manufacturer specifications;
I. Explain front axle gear theory;
J. Teardown typical front axle assembly;
K. . Make measurements of front axle components and compare to specifications;
L. Qualify new and used front axle components.
M. Properly rebuild front axle to manufacturer specifications;
N. Explain transfer case gear and power flow theory;
O. Tear down typical transfer case assembly;
P. Make measurements of transfer case components and compare to specifications;
Q. Qualify new and used transfer case components.
R. Properly rebuild transfer case to manufacturer specifications;
S. Maintain a clean and professional environment.

Course Content:

Lab:

1. Safety
2. Measurement tool usage
3. Rear Axle rebuild
4. Rear Axle Teardown

5. Component measurement
6. Evaluation of replacement components
7. Front Axle Rebuild
8. Front Axle Teardown
9. Component measurement
10. Front Axle rebuilding
11. Transfer Case theory
12. Transfer case Teardown
13. Component measurement
14. Two speed axles
15. Electrical application to axles
16. Professionalism
17. ~~Safety~~

Lecture:

1. - Safety
    1. Tool usage and nomenclature
    2. - Proper disposal procedures
    3. - Environmentally conscious decisions

2. - Powertrain evolution
    1. - The first axle assemblies
    2. - Current axle assemblies
        1. - Internal design improvements
    3. - Environmental decisions driving design

3. - Measurement tools
    1. - Micrometer
        1. - Vernier
        2. - Caliper
    2. - Dial bore gauge
    3. - Snap gauges
    4. - Straight edge
    5. - Feeler gauges
    6. - Hole gauges

4. Rear Axle theory
    1. Gear Design
        1. Straight Cut
        2. Hypoid Cut
        3. Diagonal Cut
        4. Street vs. racing
    2. Pinion Design
    3. Ring Gear Design
    4. Locking/Non-Locking Design
    5. Full/Free Floating Design
5. Rear Axle Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence
    2. Removal and identification of internal components
        1. Special Procedures
            1. Loosening sequence
6. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis
            1. Failure analysis

7. Evaluation of replacement components
    1. Correct component?
    2. New and used part comparison
8. Rear Axle rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
        1.
            1. ~~Assembly lube~~
            2. Gaskets and sealers
            3. Assembly lube
    2. Pinion Depth setting
    3. Backlash setting
    4. Rotational toque
9. Front Axle theory
    1. Gear Design
        1. Straight Cut
        2. Hypoid Cut
        3. Diagonal Cut
        4. Street vs. racing
    2. Pinion Design
    3. Ring Gear Design
    4. Locking/Non-Locking Design
10. Front Axle Teardown

1. - Removal and identification of external components
    1. - Special procedures
        1. - Loosening sequence
2. - Removal and identification of internal components
    1. - Special Procedures
        1. - Loosening sequence

11. - Component measurement
    1. - Specification lookup
    2. - Comparison
        1. - Component diagnosis
            1. - Failure analysis

12. Evaluation of replacement components
    1. - Correct component?
    2. - New and used part comparison

13. - Front Axle rebuilding
    1. - Manufacturer Procedures
        1. - Component sequence
        2. - Torque specifications
        3. - Tightening sequences
        4. - Special concerns
            1. - Assembly lube
            2. - Gaskets and sealers

2. Pinion Depth setting
3. Backlash setting
4. Rotational torque

14. Transfer Case theory
    1. Gear Design
        1. Straight Cut
        2. Hypoid Cut
        3. Diagonal Cut
        4. Street vs. Off Road
    2. Drive Chain Design
    3. Active/Passive Design
    4. 4wd Hi/4WD Lo Design and usage

15. Transfer case Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence
    2. Removal and identification of internal components
        1. Special Procedures
            1. Loosening sequence

16. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis

1. - Failure analysis

17. - Evaluation of replacement components
    1. - Correct component?
    2. - New and used part comparison

18. - Transfer case rebuilding
    1. - Manufacturer Procedures
        1. - Component sequence
        2. - Torque specifications
        3. - Tightening sequences
        4. - Special concerns
            1. - Assembly lube
    2. Gaskets and sealers

19. Two speed axles

20. Electrical theory and application to axles

21. - Professionalism
    1. - Safety glasses
    2. - Working shop expectations
    3. - Attitude
    4. - Cleanliness
    5. - Maintenance of work areas and tools

Lecture:

1. Safety
    1. Tool usage and nomenclature
    2. Proper disposal procedures
    3. Environmentally conscious decisions
2. Powertrain evolution
    1. The first axle assemblies

2. Current axle assemblies
    1. Internal design improvements
3. Environmental decisions driving design

3. Measurement tools
    1. Micrometer
        1. Vernier
        2. Caliper
    2. Dial bore gauge
    3. Snap gauges
    4. Straight edge
    5. Feeler gauges
    6. Hole gauges

4. Rear Axle theory
    1. Gear Design
        1. Straight Cut
        2. Hypoid Cut
        3. Diagonal Cut
        4. Street vs. racing
    2. Pinion Design
    3. Ring Gear Design
    4. Locking/Non-Locking Design
    5. Full/Free Floating Design

5. Rear Axle Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence
    2. Removal and identification of internal components
        1. Special Procedures
            1. Loosening sequence

6. Component measurement
    1. Specification lookup

2. Comparison
    1. Component diagnosis
        1. Failure analysis

7. Evaluation of replacement components
    1. Correct component?
    2. New and used part comparison

8. Rear Axle rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
        1.
            1. Assembly lube
            2. Gaskets and sealers
    2. Pinion Depth setting
    3. Backlash setting
    4. Rotational toque

9. Front Axle theory
    1. Gear Design
        1. Straight Cut
        2. Hypoid Cut
        3. Diagonal Cut
        4. Street vs. racing
    2. Pinion Design
    3. Ring Gear Design
    4. Locking/Non-Locking Design

10. Front Axle Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence

2. Removal and identification of internal components
    1. Special Procedures
        1. Loosening sequence

11. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis
            1. Failure analysis

12. Evaluation of replacement components
    1. Correct component?
    2. New and used part comparison

13. Front Axle rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
            1. Assembly lube
            2. Gaskets and sealers
    2. Pinion Depth setting
    3. Backlash setting
    4. Rotational torque

14. Transfer Case theory
    1. Gear Design
        1. Straight Cut
        2. Hypoid Cut
        3. Diagonal Cut
        4. Street vs. Off Road
    2. Drive Chain Design
    3. Active/Passive Design
    4. 4wd Hi/4WD Lo Design and usage

15. Transfer case Teardown
    1. Removal and identification of external components
        1. Special procedures
            1. Loosening sequence
    2. Removal and identification of internal components
        1. Special Procedures
            1. Loosening sequence
16. Component measurement
    1. Specification lookup
    2. Comparison
        1. Component diagnosis
            1. Failure analysis
17. Evaluation of replacement components
    1. Correct component?
    2. New and used part comparison
18. Transfer case rebuilding
    1. Manufacturer Procedures
        1. Component sequence
        2. Torque specifications
        3. Tightening sequences
        4. Special concerns
            1. Assembly lube
    2. Gaskets and sealers
19. Two speed axles
20. Electrical theory and application to axles
21. Professionalism
    1. Safety glasses
    2. Working shop expectations
    3. Attitude
    4. Cleanliness
    5. Maintenance of work areas and tools

Methods of Instruction:

1. Lab - Group and individual laboratory activities
2. Lecture - Group lecture activities. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.

Typical Outside-of-Class Assignments

A. ~~Other:~~
Reading:
Read Chapter One in text

A. ~~Lecture based assignments~~
Research:
Rear axle gear research for a personal vehicle

1. ~~Lecture on pinion depth measurements~~

2. ~~Lab based assignments~~

1. ~~Measure pinion depth~~

3. ~~Text based assignments~~

1. ~~Read Chapter One~~

Methods of Evaluating Student Progress

A. Exams/Tests
1. monthly
B. Lab Activities
1. weekly
C. Quizzes
1. weekly

Student Learning Outcomes

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

A. ~~Upon completion of NAUT A3, the student should be able to apply~~ Apply Manual Drivetrain - and axle repair safety precautions.
B. ~~Upon completion of NAUT A3, the student should be able to obtain~~ Obtain and interpret - powertrain data related to manual gearboxes and axles .
C. Measure pinion preload .

Textbooks (Typical):

Textbook:

1. ~~Chris~~ James ~~Johanson~~ D Halderman ~~*Manual*~~ *Automotive* ~~*Drivetrans and Axles*~~ *Technology* . ~~5~~ 7 ed., ~~Goodheart Wilcox~~ Pearson , ~~2021~~ 2024 .
2. James Duffy ~~*Modern*~~ *2025 ASE Automotive* ~~*Technology*~~ *Suite.* , Goodheart Wilcox, 2025.
3. Tim Giles *Automotive Service: Inspection, Maintenance, Repair* . ~~9~~ 6 ed., ~~Goodheart Wilcox~~ Cengage , 2020.

Other Materials Required of Students

Other Materials Required of Students:

1. Safety glasses.

Equity Based Curriculum

- Methods of Instruction
Address
The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
- Methods of Evaluation
Address
The course materials and evaluations are based on industry standards.
- Typical Texts

Address

The course materials and evaluations are based on industry standards.

Requisite Skills

Before entering this course, it is required that a student be able to:

A. ~~AUTO~~ NAUT ~~INTR~~ INTL

1. Utilize and apply hazardous waste handling;
2. Identify and describe uses of automotive related tools ;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. Identify emissions components, understand 5 gas theory ;
6. Discuss braking systems, perform a brake inspection, identify parts;
7. Differentiate between suspension and steering system types, inspect and qualify components;
8. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
9. Theorize on the future of the automotive industry.

B. NAUT ~~INTR~~ INT

1. ~~Utilize and apply hazardous waste handling;~~
2. Identify and describe uses of automotive related tools ;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. Identify emissions components, understand 5 gas theory ;
6. Discuss braking systems, perform a brake inspection, identify parts;
7. Differentiate between suspension and steering system types, inspect and qualify components;
8. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
9. Theorize on the future of the automotive industry.

C. AUTO INTL

1. Utilize and apply hazardous waste handling;
2. Identify and describe uses of automotive related tools ;
3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
5. Identify emissions components, understand 5 gas theory ;
6. Discuss braking systems, perform a brake inspection, identify parts;
7. Differentiate between suspension and steering system types, inspect and qualify components;
8. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
9. Theorize on the future of the automotive industry.

D. AUTO ~~INTZ~~ INT

1. Identify and describe uses of automotive related tools ;
2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
3. Apply Ohm's law, read basic schematics, test automotive electrical systems;
4. Identify emissions components, understand 5 gas theory ;
5. Discuss braking systems, perform a brake inspection, identify parts;
6. Differentiate between suspension and steering system types, inspect and qualify components;
7. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
8. Theorize on the future of the automotive industry.

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.

~~PO: Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. FO: Same as above, however specialized software can be used to simulate labs online (case by case approved by NATEF). This was done Spring 20 and worked well however students become very frustrated very quickly when they are not getting their hands dirty. 90% of Spring 2020 students stated they would not return to a fully online semester for Fall 2020. Fully online should only be used in extreme situations and for a very short duration.~~

Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. There are exceptions to this as we learned in C-19.

Explain how the decision was made to offer this course in a Distance Education mode.

~~PO: California Automotive Teachers have given this recommendation to allow our students to continue on their career path. FO:Same as above~~

California Automotive Teachers have given this recommendation to allow our students to continue on their career path.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.

- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Weekly, as assignments or labs are turned in
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum Once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Minimum Once per week
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: Weekly lab sessions
- **Other:**
  Frequency: PO: Student interaction, fulfillment of SLO's and measurable objectives will be done on campus in the labs, weekly. FO: Student interaction, fulfillment of SLO's and measurable objectives will be monitored through the accounting set up in the online lab software, weekly.

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: PO:At least twice per semester FO:At least once every other week.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: Fully online only: Minimum weekly
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: Fully online only: once every other week
- **Other:**
  Frequency: PO: Students will interact during on-campus weekly labs FO: Student will interact online in chat.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: Fully online only: weekly
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: ~~PO and FO:~~ Quizzes: at least one quiz per section/chapter. Weekly. Exams: Monthly.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: ~~PO:At least once per week FO:~~ At least once per week
- **Simulations:** *Simulations will be used by students so they can participate in and learn from processes.*
  Frequency: FO:Weekly
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: PO: Weekly, in on-campus labs FO:Weekly recorded by student and completed using online software.
- **Other:**
  Frequency: ~~Both PO and FO:~~ Homework, assigned weekly

General Education/Transfer Request

General Education/Transfer Request -
~~CSU Transfer~~

- ~~Transfers to CSU~~

Codes and Dates

Course CB Codes

CB00: State ID
CCC000621888

CB03: TOP Code
094800 - Automotive Technology

CIP Code

CB04: Credit Status
N - Non Credit

CB05: Transfer Status
C - Not transferable

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
C - Clearly Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category
J - Workforce Preparation

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning - Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam - No
Credit-by-Portfolio - No
Please list the requirements/criteria/possible materials for a student to submit in their portfolio.
Curriculum Committee Approval Date
Effective Term
Credit-by-Military-JST - No
Please list the ACE course(s) equivalent to this course
Curriculum Committee Approval Date
Effective Term
Credit-by-Industry-Recognized-Training - No
Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.

Curriculum Committee Approval Date
Additional Detail (List articulated courses, etc.) - No
Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files.
Curriculum Committee Approval Date
Effective Term
Curriculum Committee Approval Date
Effective Term

LAS POSITAS COLLEGE

Course Modification: NAUT A4 - Suspension and Steering

Course Modification: NAUT A4 - Suspension and Steering (Launched - Implemented 09-22-2025)
compared with
NAUT A4 - Suspension and Steering (Active - Implemented 08-15-2021)

Admin Outline for Noncredit Automotive Technology A4
Suspension and Steering

Effective: Fall ~~2021~~ 2026

Catalog Description:

NAUT A4 - Suspension and Steering
216 Hours

Diagnosis, evaluation, testing, adjustment, alignment and repair of steering and suspension systems. Including all common automotive steering and suspension systems both car and truck. Future systems will also be covered. Students are strongly recommended to enroll in Automotive Lab concurrently.

Prerequisite: ~~AUTO~~ NAUT ~~INTR~~ INTL with a minimum grade of C ~~;~~ ~~or~~ and NAUT ~~INTR~~ INT with a minimum grade of C, or AUTO INTL with a minimum grade of C and AUTO ~~INTZ~~ INT with a minimum grade of C INT and INTL may be taken concurrently.

Course Grading: ~~Pass/No Pass~~ Optional

Total Lecture Hours	36
Total Lab Hours	108
Total Inside of Class Hours	144
Total Outside of Class Hours	72
Total Noncredit Hours	216

Justification for course proposal

Discipline:

Automotive Technology

Number of Times Course May Be Taken for Credit:

Course Objectives:

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

A. Understand and apply Hazardous waste handling;
B. Identify and describe uses of automotive related tools;
C. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
D. Understand four stroke engine cycle and identify engine parts;
E. Perform basic engine teardown and reassembly;
F. Apply Ohm's law, read basic schematics, test automotive electrical systems;
G. Identify emissions components, understand 5 gas theory;
H. Understand heating and cooling systems, perform basic cooling systems tests;
I. Identify air conditioning systems, understand cycles of refrigerant;
J. Understand braking systems, perform a brake inspection, identify parts;
K. Differentiate between suspension and steering system types, inspect and qualify components;
L. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
M. Restraints system identification, know safety concerns of each system and inspection of restraint systems;
N. Theorize on the future of the automotive industry.

Course Content:

Lab:

1. System geometry and alignment specifications
2. Perform alignment
3. Diagnosis vibration, electrical, and mechanical concerns
4. Alignments
5. Tire and wheel problems
6. Vibration concerns
7. McPherson strut and “A” –Arm type suspension systems

8. Electrical Steering systems
9. Electrical Suspension systems
10. Professional environment

Lecture:

1. - Fundamentals and theory of automotive steering and suspension systems
    1. - System geometry and alignment specifications
    2. - Fundamental principals of electrical flow, and component operation
2. - Applied principal competencies
    1. - Perform alignment
    2. - Diagnosis vibration, electrical, and mechanical concerns
3. - Electronic components
    1. - Identify and list functionality of electronic components
    2. - Test and verify functionality of components
    3. - Demonstrate use of a scanner, and volt/ohm testers
4. - Alignments
    1. - Perform two wheel alignments
    2. - Perform four-wheel alignments
    3. - Conduct toe only adjustments
    4. - Check cradle adjustments
5. - Tire and wheel problems
    1. Check radial and lateral variations on both tires and wheels
    2. Make bearing pre-load adjustments
    3. Perform vibration correction tests to isolate customer concerns
6. Vibration concerns
    1. Perform vibration correction tests
    2. Isolate vibrations
    3. Identify type, frequency, and order of vibrations
7. McPherson strut and “A” –Arm type suspension systems

1. Identify types of suspensions
2. Perform adjustments pertaining to type of system
3. Describe safety precautions and warning
4. List benefits for each type system

8. Electronic Theory
9. Electrical Steering systems
10. Electrical Suspension systems
11. Professional environment

1. Safety glasses (Clear lens) worn in all Laboratory areas
2. No loose clothing (Coveralls strongly recommended)
3. Long Hair secured
4. No open toe shoes (safety shoes recommended)
5. Work areas maintained; clean free of debris and spills

Lecture:

1. Fundamentals and theory of automotive steering and suspension systems
    1. System geometry and alignment specifications
    2. Fundamental principals of electrical flow, and component operation
2. Applied principal competencies
    1. Perform alignment
    2. Diagnosis vibration, electrical, and mechanical concerns
3. Electronic components
    1. Identify and list functionality of electronic components
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    1. Perform two wheel alignments
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    1. Perform vibration correction tests
    2. Isolate vibrations
    3. Identify type, frequency, and order of vibrations
7. McPherson strut and "A" –Arm type suspension systems
    1. Identify types of suspensions
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    1. Safety glasses (Clear lens) worn in all Laboratory areas
    2. No loose clothing (Coveralls strongly recommended)
    3. Long Hair secured
    4. No open toe shoes (safety shoes recommended)
    5. Work areas maintained; clean free of debris and spills

Methods of Instruction:

1. Lab - Student hands-on laboratory activities and assignments
2. Lecture - Group lecture assignments. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.

Typical Outside-of-Class Assignments

A. ~~Other:~~
Reading:
Read Chapter One in text

A. ~~Lecture based assignments~~
Research:
Suspension modification research for a personal vehicle

1. ~~Lecture on Alignment proceedures~~

2. ~~Lab based assignments~~

1. ~~Perform 4-wheel alignment on 3 vehicles~~

3. ~~Text based assignments~~

1. ~~Read Chapter One~~

Methods of Evaluating Student Progress

A. Exams/Tests
   1. monthly
B. Lab Activities
   1. weekly
C. Quizzes
   1. weekly

Student Learning Outcomes

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

A. ~~Upon completion of NAUT A4, the student should be able to apply~~ Apply steering and - suspension repair safety precautions.
B. ~~Upon completion of NAUT A4, the student should be able to obtain~~ Obtain and interpret - powertrain data related to the steering and suspension system .
C. Perform an alignment .

Textbooks (Typical):

Textbook:

1. ~~Chris~~ James ~~Johanson~~ D Halderman ~~*Auto*~~ *Automotive* ~~*Suspension and Steering*~~ *Technology* . ~~5~~ 7 ed., ~~Goodheart Wilcox~~ Pearson , ~~2021~~ 2024 .
2. James Duffy ~~*Modern*~~ *2025 ASE Automotive* ~~*Technology*~~ *Suite* . ~~9 ed.~~ , Goodheart Wilcox , 2025.
3. Tim Giles *Automotive Service: Inspection, Maintenance, Repair.* , Cengage , 2020.

Other Materials Required of Students

Other Materials Required of Students:

1. Safety Glasses.

Equity Based Curriculum

- Methods of Instruction
  Address
  The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
- Methods of Evaluation
  Address
  The course materials and evaluations are based on industry standards.
- Typical Texts
  Address
  The course materials and evaluations are based on industry standards.

Requisite Skills

Before entering this course, it is required that a student be able to:

A. ~~AUTO~~ NAUT ~~INTR~~ INTL
   1. Utilize and apply hazardous waste handling;
   2. Identify and describe uses of automotive related tools;
   3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
   4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
   5. Discuss braking systems, perform a brake inspection, identify parts;
   6. Differentiate between suspension and steering system types, inspect and qualify components;
   7. Theorize on the future of the automotive industry.

B. NAUT ~~INTR~~ INT
   1. ~~Utilize and apply hazardous waste handling;~~
   2. Identify and describe uses of automotive related tools;
   3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
   4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
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   7. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
   8. Theorize on the future of the automotive industry.

C. AUTO INTL
   1. Utilize and apply hazardous waste handling;
   2. Identify and describe uses of automotive related tools;
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   7. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;
   8. Theorize on the future of the automotive industry.

D. AUTO ~~INTZ~~ INT
   1. Identify and describe uses of automotive related tools;
   2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
   3. Apply Ohm's law, read basic schematics, test automotive electrical systems;

4. Discuss braking systems, perform a brake inspection, identify parts;
5. Differentiate between suspension and steering system types, inspect and qualify components;
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7. Theorize on the future of the automotive industry.

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.

~~PO: Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. FO: Same as above, however specialized software can be used to simulate labs online (case by case approved by NATEF). This was done Spring 20 and worked well however students become very frustrated very quickly when they are not getting their hands dirty. 90% of Spring 2020 students stated they would not return to a fully online semester for Fall 2020. Fully online should only be used in extreme situations and for a very short duration.~~

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Explain how the decision was made to offer this course in a Distance Education mode.

~~PO: California Automotive Teachers have given this recommendation to allow our students to continue on their career path. FO:Same as above~~

California Automotive Teachers have given this recommendation to allow our students to continue on their career path.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
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- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Weekly, as assignments or labs are turned in
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum Once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Minimum Once per week
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  Frequency: Weekly lab sessions
- **Other:**
  Frequency: ~~PO:~~ Student interaction, fulfillment of SLO's and measurable objectives will be done ~~on campus in the labs,~~ weekly. ~~FO: Student interaction, fulfillment of SLO's and measurable objectives will be monitored through the accounting set up in the online lab software, weekly.~~

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: ~~PO:At least twice per semester FO:~~ At least once every other week.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: ~~Fully~~ At ~~online~~ least ~~only:~~ once ~~Minimum~~ every ~~weekly~~ other week.
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*

Frequency: ~~Fully~~ At ~~online only:~~ least once every other week .

- **Other:**
  Frequency: ~~PO:~~ Students will interact during on-campus weekly labs ~~FO:~~ ~~Student will interact~~ and online in chat.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: ~~Fully online only: weekly~~ Weekly
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: ~~PO and FO:~~ Quizzes: at least one quiz per section/chapter. Weekly. Exams: at least two per semester.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: ~~PO:~~ At least once per week ~~FO:At least once per week~~
- **Simulations:** *Simulations will be used by students so they can participate in and learn from processes.*
  Frequency: ~~FO:Weekly~~ At least once per week
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: ~~PO:~~ Weekly, in on-campus labs ~~FO:Weekly recorded by student and completed using online software.~~
- **Other:**
  Frequency: ~~Both PO and FO:~~ Homework, assigned weekly

General Education/Transfer Request

General Education/Transfer Request -
~~CSU Transfer~~

- ~~Transfers to CSU~~

Codes and Dates

Course CB Codes

CB00: State ID
CCC000621889

CB03: TOP Code
094800 - Automotive Technology

CIP Code

CB04: Credit Status
N - Non Credit

CB05: Transfer Status
C - Not transferable

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
C - Clearly Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category
J - Workforce Preparation

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning . Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam . Yes
Credit-by-Portfolio . No

Please list the requirements/criteria/possible materials for a student to submit in their portfolio.

Curriculum Committee Approval Date

Effective Term

Credit-by-Military-JST No

Please list the ACE course(s) equivalent to this course

Curriculum Committee Approval Date

Effective Term

Credit-by-Industry-Recognized-Training No

Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.

Curriculum Committee Approval Date

Additional Detail (List articulated courses, etc.) No

Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files.

Curriculum Committee Approval Date

Effective Term

Curriculum Committee Approval Date

Effective Term

LAS POSITAS COLLEGE

Course Modification: NAUT A6 - Electrical/Electronic Systems

Course Modification: NAUT A6 - Electrical/Electronic Systems (Launched - Implemented 09-22-2025)
compared with
NAUT A6 - Electrical/Electronic Systems (Active - Implemented 08-15-2021)

Admin Outline for Noncredit Automotive Technology A6
Electrical/Electronic Systems

Effective: Fall ~~2021~~ 2026

Catalog Description:

NAUT A6 - Electrical/Electronic Systems
270 Hours

Automotive electrical/electronic systems, including electrical circuits, Ohm's Law, battery, starting, charging, ignition, fuel, accessories, brakes, chassis, suspension, steering, HVAC, and wiring systems. Emphasis on diagnosis of electrical troubles, assembly, repair of components, and diagnostic equipment usage. Students are strongly recommended to enroll in Automotive Lab concurrently.

Prerequisite: ~~AUTO~~ NAUT ~~INTR~~ INT with a minimum grade of C ~~;~~ ~~or~~ and NAUT ~~INTR~~ INTL with a minimum grade of C, or AUTO INTL with a minimum grade of C and AUTO ~~INTZ~~ INT with a minimum grade of C , INT and INTL may be taken concurrently

Course Grading: ~~Pass/No Pass~~ Optional

Total Lecture Hours	54
Total Lab Hours	108
Total Inside of Class Hours	162
Total Outside of Class Hours	108
Total Noncredit Hours	270

Justification for course proposal

Discipline:

Automotive Technology

Number of Times Course May Be Taken for Credit:

Course Objectives:

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

A. Diagnose and repair basic automotive battery, starting, charging systems;
B. Use electrical test equipment for accurate diagnosis of electrical systems and sub-systems;
C. Use problem-solving skills to categorize systems faults in automotive circuits and make needed repairs;
D. Identify types of ignition systems;
E. Describe and evaluate fuel control circuits for proper operation;
F. Explain the fundamentals of electronic and electrical theories;
G. Conduct circuit and wire repairs;
H. Demonstrate safe and appropriate hazardous material handling;
I. Maintain a clean and professional environment.

Course Content:

Lab:

1. Diagnosing and repairing electrical issues
2. Electrical test equipment usage
3. Problem solving
4. Identifying types of ignition systems
5. Fuel control: operation and evaluation
6. Fundamentals of electronics and electrical
7. Diagnosis of connected systems
8. Circuit and wire repairs
9. Hazardous material handling

10. Professional environment

Lecture:

1. Diagnosing and repair:
    1. Outline and perform procedures for the testing of batteries, charging systems, starting systems
    2. Categorize type of problem, isolate cause and make needed repairs
2. Electrical test equipment
    1. Digital volt meters, for diagnosing electrical and electronic components and systems
    2. Volt Amp Tester (VAT), for diagnosing Batteries, Charging systems, starting systems
3. Problem solving
    1. Classify type of electrical faults
    2. Evaluate needed diagnostic procedure
    3. Research proper diagnostic path as outlined by the manufacture or industry standards and make needed repairs
    4. Perform needed test to confirm repairs
4. Identifying types of ignition systems
    1. Standard, electronic, high energy, distributor, non-distributor
    2. Safety precautions while diagnosing
    3. Identify circuitry, current theory and concepts
5. Fuel control: operation and evaluation
    1. Identify type of controller
    2. Describe trigger mechanism
    3. Categorize type of injectors used
    4. Evaluate proper operation of system
    5. Perform pressure checks
    6. Explain scanner readings, meter readings and scope readings
6. Fundamentals of electronics and electrical theory
    1. Explain Ohm's Law
    2. Perform Electrical Conversion factors
    3. Demonstrate a working knowledge of meter usage
    4. Research and list manufactures specifications

5. Identify proper diagnostic steps for a proper conclusion for repairs needed

7. Diagnosis of connected system
    1. Brakes and ABS system
    2. Steering
    3. Suspension
    4. HVAC
8. Circuit and wire repairs
    1. Lay out and perform solder repairs
    2. Lay out and perform splice repairs
    3. Lay out and perform terminal and connector repairs
    4. Produce sound diagnostic approach to identify faults
9. Hazardous material handling
    1. Explain safety precautions concerning battery acid (electrolyte) hazards
    2. List steps to help someone that has been exposed to battery acid (electrolyte)
10. Professional environment
    1. Safety glasses (Clear lens) worn in all Laboratory areas
    2. No loose clothing (Coveralls strongly recommended)
    3. Long Hair secured
    4. No open toe shoes (safety shoes recommended)
    5. Work areas maintained; clean free of debris and spills

Methods of Instruction:

1. Lab - Student Hands-on laboratory activities and assignments
2. Lecture - Group lecture assignments. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.

Typical Outside-of-Class Assignments

A. ~~Other~~ Reading :
    1. ~~Lecture based assignments~~
        1. ~~Lecture on Ohm's law~~
    2. ~~Text reading~~
        1. Read Chapter One in text

C. ~~Lab~~ Research:

1. Vehicle based electrical construction assignments

    1. Perform research Voltage for drop a on personal starter circuit vehicle

Methods of Evaluating Student Progress

A. Exams/Tests
    1. monthly
B. Lab Activities
    1. weekly
C. Quizzes
    1. weekly

Student Learning Outcomes

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

A. Upon completion of NAUT A6, the student should be able to apply Apply electrical - precautions.
B. Upon completion of NAUT A6, the student should be able to obtain Obtain and interpret data - related to the electrical system
C. Use a fluke meter to measure voltage.

Textbooks (Typical):

Textbook:

1. James Duffy D Halderman *Modern Automotive Technology.* 9 7 ed., Goodheart-Wilcox Pearson , 2020 2024 .
2. Chris James Johanson Duffy *2025 ASE Automotive Electricity and Electronics Suite* . 5 ed. , Goodheart Wilcox, 2021 2025.
3. Tim Giles *Automotive Service: Inspection, Maintenance, Repair.* 6 ed., Cengage, 2020 .

Other Materials Required of Students

Other Materials Required of Students:

1. Safety Glasses.

Equity Based Curriculum

- Methods of Instruction
  Address
  The methods of instruction can be intentional to incorporate real life experiences of diverse automotive technicians. The lectures and other assignments can be modified to encourage participation and universal learning. When appropriate, guest lecturers will represent a cross culture of gender, ethnicity, age, and sexual orientation.
- Methods of Evaluation
  Address
  The course materials and evaluations are based on industry standards.
- Typical Texts
  Address
  The course materials and evaluations are based on industry standards.

Requisite Skills

Before entering this course, it is required that a student be able to:

A. AUTO NAUT INTR INT
    1. Identify and describe uses of automotive related tools;
    2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
    3. Apply Ohm's law, read basic schematics, test automotive electrical systems;
    4. Identify emissions components, understand 5 gas theory;
    5. Restraints system identification, know safety concerns of each system and inspection of restraint systems;
    6. Theorize on the future of the automotive industry.
B. NAUT INTL
    1. Utilize and apply hazardous waste handling;
    2. Identify and describe uses of automotive related tools;
    3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
    4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
    5. Identify emissions components, understand 5 gas theory;
    6. Discuss heating and cooling systems, perform basic cooling systems tests;
    7. Identify air conditioning systems, understand cycles of refrigerant;
    8. Discuss braking systems, perform a brake inspection, identify parts;
    9. Differentiate between suspension and steering system types, inspect and qualify components;
    10. Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;

11. Restraints system identification, know safety concerns of each system and inspection of restraint systems;

3. ~~NAUT~~ Theorize ~~INTR~~
    1. ~~Utilize~~ on ~~and~~ the ~~apply hazardous waste handling;~~
    2. ~~Identify and describe uses~~ future of ~~automotive related tools;~~
    3. ~~Describe~~ the ~~importance of preventative maintenance and inspection procedures as they relate to the automobile;~~
    4. ~~Apply Ohm's law, read basic schematics, test~~ automotive ~~electrical systems;~~
    5. ~~Identify emissions components, understand 5 gas theory;~~
    6. ~~Discuss heating and cooling systems, perform basic cooling systems tests;~~
    7. ~~Identify air conditioning systems, understand cycles of refrigerant;~~
    8. ~~Discuss braking systems, perform a brake inspection, identify parts;~~
    9. ~~Differentiate between suspension and steering system types, inspect and qualify components;~~
    10. ~~Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;~~
    11. ~~Restraints system identification, know safety concerns of each system and inspection of restraint systems;~~ industry.

D. AUTO INTL
    1. Utilize and apply hazardous waste handling;
    2. Identify and describe uses of automotive related tools;
    3. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
    4. Apply Ohm's law, read basic schematics, test automotive electrical systems;
    5. Identify emissions components, understand 5 gas theory;
    6. ~~Discuss heating and cooling systems, perform basic cooling systems tests;~~
    7. ~~Identify air conditioning systems, understand cycles of refrigerant;~~
    8. ~~Discuss braking systems, perform a brake inspection, identify parts;~~
    9. ~~Differentiate between suspension and steering system types, inspect and qualify components;~~
    10. ~~Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;~~
    11. Restraints system identification, know safety concerns of each system and inspection of restraint systems;
    12. Theorize on the future of the automotive industry.

E. AUTO ~~INTZ~~ INT
    1. Identify and describe uses of automotive related tools;
    2. Describe the importance of preventative maintenance and inspection procedures as they relate to the automobile;
    3. Apply Ohm's law, read basic schematics, test automotive electrical systems;
    4. Identify emissions components, understand 5 gas theory;
    5. ~~Discuss heating and cooling systems, perform basic cooling systems tests;~~
    6. ~~Identify air conditioning systems, understand cycles of refrigerant;~~
    7. ~~Discuss braking systems, perform a brake inspection, identify parts;~~
    8. ~~Differentiate between suspension and steering system types, inspect and qualify components;~~
    9. ~~Identify different transmissions, understand theory of operation of both manual and automatic transmissions and fluid requirements;~~
    10. Restraints system identification, know safety concerns of each system and inspection of restraint systems;
    11. Theorize on the future of the automotive industry.

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.

~~PO: Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. FO: Same as above, however specialized software can be used to simulate labs online (case by case approved by NATEF). This was done Spring 20 and worked well however students become very frustrated very quickly when they are not getting their hands dirty. 90% of Spring 2020 students stated they would not return to a fully online semester for Fall 2020. Fully online should only be used in extreme situations and for a very short duration.~~

Lectures can be done in person or as DE. Labs should be completed in person even in an emergency. To meet the hours of lab enforced by NATEF/ASE (our accreditation agency) we must complete in-person labs. There are exceptions to this as we learned in C-19.

Explain how the decision was made to offer this course in a Distance Education mode.

~~PO: California Automotive Teachers have given this recommendation to allow our students to continue on their career path. FO:Same as above~~

California Automotive Teachers have given this recommendation to allow our students to continue on their career path.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.

- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Weekly
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Minimum once per week
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: Minimum once per week
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: Weekly lab sessions

Student-Student Interaction

- **Email:** *Students will be encouraged to email each other to ask questions about the course, including assignments.*
  Frequency: ~~PO:~~ At ~~Minimum~~ least ~~twice~~ once ~~per~~ every ~~semester FO:~~ other ~~Minimum Bi-Weekly~~ week.
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: FO only: Minimum weekly
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: ~~FO~~ Minimum ~~only: Bi-~~ weekly

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: ~~FO~~ Minimum ~~only: Weekly~~ weekly
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: Quizzes: at least one quiz per section/chapter. Weekly. - _ Exams: ~~Monthly~~ at least two per semester .
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: Minimum once per week
- **Simulations:** *Simulations will be used by students so they can participate in and learn from processes.*
  Frequency: ~~FO:~~ Weekly
- **Projects:** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: Weekly
- **Other:**
  Frequency: ~~Both PO and FO:~~ Homework, assigned weekly

General Education/Transfer Request

General Education/Transfer Request -
~~CSU Transfer~~

- ~~Transfers to CSU~~

Codes and Dates

Course CB Codes

CB00: State ID
CCC000621891

CB03: TOP Code
094800 - Automotive Technology

CIP Code

47.0604 - Automobile/Automotive Mechanics Technology/Technician.

CB04: Credit Status
N - Non Credit

CB05: Transfer Status
C - Not transferable

CB08: Basic Skills Status
N - Not Basic Skills

CB09: SAM Code
C - Clearly Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category
J - Workforce Preparation

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

Credit for Prior Learning

Credit for Prior Learning Yes
Please select the method(s) of credit for prior learning that students can use to earn credit for this course at Las Positas College.
Credit-by-Exam Yes
Credit-by-Portfolio No
Please list the requirements/criteria/possible materials for a student to submit in their portfolio.
Curriculum Committee Approval Date
Effective Term
Credit-by-Military-JST No
Please list the ACE course(s) equivalent to this course
Curriculum Committee Approval Date
Effective Term
Credit-by-Industry-Recognized-Training No
Please state the license / certification / credential / coursework, the required recency, and the agency having jurisdiction, along with a list of the courses (including this one) for which a student will earn credit.
Curriculum Committee Approval Date
Additional Detail (List articulated courses, etc.) No
Please list the articulated courses. Also, we ask that you upload any relevant docs (e.g., exams) via Attached Files.
Curriculum Committee Approval Date
Effective Term
Curriculum Committee Approval Date
Effective Term

LAS POSITAS COLLEGE

Technical Course Revision: NMAT 201C - Concurrent Support for BSTEM Mathematics

Technical Course Revision: NMAT 201C - Concurrent Support for BSTEM Mathematics (Launched - Implemented 10-07-2025)
compared with
NMAT 201C - Concurrent Support for BSTEM Mathematics (Active - Implemented 08-15-2025)

Admin Outline for Noncredit Mathematics 201C
Concurrent Support for BSTEM Mathematics

Effective: Fall ~~2025~~ 2026

Catalog Description:

NMAT 201C - Concurrent Support for BSTEM Mathematics
54 Hours

Concurrent Support for BSTEM Math is for students interested in Business, Science, Technology, Engineering and Mathematical fields. This course offers structured support to students who are concurrently enrolled in a STEM-sequence math course, such as Calculus I, Precalculus, ~~College Algebra,~~ Trigonometry, and Business Calculus. The support course includes material to prepare students for the rigor of the transfer math course by teaching learning skills necessary to succeed in college courses as well as review of relevant prerequisite algebraic and geometric concepts, and more in-depth investigation of core concepts in their concurrent math course.

Corequisite: MATH 21, or MATH ~~22, or MATH 30~~ 34 , or MATH 39 ~~, or MATH 34~~ .

Course Grading: Pass/No Pass

Total Lecture Hours	0
Total Lab Hours	54
Total Inside of Class Hours	54
Total Outside of Class Hours	0
Total Noncredit Hours	54

Justification for course proposal

Discipline:

Mathematics

Number of Times Course May Be Taken for Credit:

Course Objectives:

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

A. Develop study skills and life skills that will improve the student's likelihood of succeeding in their academic goals, such as identifying his/her individual growth mindset and learning about brain research, personal time management, study skills, test taking and conquering math anxiety strategies, etc.
B. Use a problem solving process to read mathematical problems with understanding, identify relevant information, define variables, execute relevant procedures and interpret results in the context of the problem.
C. Apply relevant prerequisite math concepts at a higher level.
D. Organize and justify their mathematical thinking on relevant math problems.
E. Use effective strategies to monitor their own understanding of math concepts.
F. Use learning strategies to identify and communicate in their own words key mathematical concepts.

Course Content:

1. Learn appropriate skills necessary to become more productive, successful and independent learners.
    1. Students will engage in metacognitive activities around new math concepts.
    2. Students will participate in Growth Mindset, Brain Research and learning skills activities.
    3. Students will learn about free resources available on campus and on the internet to enhance their learning of mathematics.
    4. Students will actively participate in activities around topics such as time management, note-taking, study habits, test taking strategies and dealing with math anxiety.
2. Successfully solve context problems by learning how to:
    1. Read context problems with understanding
    2. Identify relevant information.
    3. Define variables.
    4. Execute relevant procedures.
    5. Interpret results in the context of the problem.
3. Review Algebraic and Geometric concepts and practice completing many math problems.
4. Read mathematical text for understanding.
    1. Make a skeleton outline of material covered in the class and textbook.
    2. Highlight important facts in the material or textbook.
5. Learn and apply effective strategies to monitor understanding.
    1. Create summary sheets and/or practice exams before assessments.
    2. Correct any assessments and practice explaining the concepts to someone else.
6. Practice organizing their thinking and justifying each mathematical steps while simplifying or solving math problems.
7. Regular small group workshops will focus on identifying and mastering key mathematical learning objectives.

1. Students will learn how to communicate their thinking on math problems.
2. Students will learn how to synthesize big ideas in the material.

Methods of Instruction:

1. Discussion - Instructor should allow time during workshops to discuss what main algebraic and geometric concepts were covered in their math course, what the big ideas are, citing their classroom notes and mathematical textbook for evidence.
2. Demonstration - Instructor should model examples of what a mathematician should do when approaching the math content. Students should then practice applying those strategies to additional problems.
3. Directed Study - Class will spend time in directed math content activities, with students practicing applying concepts individually, in workshops, or in small groups.
4. Lecture - Lecture will only be in small, relevant amounts, with specific skills-building goal in mind and time left for students to practice applying the demonstrated skill described.
5. Individualized Instruction - Instructor will provide individualized instruction as often as possible.
6. Audio-visual Activity - Personalized learning supports and practice on prerequisite material.

Typical Outside-of-Class Assignments

A. Other:
    1. Attend three Smart Shops based on their independent learning needs
    2. Homework - students will be encouraged to continue work outside of class each day towards the following:
        1. Mastery of key mathematical concepts
        2. Developing study and life skills that will improve the student's likelihood of succeeding in their academic and career goals.

B. Laboratory:
    1. Workshops: Review of relevant basic and secondary education prerequisiste algebraic and geometric concepts, and more in-depth investigation of core concepts in their concurrent math course.
        1. Students will regularly participate in workshops
        2. Students will then complete worksheets on the material to test for understanding.
    2. Students will read, watch videos, practice problems, and study material based on their personalized learning goals.
    3. Work independently and in collaboration with other students, supported by the instructor and/or tutors to master the math concepts.
    4. Complete assignments around such topics as Growth Mindset, Brain Research, Financial Aid, Time Management skills, Test Taking Strategies, Career Development, and dealing with Math Anxiety.
    5. Monitor their progress in their concurrent math course by utilizing study skills learned such as correcting graded assignments, practicing time management, etc.

Methods of Evaluating Student Progress

A. Class Participation
    1. Attendance will be recorded hourly

B. Class Work
    1. Regular assignments and workshops on learning skills and mastery of relevant mathematical concepts

C. Home Work
    1. Students will monitor their progress under the supervision of instructors and/or tutors by completing daily homework

Student Learning Outcomes

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

A. Develop study skills and life skills that will improve the likelihood of succeeding in their academic goals, such as identifying individual growth mindset and learning about brain research, personal time management, study skills, test taking and conquering math anxiety strategies, etc.
B. Identify challenging mathematics topics and be able to communicate in writing the correct strategies and processes for solving relevant mathematics problems.
C. Read mathematical writing with understanding and use this skill as preparation to solve relevant mathematics problems.
D. Utilize online and other technological resources effectively to enhance their understanding of a mathematics topic.

Textbooks (Typical):

OER:

1. Dave Dillon *Blueprint for Success in College - Indispensable Study Skills and Time Management Strategies.* current /e, LibreTexts, 2024. https://socialsci.libretexts.org/Bookshelves/Counseling_and_Guidance/Blueprint_for_Success_in_College_-_Indispensable_Study_Skills_and_Time_Management_Strategies_(Dillon).
,
2. Jennifer Freidenreich *Corequisite Companion to Precalculus.* current /e, LibreTexts, 2024. https://commons.libretexts.org/book/math-83105.
,
3. Katherine Skelton *Corequisite Precalculus.* current /e, LibreTexts, 2024. https://math.libretexts.org/Courses/Highline_College/MATH_141%3A_Precalculus_I_(2nd_Edition).

Other Materials Required of Students

Other Materials Required of Students:

1. Access to a computer and internet.

Equity Based Curriculum

- Course Content
  Address
  Each of the math topics includes a look at applications to the real world. It is an important component of this course that students understand how the material matters to them in their daily life, career and industry, as well as how it will be used in their future studies. We will have opportunities to celebrate the diversity of mathematicians and scientists, in ethnicity, gender identification, and age in this course.
- Methods of Instruction
  Address
  We deliver the material in a variety of ways in order to accommodate a range of different learning styles. This course can be offered in-person or online. Students will learn the material through study groups, interactive assignments, and individually.
- Assignments

Address
Assignments will include students learning about themselves as math students and learners to support students holistically. Exploration of Careers and Academic Pathways is also included. Math support assignments will include real-world problems so students can see how the material relates to their personal lives and links to career and industry.

- Typical Texts
  Address
  Free, open-source course materials are used in this course.

Requisite Skills

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Online with the Flexible In-Person Component (OFI)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
Offering this course via online instruction will increase access to this learning support, allow working students the flexibility they need to participate in this concurrent support while continuing to work. This concurrent support course is designed to offer students personalized instruction to help them be successful in their concurrently enrolled math class. Students will be given a rigorous assessments that will ensure that their experience is focused and personalized. Online software and instructor supports will be available to students to support their math learning goals from anywhere.

Explain how the decision was made to offer this course in a Distance Education mode.
The decision was made to offer this course as both face-to-face and online by experienced math faculty, used to teaching Hybrid and Online courses. In addition, from anecdotal observation from similar classes, such as Math Jam, students would cumulatively miss hours of the course due to work schedules but were able to successfully make up the time and material missed in class using the online material from home.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: Weekly email will be an essential means of communication between student and instructor in a hybrid course. The instructor will use it to make announcements, answer individual questions, form groups, send reminders for tests, etc.
- **Discussion board:** *The instructor will regularly participate in discussions that deal with academic content, will consistently provide substantive feedback, and will facilitate all discussions.*
  Frequency: Bi-monthly class discussion Board will be utilized for introductions, recommending websites, and other student-instructor interactions. One of the more common uses of the Discussion Board will be instructor posted responses to students' questions on group work, homework, etc. For example, a math question such as "Your friend is struggling with answering the following math problem… Please describe how you would help them understand how to approach the problem and describe each step to solve." Instructors would then read each students' response and provide personalized feedback as well as students to student feedback.
- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Within a week, instructors will provide regular substantive and academic feedback to students on assignments and assessments. Rubrics will be used for grading all assignments.
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Weekly announcements will be posted on the announcements page in Canvas. Any important announcements will also be emailed to the entire class.
- **Chat:** *The instructor will use chat to interact with students, textually and/or graphically, in realtime.*
  Frequency: Daily chat will be utilized. An appropriate web-conferencing tool, such as Conferzoom, will be utilized to help give individual assistance to students. The instructor and tutors will hold virtual help sessions and use it to go through problems in a step by step fashion.

Student-Student Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*

Frequency: Daily, students will use this to set up and work with study groups and ask/answer any student-to-student questions. Students will also complete group assignments and post them in the Discussion Board. They will be responsible for answering questions on their assignments in the Discussion Board and responding to other student's posts. For example, an instructor assignment may be to post three sample questions from the chapter as part of a review and then post three responses to other student posted questions. Instructors would then read each students' response and provide personalized feedback as well as students to student feedback.

- **Group work:** *Students will work in teams to complete group projects. The projects will then be shared with the rest of the class.*
  Frequency: Daily students will work in groups both in-class and online (via Discussion Board and email). Group work may include projects, presentations, and reading assignments. Study groups for exams will be encouraged.
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: Daily appropriate webconferencing tool, such as Conferzoom, will be utilized to help give individual assistance to students. The Chatroom and virtual classroom may be used by students to ask/answer questions, critique group assignments (as directed by the instructor), and get help from one another.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: Monthly students will use this to introduce themselves to each other, and ask/answer any student-to-student questions. A typical classroom discussion prompt will be "What strategies can you use during the semester when you get stuck on a math problem?" or "Your friend is struggling with answering the following math problem… Please describe how you would help them understand how to approach the problem and describe each step to solve." Instructors would then read each students' response and provide personalized feedback as well as students to student feedback. Other parts of the Discussion board will be used for group projects, and any important instructor posted responses to questions.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: Daily video mini-lectures targeting core concepts or skills may be assigned or recommended for viewing prior to class, to prepare students for the new content to be learned or explored in class.

General Education/Transfer Request

General Education/Transfer Request

Codes and Dates

Course CB Codes

CB00: State ID
CCC000602614

CB03: TOP Code
170200 - Mathematics Skills

CIP Code

27.0301 - Applied Mathematics, General.

CB04: Credit Status
N - Non Credit

CB05: Transfer Status
C - Not transferable

CB08: Basic Skills Status
B - Basic Skills

CB09: SAM Code
E - Non-Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
A - One level below transfer

CB22: Non Credit Course Category
C - Elementary and Secondary Basic Skills

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

LAS POSITAS COLLEGE

Course Modification: NMAT 255C - Concurrent Support for Intermediate Algebra

Course Modification: NMAT 255C - Concurrent Support for Intermediate Algebra (Launched - Implemented 09-22-2025)
compared with
NMAT 255C - Concurrent Support for Intermediate Algebra (Active - Implemented 08-15-2019)

Admin Outline for Noncredit Mathematics 255C
Concurrent Support for Intermediate Algebra

Effective: Fall ~~2019~~ 2026

Catalog Description:

NMAT 255C - Concurrent Support for Intermediate Algebra
54 Hours

This course is concurrent support for Intermediate Algebra. The course is designed to provide additional, formal support to students who are currently taking an Intermediate Algebra. It includes a review of arithmetic, algebraic and geometric concepts that are relevant to their Intermediate Algebra course, study strategies that promote understanding and improve performance, and more in-depth investigation of core concepts that are difficult for students to master. Embedded are learning skills such as growth mindset, brain research, time management, study skills, test taking, math anxiety and more.

Corequisite: MATH 55 , ~~This~~ or ~~is~~ NMAT ~~a~~ 255 These are one-way ~~corequisite for MATH 55~~ corequisites . Everyone taking this ~~NMAT~~ MATH ~~255C~~ 55C concurrent support course must be taking a MATH 55 class ~~concurrently. However, not everyone taking Math 55 would have to take this NMAT 255C concurrent support course. ,~~ or ~~NMAT 255 This is a one-way corequisite for NMAT 255. Everyone taking this NMAT 255C concurrent support course must be taking a~~ an NMAT 255 class concurrently. However, ~~not~~ a ~~everyone~~ student ~~taking~~ enrolled in a MATH 55 class or an NMAT 255 ~~would~~ class ~~have~~ is not required to take this ~~NMAT 255C concurrent support course. , or~~ MATH ~~50 This is a one-way corequisite for MATH 50. Everyone taking this NMAT 255C concurrent support course must be taking a Math 50 class concurrently. However, not everyone taking MATH 50 would have to take this NMAT 255C concurrent support course. , or NMAT 250 This is a one-way corequisite for NMAT 250. Everyone taking this NMAT 255C concurrent support course must be taking a NMAT 250 class concurrently. However, not everyone taking NMAT 250 would have to take this NMAT 255C~~ 55C concurrent support course.

Course Grading: Pass/No Pass

Total Lecture Hours	0
Total Lab Hours	54
Total Inside of Class Hours	54
Total Outside of Class Hours	0
Total Noncredit Hours	54

Justification for course proposal

Discipline:

Mathematics-Basic Skills: Noncredit

Number of Times Course May Be Taken for Credit:

Course Objectives:

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

A. Use learning strategies to identify and communicate in their own words the key concepts of Intermediate Algebra.
B. Use effective strategies to read mathematical text for understanding.
C. Organize and justify their mathematical thinking on Intermediate Algebra problems.
D. Apply Intermediate Algebra concepts at a higher level.
E. Use problem solving process to read mathematical problems with understanding, identify relevant information, define variables, execute relevant procedures and interpret results in the context of the problem.
F. Develop study skills and life skills that will improve the student's likelihood of succeeding in their academic goals, such as identifying his/her individual growth mindset, brain research, and learn personal time management, study skills, test taking and conquering math anxiety strategies, etc.

Course Content:

1. Regular classroom and small group discussion will focus on identifying and communicating what learning objectives were covered in their Intermediate Algebra class.

    1. Students will learn note-taking skills and refer to the notes for understanding.
    2. Students will learn how to synthesize big ideas in the material.
    3. Students will identify examples or problems that are relevant to the learning objectives.

2. Practice organizing their thinking and justifying each mathematical steps while simplifying or solving Intermediate Algebra problems.
3. Read mathematical text for understanding.

1. Make a skeleton outline of material covered in the class and textbook.
2. Highlight important facts in the material or textbook.

4. Review Intermediate Algebra concepts and practice completing many Intermediate Algebra problems.
5. Successfully solve Intermediate Algebra context problems by learning how to:
    1. Read context problems with understanding
    2. Identify relevant information.
    3. Define variables.
    4. Execute relevant procedures.
    5. Interpret results in the context of the problem.
6. Learn appropriate skills necessary to become more productive, successful and independent learners.
    1. Students will engage in metacognitive discussions around new math concepts.
    2. Students will participate in Growth Mindset, Brain Research and learning skills discussions.
    3. Students will learn about free resources available on campus and on the internet to enhance their learning of mathematics.
    4. Students will actively participate in classroom discussions around topics such as time management, note-taking, study habits, test taking strategies and dealing with math anxiety.

Methods of Instruction:

1. Discussion - Instructor should allow regular time to discuss what main Intermediate Algebra concepts were covered in their Math 55 course, what the big ideas are, citing their classroom notes and mathematical textbook for evidence.
2. Audio-visual Activity - Personalized learning supports and practice on prerequisite material.
3. Lecture - Lecture will only be in small, relevant amounts, with specific skills-building goal in mind and time left for students to practice applying the demonstrated skill described.
4. Individualized Instruction - Instructor will provide individualized instruction as often as possible.
5. Demonstration - Instructor should model examples of what a mathematician should do when approaching the Intermediate Algebra content. Students should then practice applying those strategies to additional problems.
6. Directed Study - Class will spend time in directed Intermediate Algebra content discussions, with students practicing applying concepts individually or in small groups.

Typical Outside-of-Class Assignments

A. ~~Other~~ Laboratory :
    1. ~~In Class Discussions~~ Students work collaboratively on applying math concepts from Intermediate Algebra. Sample assignment: Given the key concepts discussed in Intermediate Algebra this week, what are some relevant real-world applications?
        1. ~~Read from the text each section covered in the Intermediate Algebra class that week. Create a skeleton outline of material covered in the textbook. Identify the key concepts covered in these sections. Discuss what these concepts entail and practice applying them to problems.~~
        2. ~~Learn appropriate skills necessary to become more productive, successful and independent learners by discussing and completing assignments on leading research around growth mindset, learning, study skills, test preparation, math anxiety, etc.~~ Discuss leading research around growth mindset, learning, study skills, test preparation, math anxiety, etc.

B. ~~In Class Collaborations~~
Reading:
Read from the text each section covered in the Intermediate Algebra class that week. Create a skeleton outline of material covered in the textbook. Identify the key concepts covered in these sections. Discuss what these concepts entail and practice applying them to problems.
    1. ~~Students work collaboratively on applying math concepts from Intermediate Algebra. Sample learning assignment: Given the key concepts discussed in Intermediate Algebra this week, what are relevant real-world applications? Work collaboratively on problem solving method to set up, solve, communicate the problem solving strategy and solution.~~

Methods of Evaluating Student Progress

A. Class Participation

~~1. Class will spend time in directed Intermediate Algebra content discussions, with students practicing applying concepts individually or in small groups.~~

1. Class will spend time every meeting in directed Intermediate Algebra content discussions, with students practicing applying concepts individually or in small groups.

B. Class Work
   1. Daily learning tasks will be assigned.

C. ~~Home Work~~

~~1. Homework will be personalized to the student's individual learning needs.~~

D. Quizzes

~~1. Frequent quizzes will be given to assess understanding of prerequisite and concurrent concepts.~~

1. Weekly quizzes will be given to assess understanding of prerequisite and concurrent concepts.

E. Simulation

~~1. Computer simulation of mathematical concepts will be assigned.~~

1. Computer simulation of mathematical concepts will be assigned monthly

Student Learning Outcomes

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

A. ~~organize~~ Organize and justify their mathematical thinking on Intermediate Algebra problems.
B. ~~use~~ Use a problem-solving process to read mathematical problems with understanding, identify relevant information, define variables, execute relevant procedures and interpret results in the context of the problem.
C. ~~use~~ Use effective strategies to read mathematical text for understanding.
D. ~~use~~ Use learning strategies to identify and communicate in their own words the key concepts of Intermediate Algebra.
E. ~~develop~~ Develop study skills and life skills that will improve the student's likelihood of succeeding ~~intheir~~ in their academic goals (such as time management, study skills, identifying his/her individual growth mindset, brain research on learning).

Textbooks (Typical):

OER:

1. Amy Baldwin *College Success.* 1 /e, OpenStax, 2020, https://openstax.org/books/college-success/pages/1-introduction.

Textbook:

1. Paul D Nolting *Math Study Skills Workbook.* 5 ed., Cengage, 2016.
2. Lynn Marecek Marecek, MaryAnne Anthony-Smith *Strategies For Success: Study Skills for the College Math Student.* 2nd ed., Pearson Publishing, 2014.
3. ~~Paul Nolting *Math Study Skills Workbook.* 5 ed., Cengage, 2016.~~
4. ~~Gary K Rockswold, Terry A Krieger *Beginning and Intermediate Algebra with Applications & Visualization.* 3rd ed., Pearson, 2016.~~

Other Materials Required of Students

Other Materials Required of Students:

1. Free calculator apps are allowed, or class set of calculators are loaned.

Equity Based Curriculum

- Course Content
  Address
  Course covers best practices for learning any content, as well as mathematics specifically, so it is translatable to other subjects.
- Methods of Evaluation
  Address
  There will be a mix of ways for students to receive feedback on their understanding of the material, including homework, class work, quizzes, lab activities and exams. That way students will have multiple opportunities for feedback and assessment.
- Typical Texts
  Address
  Free, open-source course materials have been developed and are available for offerings of this course.
- Other Materials Required of Students
  Address
  Free calculator apps are allowed, or class set of calculators are loaned

Requisite Skills

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Online with the Flexible In-Person Component (OFI)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.

This course is similar in scope to our existing NMAT 200C courses, which have an approved DE component. Offering this course via online instruction will increase access to this learning support, allow working students the flexibility they need to participate in this concurrent support while continuing to work. This concurrent support course is designed to offer students personalized instruction to help them be successful in their concurrently enrolled math class. Students will be given a rigorous assessments that will ensure that their experience is focused and personalized. Online software and instructor supports will be available to students to support their math learning goals from anywhere.

Explain how the decision was made to offer this course in a Distance Education mode.

~~This concurrent support course is designed to offer students personalized instruction to help them be successful in their concurrently enrolled math class. Students will be given a rigorous assessments that will ensure that their experience is focused and personalized. Online software and instructor supports will be available to students to support their math learning goals from anywhere. Offering this course via web-hybrid (and possible future online only due to OEI interest) instruction will increase access to this learning support, allow working students the flexibility they need to participate in this concurrent support while continuing to work. The decision was made to offer this course as Web-Hybrid (or future DE online only if part of the OEI) by experienced math faculty, used to teaching Hybrid and Online courses. In addition, from anecdotal observation from similar classes, such as Math Jam, students would cumulatively miss hours of the course due to work schedules but were able to successfully make up the time and material missed in class using the online material from home.~~

The decision was made to offer this course as both face-to-face and online by experienced math faculty, used to teaching Hybrid and Online courses. In addition, from anecdotal observation from similar classes, such as Math Jam, students would cumulatively miss hours of the course due to work schedules but were able to successfully make up the time and material missed in class using the online material from home.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: ~~Email~~ Weekly email will be an essential means of communication between student and instructor in a hybrid course. The instructor will use it to make announcements, answer individual questions, form groups, send reminders for tests, etc.
- **Discussion board:** *The instructor will regularly participate in discussions that deal with academic content, will consistently provide substantive feedback, and will facilitate all discussions.*
  Frequency: ~~The~~ Bi-monthly ~~Class~~ class discussion Board will be utilized for introductions, recommending websites, and other student-instructor interactions. One of the more common uses of the Discussion Board will be instructor posted responses to students' questions on group work, homework, etc. For example, a math question such as "Your friend is struggling with answering the following math problem… Please describe how you would help them understand how to approach the problem and describe each step to solve." Instructors would then read each students' response and provide personalized feedback as well as students to student feedback.
- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Within a week, instructors will provide regular substantive and academic feedback to students on assignments and assessments. Rubrics will be used for grading all assignments.
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*

Frequency: ~~Any important~~ Weekly announcements will be posted on the announcements page in Canvas. Any important announcements will also be emailed to the entire class.

- **Chat:** *The instructor will use chat to interact with students, textually and/or graphically, in realtime.*
  Frequency: Daily chat will be utilized. An appropriate ~~webconferencing~~ web-conferencing tool , such as Conferzoom , will be utilized to help give individual assistance to students. The instructor and tutors will hold virtual help sessions and use it to go through problems in a step by step fashion.

Student-Student Interaction

- ~~**Email:** - *Students will be encouraged to email each other to ask questions about the course, including assignments.*~~
  ~~**Frequency:** - Student-to-student email will mostly be used by groups needing to communicate about collaborative assignments. Students may communicate about homework, exam study groups, etc. at their own comfort level~~
- ~~-~~ **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: ~~Students~~ Daily, students will use this to set up and work with study groups and ask/answer any student-to-student questions. Students will also complete group assignments and post them in the Discussion Board. They will be responsible for answering questions on their assignments in the Discussion Board and responding to other student's posts. For example, an instructor assignment may be to post three sample questions from the chapter as part of a review and then post three responses to other student posted questions. Instructors would then read each students' response and provide personalized feedback as well as students to student feedback .
- **Group work:** *Students will work in teams to complete group projects. The projects will then be shared with the rest of the class.*
  Frequency: ~~Students~~ Daily students will work in groups both in-class and online (via Discussion Board and email). Group work may include projects, presentations, and reading assignments. Study groups for exams will be encouraged.
- **Chat:** *Students will use the class chatroom to discuss assignments and course material in realtime.*
  Frequency: ~~An~~ Daily appropriate webconferencing tool , such as Conferzoom , will be utilized to help give individual assistance to students. The Chatroom and virtual classroom may be used by students to ask/answer questions, critique group assignments (as directed by the instructor), and get help from one another.
- **Other:**
  Frequency: Communicating about mathematics is a core component of this course. Students will be asked to explain their reasoning (via Discussion Board) and critique the reasoning of others (in a manner directed by the instructor).

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: ~~Students~~ Monthly students will use this to introduce themselves to each other, and ask/answer any student-to-student questions. A typical classroom discussion prompt will be "What strategies can you use during the semester when you get stuck on a math problem?" or "Your friend is struggling with answering the following math problem... Please describe how you would help them understand how to approach the problem and describe each step to solve." Instructors would then read each students' response and provide personalized feedback as well as students to student feedback. Other parts of the Discussion board will be used for group projects, and any important instructor posted responses to questions.
- **Group work:** *Students will collaborate in private groups to solve problems, become experts on certain topics, etc. They will then present their findings to the class.*
  Frequency: Working collaboratively is a key component of this course. Group work may be initiated in the classroom and completed on-line, utilizing Discussion Board, Chatroom, or email. Group work will be used to introduce concepts, explore key aspects of the content, practice skills, and prepare for exams. Students may self-select or be placed into a group by their instructor. Groups may be asked to present their work to the class. Groups may be working on the same exercises or each group may be given a different type of problem which they will solve and then present to the class, explaining/justifying their reasoning. Students will be encouraged to explore different ways of problem solving through group interaction. Groups may be asked to complete an assignment outside of class and then post their results on-line in the Class Discussion Board. The students would be asked to review and critique the posted results.
- ~~**Written papers:** - *Papers will be written on various topics.*~~
  ~~**Frequency:** - Many instructors use written assignments in their face-to-face courses to help students better understand their learning styles and the content. Written assignments may also be used to have students respond in a reflective to a video or reading assignment. In the proposed hybrid course, the same assignments could be given.~~
- ~~-~~ **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: ~~Short on-line quizzes may be used to test students understanding of core concepts/processes/skills assigned by way of reading or homework sets. For example, students may be assigned a reading or video and then asked a few questions about what they have read/seen.~~
- ~~-~~ ~~**Practice quizzes, tests/exams:** - *Practice*~~ *Weekly quizzes will be given* ~~*periodically throughout the course so students will be able*~~ *to* ~~*gauge their*~~ *assess understanding of* ~~*the*~~ *prerequisite* ~~*content.*~~
  ~~**Frequency:**~~ **and concurrent** ~~**Prior to each in-class exam, there will be a practice exam study guide available to help the students prepare for the test. the solutions key to each practice exam will be posted so that students can check their work. Students may be required to turn in their completed practice exams on the day of the in-class exam**~~ **concepts .**
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: Daily video mini-lectures targeting core concepts or skills may be assigned or recommended for viewing prior to class, to prepare students for the new content to be learned or explored in class ~~**.**~~
- ~~- **Simulations:** - *Simulations will be used by students so they can participate in and learn from processes.*~~
  ~~**Frequency:** - **Interactive eManipulatives will be used to illustrate core concepts such as domain and range. These will be highly recommended, but need not be required .**~~

General Education/Transfer Request

General Education/Transfer Request

Codes and Dates

Course CB Codes

CB00: State ID
CCC000602621

CB03: TOP Code
170200 - Mathematics Skills

CIP Code

27.0301 - Applied Mathematics, General.

CB04: Credit Status
N - Non Credit

CB05: Transfer Status
C - Not transferable

CB08: Basic Skills Status
B - Basic Skills

CB09: SAM Code
E - Non-Occupational

CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status
N - Course is not a special class.

CB21: Course Prior to College
B - Two levels below transfer

CB22: Non Credit Course Category
C - Elementary and Secondary Basic Skills

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

LAS POSITAS COLLEGE

Course Modification: ANTH C1001 - Introduction to Biological Anthropology

Course Modification: ANTH C1001 - Introduction to Biological Anthropology (Launched - Implemented 10-06-2025)
compared with
ANTR 1 - Biological Anthropology (Active - Implemented 08-15-2025)

Admin Outline for Anthropology ~~1~~ C1001
Introduction to Biological Anthropology
Effective: Fall ~~2025~~ 2027

Catalog Description:

~~ANTR~~ ANTH ~~1~~ C1001 - Introduction to Biological Anthropology
3.00 Units

In this course, students examine human origins, evolution, and variation with a focus on the adaptations of humans and other primates. Biological evolution and scientific methods are foundations for the course. This course introduces the concepts, methods of inquiry, and scientific explanations for biological evolution and their application to the human species. Issues and topics will include, but are not limited to, genetics, evolutionary theory, human variation and biocultural adaptations, comparative primate anatomy and behavior, and the fossil evidence for human evolution ~~. The scientific method serves as the foundation of the course~~ .
3 Units Lecture

Recommended Course Preparation: Eligibility for ENGL C1000

Course Grading: Optional

Lecture Hours	54
Inside of Class Hours	54
Outside of Class Hours	108

Justification for course proposal

Discipline:

Anthropology

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

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

A. ~~Describe~~ Demonstrate an understanding of the scientific ~~process~~ method ~~as~~ and ~~a~~ an ~~methodology~~ ability to interpret data to arrive at reasoned conclusions.
B. Identify the principles of human inheritance, molecular biology, genetics, and evolutionary processes from the perspective of biological anthropology.
C. Identify the biological and cultural factors responsible for ~~understanding~~ human ~~the~~ variation.
D. Identify ~~natural~~ and ~~world~~ compare primate and hominin species in terms of their osteological, morphological, and/or behavioral adaptations .
E. Define the scope of anthropology and discuss the role of biological anthropology within the discipline.
F. Identify the main contributors to the development of evolutionary theory.
G. Explain the basic principles of Mendelian, molecular and population genetics.
H. Evaluate how the forces of evolution produce genetic and phenotypic change over time.
I. Demonstrate an understanding of classification, morphology and behavior of living primates.
J. Summarize methods used in interpreting the fossil record, including dating techniques.
K. Recognize the major groups of hominin fossils and describe alternate phylogenies for human evolution.
L. ~~Identify the biological and cultural factors responsible for human variation.~~
M. Deconstruct the biological concept of race.

Course Content:

1. ~~Nature~~ The nature of scientific inquiry and the scientific method
2. ~~Anthropological~~ The anthropological perspective
3. ~~History and development~~ Development of biological evolutionary thought
4. Molecular, Mendelian and population genetics
5. Mechanisms /forces of evolution
6. Comparative primate taxonomy, anatomy , and ~~behavior~~ behavioral ecology
7. The ~~nature of the~~ fossil record , ~~including~~ geologic time, and dating ~~techniques~~ methods
8. ~~Fossil~~ The fossil, archaeological, and genetic evidence of human evolution
9. Biocultural adaptations and modern human variation
10. ~~Deconstructing~~ Understanding ancestry, racism, and the ~~biological concept~~ invalidity of " biological race " in humans

Methods of Instruction:

1. Audio-visual Activity - Presentation of thematically appropriate audio-visual materials
2. Classroom Activity - Practice completing Punnet square exercises for discrete, co-dominant, and sex-linked traits.

3. Discussion - Facilitate relevant thematically guided peer-to-peer and/or class dialogs.
4. Lecture - Instructor provides a clearly understood presentation incorporating digital, written, audio, video, and/or tactile teaching resources.
5. Research - Presentation of published, academic, or professional research that includes methods, data, and/or conclusions.
6. Textbook reading assignments; additional Internet and/or print assignments

Typical Outside-of-Class Assignments

A. Writing:
   1. Explain and use examples Charles Darwin's theory of natural selection using relevant concepts including fitness and selective pressure.
B. Reading:
   1. Read " Racism, Not Race: Answers to Frequently Asked Questions " by Alan Goodman and Joseph L. Graves (2022) and summarize the argument against using "race" as a biological category.
   2. Read the textbook chapter on Mendelian genetics; using a Punnett Square diagram, map out the results of a union between two carriers for a recessive trait. What percentage of offspring would we expect not to show the recessive trait?

Methods of Evaluating Student Progress

A. Exams/Tests
   1. One to two midterms and final exam
B. Home Work
   1. Weekly readings and/or critical analysis of audio/visual content.
C. Papers
   1. Periodic short reflective essays.
D. Quizzes
   1. Periodic testing based upon textbook chapter content.
E. Examples of potential methods of evaluation used to observe or measure students' achievement of course outcomes and objectives could include, but are not limited to: assignments, quizzes, exams, projects, and academic writing. Methods of evaluation are at the discretion of local faculty.

Student Learning Outcomes

Upon the completion of this course, the student should be able to:
A. Deconstruct the biological concept of "race."
B. Describe and identify fossil hominid species.
C. Explain how natural selection works.

Textbooks (Typical):

OER:

1. Beth Shook, Lara B., Braff, Katie L., Nelson, Kelsie K., & Aguilera - , K. (Eds.) *Explorations: An Open Invitation to Biological Anthropology.* 2 2nd /e, Creative LibreTexts Commons / Attribution-NonCommercial American 4.0 Anthropological International License Association , 2023. https://explorations.americananthro.org/.

Textbook:

1. . *Texts can include, but are not limited to, the following:* .
2. Boyd, R., & Silk, J. *How Humans Evolved.* 10th ed., Norton, 2023.
3. Fuentes, A. *Biological Anthropology: Concepts and Connections.* 3rd ed., McGrawHill, 2019.
4. Clark, L. *Essentials of Biological Anthropology.* 6th ed., W.W. Norton, 2025.
5. Craig Stanford, John S. Allen, Susan C. Anton *Biological Anthropology: The Natural History of Humankind.* 5 ed., Pearson, 2024.
6. Clark Spencer Larsen. *Essentials of Biological Anthropology.* 6 ed., W.W. Norton, 2025.

Other Learning Materials:

1. This Textbook course choice uses an Open Educational Resource (OER) textbook that requires no cost to is the student discretion if of used faculty. in a digital format.

Other Materials Required of Students

Equity Based Curriculum

- Measurable Objectives
  Address
  Three measurable objectives focus on race: "Define the scope of anthropology and discuss the role of biological anthropology within the discipline, Identify the biological and cultural factors responsible for human variation, and Deconstruct the biological concept of race." These contextualize the main tenets of anthropology as multiculturalism, holism, and recognizing global diversity. It also recognizes its formative role in forming racial categories in the 1800s, and as a discipline led to have race redefined as culturally constructed and not biologically based. The American Association of Anthropology ethics statement conceptualizes our role a self reflective discipline critiquing ethnocentrism, advocating against racism, and being inclusive to a diverse range of interests.
- Course Content
  Address
  In a similar manner as the section on measurable objectives, the course content explicitly covers three areas where diversity, multi-culturalism, and race/ethnicity are focused upon: 1) Anthropological perspective, 9) Bio-cultural adaptations and modern human variation, 10) Deconstructing the biological concept of "race". More than a quarter of the course content focuses on how has race has no biological basis, in contrast, it is culturally constructed, in a constant process of change, and experienced and practiced in many forms globally. This content views racism is "a system of advantages and disadvantages based on race."
- Typical Texts
  Address
  All sections use an Open Educational Resource (OER) textbook that requires no cost to the student if used in a digital format.
- Library
  Address
  A hard copy of the textbook is available on Reserve Reading

Requisite Skills

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Online with the Flexible In-Person Component (OFI)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
As a social science course, all assignments and discussions can be handled equally as effectively online, as they can in a face-to-face setting. Students may benefit, however, from occasional face-to-face lectures and hands-on interaction with teaching materials.

Explain how the decision was made to offer this course in a Distance Education mode.
As Program Coordinator, I conferred with our adjunct Instructor of Record for the course who teach the various types of modalities; DE, hybrid, and in-person instruction. There is consensus and agreement to offer this course in a Distance Education mode.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: Monthly.
- **Discussion board:** *The instructor will regularly participate in discussions that deal with academic content, will consistently provide substantive feedback, and will facilitate all discussions.*
  Frequency: Every two weeks.
- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Every two weeks.
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Every two weeks.
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: Every two weeks.

Student-Student Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: Every two weeks.
- **Wikis:** *Students will use wikis to work collaboratively.*
  Frequency: Monthly.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: Every two weeks.
- **Written papers:** *Papers will be written on various topics.*
  Frequency: Once.
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: Monthly.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: Every two weeks.

General Education/Transfer Request

General Education/Transfer Request

Cal-GETC

- 4 - Social and Behavioral Sciences - Approved
- 5B - Biological Science - Approved

~~Chabot College GE~~

- ~~II. Natural Sciences~~
- ~~IV. Social and Behavioral Sciences~~

~~CSU GE~~

- ~~B2 - Life Science~~
- ~~D - Social Science~~

CSU Transfer

- Transfers to CSU - Approved

~~IGETC GE~~

- ~~4 - Social and Behavioral Sciences~~

Las Positas College GE

- 4 - Social and Behavioral Sciences - Approved
- 5 - Natural Sciences - Approved

UC Transfer

- Transfers to UC - Approved

C-ID: ANTH 110 - Approved

Codes and Dates

Course CB Codes

CB00: State ID

CCC000348365

CB03: TOP Code

220200 - Anthropology

CIP Code

CB04: Credit Status

D - Credit - Degree Applicable

CB05: Transfer Status

A - Transferable to both UC and CSU.

CB08: Basic Skills Status

N - Not Basic Skills

CB09: SAM Code

E - Non-Occupational

CB10: Cooperative Work Experience

N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status

N - Course is not a special class.

CB21: Course Prior to College

Y - Not applicable

CB22: Non Credit Course Category

Y - Not Applicable, Credit course

CB23: Funding Agency Category

Y - Not Applicable (funding not used to develop course)

CB24: Program Status

1 - Program Applicable

CB25: Course General Education Status

Y. Not Applicable

CB26: Course Support Course Status

N - Course is not a support course

CB27: Upper Division Status

LAS POSITAS COLLEGE

Course Modification: ANTH C1001L - Biological Anthropology Lab

Course Modification: ANTH C1001L - Biological Anthropology Lab (Launched - Implemented 10-06-2025)
compared with
ANTR 1L - Biological Anthropology Laboratory (Active - Implemented 08-15-2025)

Admin Outline for Anthropology ~~1L~~ C1001L
Biological Anthropology ~~Laboratory~~ Lab
Effective: Fall ~~2025~~ 2027

Catalog Description:

~~ANTR~~ ANTH ~~1L~~ C1001L - Biological Anthropology ~~Laboratory~~ Lab
1.00 Units

In this laboratory course, students investigate the anatomy, genetics, behavior, variation, and evolution of humans and other primates. Students apply the scientific method and use interactive exercises in this course supplement to the Introduction to Biological Anthropology lecture course. This laboratory course is offered as a supplement to Introduction to Biological Anthropology either taken concurrently or in a subsequent term. ~~Laboratory exercises are designed to introduce students to the scientific method and explore genetics, human variation, human and non-human primate anatomy and behavior, the primate/hominin fossil record and other resources to investigate processes that affect human evolution.~~
1 Units Lab

Corequisite: Successful completion of or concurrent enrollment in ANTH C1001. **Recommended Course Preparation:** Eligibility for ENGL C1000 ; - ~~**Prerequisite:** ANTR 1 with a minimum grade of C , may be taken concurrently~~

Course Grading: Optional

Lab Hours	54
Inside of Class Hours	54

Justification for course proposal

Discipline:

Anthropology

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

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

A. ~~Apply~~ Demonstrate an understanding of the scientific method and an ability to interpret data to arrive at reasoned conclusions.
B. Describe the principles of human inheritance, genetics, and evolutionary processes .
C. Identify ~~the~~ and ~~outcomes~~ compare primate and hominin species in terms of ~~evolutionary~~ their ~~processes~~ osteological, morphological, and/or behavioral adaptations .
D. Describe structure and function of DNA and RNA ~~.~~
E. ~~Demonstrate how human traits are inherited.~~
F. ~~Identify anatomical and behavioral features of non-human primates.~~
G. ~~Compare the morphology of primates and early hominins~~ .
H. Describe the biological and behavioral adaptations of the genus Homo.
I. Identify defining features of anatomically modern humans.

Course Content:

~~Content~~

Utilize laboratory activities related to lecture content in ANTH C1001. Laboratory activities will include but are not limited to;

1. ~~Identifying and implementing the scientific method~~ Identifying and implementing the scientific method
2. ~~Describing the mechanisms of natural selection & results of human variation~~ Investigation of cellular biology and DNA
3. ~~Illustrating cellular genetics and protein synthesis~~ Examination of the inheritance of human traits
4. ~~Demonstrating Mendelian inheritance with discrete, codominance, and sex-linked traits.~~ Exploration of evolutionary mechanisms
5. ~~Applying Hardy Weinberg equilibrium to recognize microevolution.~~ Investigation of human osteology and forensic anthropological methods
6. ~~Practice human skeletal anatomy with the appendicular skeleton~~ Comparative analysis of anatomical and behavioral traits of non-human primates
7. ~~Practice human skeletal anatomy with the axial skeleton~~ Comparative analysis of hominin fossils
8. ~~Demonstrate bio-archaeology and forensic anthropology technics to determine sex and stature.~~ Analysis of evidence for hominin evolution
9. ~~Define taxonomy and functional complexes with comparative anatomy~~ Investigation into human biological variation
10. ~~Classify and compare non-human primates~~ Illustrating cellular genetics and protein synthesis
11. ~~Calculate limb ratios to determine primate locomotion patterns~~ Demonstrating Mendelian inheritance with discrete, codominance, and sex-linked traits
12. ~~Categorize and contrast bipedal early hominins~~ Applying Hardy Weinberg equilibrium to recognize microevolution
13. ~~Compare and evaluate early members of the genus homo~~ Practice human skeletal anatomy with the appendicular skeleton

14. ~~Asses differences among archaic and modern homo~~ Practice human skeletal anatomy with the axial skeleton
15. ~~Develop cross cultural perspectives to address global climate change using the MIT - En roads climate simulator.~~ Demonstrate bio-archaeology and forensic anthropology techniques to determine sex and stature
16. Define taxonomy and functional complexes with comparative anatomy
17. Calculate limb ratios to determine primate locomotion patterns
18. Develop cross-cultural perspectives to address global climate change using the MIT - En roads climate simulator

Methods of Instruction:

1. Demonstration - Demonstrate laboratory methodology using quantitative and qualitive techniques, the proper use of measuring equipment, and rubrics for data collection.
2. Lecture - Instructor provides a brief clearly understood presentation incorporating digital, written, audio, video, and/or tactile teaching resources that will prepare students to complete an in-class lab assignment.
3. Audio-visual Activity - Presentation of thematically appropriate audio-visual materials.
4. Lab - Hands-on application of an exercise crafted to explore a specific learning outcome; it may include data collection, testing, identifying skeletal markers, comparing bone structures, evaluating functional bone features, and/or assessing outcomes.
5. Classroom Activity - Perform a coordinated laboratory exercise where the class as a whole moves through the material in unison.
6. Discussion - Facilitate relevant thematically guided peer-to-peer and/or class dialogs to present lab results, conclusions, and findings.

Typical Outside-of-Class Assignments

A. Other:
    1. Field Trip
        1. Individually organized field trips to local zoos for primate behavioral observations. Students would observe multiple primate species and write a summary. This would include the common and the scientific name for the species, characteristics that define its suborder, infraorder, and superfamily designation. What kind of habitat does the species geographically reside? What is the primate's body size, mode of locomotion? How many individuals were observed? What are their ages and sexes? Are they sexually dimorphic? Describe the behaviors you observe. Information is summarized using a primate observation chart.

B. Laboratory:
    1. Make a Punnett square to help you answer the following questions: Assume that you are heterozygous for a specific trait. If you have children with another heterozygote, what are their possible genotypes? What are their possible phenotypes? Use the letters R and r to represent the dominant and recessive allele. What are the possible genotypes and phenotypes for your children?
    2. Osteological analysis: Use the dental eruption chart to determine the age of these individuals (chart and photos or models of crania provided).
    3. Examine a number of mammal skeletons and determine what characteristics would you use to decide whether an individual was a primate or not? Features would include presence or absence of forward-facing eyes, opposable thumbs, cranial size, relatively size of olfactory bulbs, and mammary glands.
    4. Apply basic osteological techniques to identify the bone groups and main skeletal elements. Assess and separate each element in their anatomical position. Demonstrate bio-archaeology and forensic anthropology technics to determine sex and stature by measuring long bone lengths and using regression formulas.
    5. Using the artifact reproductions evaluate and assess lithic technology to determine thier use, function, and cultual adaptation. In what specific ways do Oldowan tools differ from Acheulian tools? What could Acheulian tools do that Oldowan tools could not?

Methods of Evaluating Student Progress

A. Exams/Tests
    1. Midterm and Final Practicum Examinations
B. Field Trips
    1. Once a semester.
C. Lab Activities
    1. Every 1 to 2 weeks.
D. Papers
    1. Once to two times a semester.
E. Quizzes
    1. At instructor's discretion.
F. Research Projects
    1. Once a semester.
G. Examples of potential methods of evaluation used to observe or measure students' achievement of course outcomes and objectives could include, but are not limited to: laboratory exercises, practica, quizzes, projects, and research demonstrations. Methods of evaluation are at the discretion of local faculty.

Student Learning Outcomes

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

A. Practice and apply understandings of the scientific method in a laboratory setting.
B. Critically analyze and interpret biological anthropological data to illustrate evolutionary trends.
C. Apply anthropological principles for solving human problems on the local, regional and world scales.

Textbooks (Typical):

OER:

1. ~~Beth~~ Texts can include, but are not limited to, the following: .
2. Shook, ~~Lara~~ B., Braff, ~~Katie~~ L., Nelson, ~~Kelsie~~ K., & Aguilera , K. (Eds.) *Explorations Biological Anthropology Lab and Activities Manual.* ~~1~~ 1st /e, LibreTexts / American Anthropological Association, 2019. .
3. Taylor-Hill, L. *Calculations and Palpations: An Open Invitation to Biological Anthropology Laboratory.* , CC BY NC SA, 2025. .

~~Textbook~~ Manual :

1. Soluri, K. E., & Agarwal, S. C.. Laboratory Manual and Workbook for Biological Anthropology. , Norton, 2019.

2. Hens, S.. Method and Practice in Biological Anthropology: A Workbook and Lab Manual for Introductory Courses . Pearson, 2021.
3. Walker-Pacheco, S.. Exploring Physical Anthropology: A Lab Manual and Workbook . Morton, .
4. . Locally developed lab manual. . , .
5. Elizabeth Soluri, Sabrina Agarwal . Laboratory manual and workbook for biological anthropology: Engaging with human evolution . 2 ed., W.W. Norton & Company, 2019.
6. ~~S~~

~~Walker-Pacheco~~ Other Exploring Learning physical anthropology Materials : A ~~lab~~

1. Textbook ~~manual~~ choice ~~and~~ is ~~workbook.~~ the ~~4~~ discretion ~~ed.,~~ of ~~Morton Publishing Company, 2022~~ faculty .

Other Materials Required of Students

Other Materials Required of Students:

1. ~~computer~~ Computer /Internet access at home or ability to access the LPC on-campus facilities.

Equity Based Curriculum

- Assignments
  Address
  Lab exercises are designed to be compatible with various learning styles with tactile and visual aspects emphasized.
- Methods of Evaluation
  Address
  Instructions for assignments are clear with well explained instructions and associated rubrics. Content that is covered in other disciplines is tested minimally, for example students are not penalized for grammar, sentence structure, and other writing conventions.
- Typical Texts
  Address
  All sections use an in-house created laboratory manual and lab exercises that requires no cost to the student. This includes on-line sections.

Requisite Skills

~~Before entering this course, it is required that a student be able to:~~

A. ~~ANTR 1~~

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Online with the Flexible In-Person Component (OFI)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
Anthropology currently offers the core of its courses in a DE format, the inclusion of ANTR 1L as DE significantly broadens opportunities for students to complete their GE: B3 and IGETC: 5C transfer requirements. This is one of our high demand courses and by offering it in a DE format, it would provide another significant avenue for our students to complete their academic goals. Other colleges currently offer this course in a fully DE format and could be a candidate for inclusion to the OEI network.

Explain how the decision was made to offer this course in a Distance Education mode.
As a program coordinator, I conferred with the adjunct instructors and with colleagues at other community colleges. This course has a online lab manual with Canvas based exercises. The exercises were recently reworked and are now more inline with our in-person courses. It has been successful from the point of view of the students and faculty when evaluated.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: Every two weeks.
- **Discussion board:** *The instructor will regularly participate in discussions that deal with academic content, will consistently provide substantive feedback, and will facilitate all discussions.*
  Frequency: Every two weeks.
- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Every two to three weeks.
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: Every two to three weeks.

Student-Student Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: Every two to three weeks.
- **Group work:** *Students will work in teams to complete group projects. The projects will then be shared with the rest of the class.*
  Frequency: Once to twice a semester.
- **Other:**
  Frequency: Laboratory exercises, at a frequency of every 1 to 2 weeks.

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: Every two to three weeks.
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: Practicum and or exams,

General Education/Transfer Request

General Education/Transfer Request
Cal-GETC
- 5C - Laboratory - Approved

CSU ~~GE~~

- ~~B3 - Science Lab~~

~~CSU~~ Transfer
- Transfers to CSU - Approved

~~IGETC GE~~

- ~~5C - Science Laboratory~~

UC Transfer
- Transfers to UC - Approved

C-ID: ANTH 115L - Approved

Codes and Dates

Course CB Codes
CB00: State ID
CCC000445523
CB03: TOP Code
220200 - Anthropology
CIP Code

45.0201 - Anthropology, General.

CB04: Credit Status
D - Credit - Degree Applicable
CB05: Transfer Status
A - Transferable to both UC and CSU.
CB08: Basic Skills Status
N - Not Basic Skills
CB09: SAM Code
E - Non-Occupational
CB10: Cooperative Work Experience
N - Is not part of a cooperative work experience education program.
CB11: Course Classification Status
CB13: Special Class Status
N - Course is not a special class.
CB21: Course Prior to College
Y - Not applicable

CB22: Non Credit Course Category
Y - Not Applicable, Credit course

CB23: Funding Agency Category
Y - Not Applicable (funding not used to develop course)

CB24: Program Status
1 - Program Applicable

CB25: Course General Education Status
Y. Not Applicable

CB26: Course Support Course Status
N - Course is not a support course

CB27: Upper Division Status

LAS POSITAS COLLEGE

Course Modification: BIOL C1000 - Introduction to Biology with Lab

Course Modification: BIOL C1000 - Introduction to Biology with Lab (Launched - Implemented 09-29-2025)
compared with
BIO 10 - Introduction to the Science of Biology (Active - Implemented 08-21-2024)

Admin Outline for ~~Biological~~ Biology ~~Sciences 10~~ C1000
Introduction to ~~the~~ Biology ~~Science~~ with ~~of Biology~~ Lab

Effective: Fall ~~2024~~ 2027

Catalog Description:

~~BIO~~ BIOL ~~10~~ C1000 - Introduction to ~~the~~ Biology ~~Science~~ with ~~of Biology~~ Lab
4.00 Units

This combined lecture and laboratory course ~~focuses~~ provides ~~on~~ the ~~basic~~ non-biology ~~principles~~ major with an introduction to living things and their environment. Students use experimentation and investigation to develop important critical thinking skills. Students learn about the process of ~~biology~~ science, ~~including~~ the ~~scientific~~ building ~~investigation~~ blocks of life, the role and regulation of DNA, how populations change over time, the ~~study~~ movement of energy within and between life forms, and how species interact with each other and their surroundings. By the end of the ~~nature~~ course, students will be able to apply an understanding of ~~living~~ biological ~~things.~~ concepts ~~Focus~~ to ~~is~~ current issues and their impacts on ~~student~~ society. Student will leave the course with an understanding of evolution and the unity and diversity of life from the molecular level to ecosystems and the biosphere ~~. Designed for non-majors in biology and biomedical sciences~~.
3 Units Lecture 1 Units Lab

Course Grading: Optional

Lecture Hours	54
Lab Hours	54
Inside of Class Hours	108
Outside of Class Hours	108

Justification for course proposal

Discipline:

Biological Sciences

Number of Times Course May Be Taken for Credit:

1

Course Objectives:

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

A. Apply the scientific method, including recognizing the elements of experimental design, gathering and analyzing data, and interpreting results.
B. Demonstrate scientific literacy by evaluating social, ethical, and equity issues connected to biological sciences.
C. Describe how living things are made of smaller structures that work together to enable the organism to survive.
D. Compare how living things depend on each other and the physical environment as they interact to obtain, change, and exchange matter and energy.
E. Explain how the diversity of living things is the result of evolution of organisms through mechanisms such as heredity, random change, and natural selection.
F. Collaborate on laboratory investigations of the biological content using appropriate, safe methods and equipment.
G. Describe the scientific method and how it is used by scientists to further scientific knowledge in biology.
H. Explain the characteristics exhibited by all living things.
I. Describe how a cell is structured, and explain how it functions in terms of cell membrane, genetic control mechanisms, and metabolism.
J. ~~List~~ Explain ~~the~~ structure-function ~~various~~ relationships ~~kinds~~ at ~~of~~ differing ~~specialized~~ scales, such as molecules, cells, ~~both plant and animal~~ tissues, ~~describe each~~ organs, ~~and state their functions~~
K. ~~Describe how a typical vertebrate animal develops from a fertilized egg to the adult form~~
L. ~~Describe the following vertebrate~~ or organ systems. ~~and list the principal functions of each: integumentary, skeletal, muscular, nervous, cardiovascular, respiratory, excretory, digestive, endocrine, reproductive~~
M. Describe asexual and sexual reproduction and the benefits and drawbacks of each.
N. Describe the modern (binomial) system of naming and classifying plants, animals and other organisms in the biosphere.
O. Describe ecological concepts such as biome, ecosystems, ~~succession~~ symbioses, ~~fire~~ nutrient ~~ecology~~ cycles, and biodiversity.
P. Describe major ~~environmental~~ threats ~~problems~~ to ~~facing the world~~ biodiversity and ~~know~~ potential solutions
Q. ~~Explain the concept of evolution through natural selection~~.
R. Use a compound microscope to examine specimens.

Course Content:

Lab:

1. Process of science and experimental design
    1. The scientific method

2. ~~The~~ Personal ~~microscope~~
3. ~~Microscopic~~ protective ~~study~~ equipment, care and safe use of ~~cells~~ laboratory equipment
4. Utilization of microscopy to visualize and identify cell structures
5. Cellular transport mechanisms
6. Energy cycling and metabolism
    1. Enzyme function
    2. Cell Respiration
7. Cell division
8. Genetics and inheritance
9. Diversity of life
    1. Animal Diversity
    2. Plant Diversity
10. Evolution
11. Ecology
12. pH and buffers
13. ~~Movement across membranes~~
14. ~~Enzyme function~~
15. ~~Cellular respiration~~
16. ~~Cell division~~
17. ~~Patterns of inheritance~~
18. ~~Natural selection~~
19. Selected organ systems (e.g. cardiovascular, ~~Cardiovascular~~ digestion, ~~Digestion~~ respiratory, ~~Respiratory, Skeletal~~ skeletal)
20. ~~Plants and/or photosynthesis~~
21. ~~Animal diversity~~

Lecture:

1. ~~Scientific~~ The scientific method
    1. ~~Definition~~
    2. ~~Origin~~
    3. ~~Applications~~
    4. ~~Limitations~~
    5. ~~Interdisciplinary~~ ~~relationships~~ and the process of science
        1. Definition
        2. ~~Science~~ Applications
        3. Limitations

6. Cellular ~~vs.~~ chemistry ~~pseudoscience~~ and biochemistry
    1. Atoms and bonding
    2. Properties of water
    3. Structure and function of biological molecules

7. Cell ~~theory of life~~
    1. ~~Historical development~~
    2. ~~Characteristics of living things~~
    3. ~~Cell organelles~~ structure and ~~functions~~ function
        1. Cells, membranes, and organelles
        2. Prokaryotes versus eukaryotes
        3. Transport across the cell membrane
        4. Differences between plant and animal cells

    4. ~~Viral~~ Cellular ~~agents~~ metabolism
        1. Enzyme structure and ~~prions~~ function

    5. ~~Plants and animals~~
        1. ~~Classification~~
        2. ~~Phylogeny~~
        3. ~~Cladistics~~
        4. ~~Morphology~~
        5. ~~Genetics~~

    6. ~~Metabolism~~
        1. Photosynthesis
        2. ~~Respiration~~ Cellular respiration
        3. ~~Autotrophic~~ Fermentation
        4. Autotrophs vs. ~~heterotrophic~~ heterotrophs
        5. ~~Enzymes~~
        6. Energy utilization
        7. Energy transfer

    7. ~~Control~~ Cellular ~~systems~~ division
        1. ~~Hormones~~ Prokaryotic binary fission
        2. ~~Neural~~ Eukaryotic ~~control~~ cell cycle
        3. ~~Genes~~ Eukaryotic asexual reproduction (mitosis)
        4. Eukaryotic sexual reproduction (meiosis)

5. Cancer

8. ~~Growth,~~ DNA ~~Development~~ structure and ~~Reproduction~~ function
    1. ~~Cell~~ DNA ~~cycle~~ replication
    2. ~~Cellular~~ Transcription ~~reproduction~~ and translation
    3. ~~Organismic~~ Regulation ~~reproduction~~ of gene expression
    4. ~~Organismic~~ The ~~development~~ impact of mutations
    5. ~~Cancer~~ The impact of biotechnology

9. ~~Heredity~~ Principles of heredity
    1. ~~History~~
    2. Mendelian genetics
    3. Non-Mendelian ~~inheritance~~ genetics
    4. Application to human genetics
    5. Population genetics

10. ~~Evolution~~ Principles of evolution
    1. ~~History~~ Evolutionary mechanisms
    2. Evolutionary evidence
    3. Speciation and ~~evidence~~ classification
    4. The ~~for~~ effect ~~evolution~~ of extinction
    5. Survey of biodiversity across Domains
    6. Phylogeny
    7. Genetic basis of evolution
    8. ~~Characteristics of evolution~~

11. ~~Origin and evolution of man~~

8. ~~Ecology and conservation~~
    1. ~~Ecology and conservation compared~~
    2. Principles of ecology
        1. Biosphere and biomes
        2. ~~Symbiosis~~ Population growth and regulation
        3. ~~Contemporary~~ Community ~~issues~~ interactions
        4. Flow of energy and matter in ~~conservation~~ ecosystems
        5. Human ~~of~~ interactions ~~natural~~ with ~~resources~~ the biosphere
        6. ~~Ecosystems~~ Conservation biology and ~~communities~~ sustainability
        7. ~~Trophic levels, food chains and food webs~~

8. ~~Invasive and endangered species~~

9. ~~Molecular Biology~~

    1. ~~DNA structure and replication~~
    2. ~~Gene Expression~~
    3. ~~Biotechnology~~

Methods of Instruction:

1. Field Trips -
2. Student Presentations -
3. Written Exercises -
4. Lecture -
5. Discussion -
6. Audio-visual Activity -
7. Lab -
8. Classroom Activity -

Typical Outside-of-Class Assignments

A. ~~Other~~ Writing :

1. Summarize the key concepts presented in the article "Sex Redefined" by Claire Ainsworth, published in Nature, Vol 518, 2015. Write a paragraph reflecting on your thoughts on the article.

B. Reading ~~, writing, and Discussion~~ :

1. Read the relevant pages in your textbook on how carbon moves through ecosystems . ~~and view the following YouTube short video~~ ~~https://www.youtube.com/watch?v=kxPwbhFeZSw~~ :

    1. Define and explain the following terms: - Carbon dioxide, bicarbonate, carbonate, carbon cycle, greenhouse effect, global climate change.
    2. Read the assigned article on genetically modified organisms. Summarize the arguments for and against the use of genetic engineering in agriculture.

B. ~~Bring~~ Project:

1. Choose a topic of your ~~write-ups~~ choice related to ~~class~~ biology. ~~and be prepared to answer questions during class discussion.~~

3. ~~Role playing~~

1. ~~Review~~ Search the ~~lecture~~ library ~~on~~ databases ~~blood~~ to find ~~cells~~ a minimum of 5 resources (books , ~~and~~ articles, ~~read~~ encyclopedia ~~the~~ entries, ~~corresponding~~ etc.) ~~pages~~ that ~~in the textbook.~~

    1. ~~Now find at least one reputable source~~ expand on the ~~Internet~~ topic. Summarize what you learn in a 10–15 minute PowerPoint presentation to ~~add~~ share ~~some~~ with ~~additional~~ the ~~information~~ class .
    2. ~~With your partner, do a 2 minute skit on "my life as a little red blood cell".~~

4. ~~Literature Review and Reading~~

1. ~~Read "Sex Redefined" by Claire Ainsworth, pulished in Nature, Vol 518, 2015.~~

    1. ~~Write down some of the key concepts and be prepared to discuss the paper in class.~~

Methods of Evaluating Student Progress

A. Exams/Tests
    1. 3 per semester
B. Group Projects
    1. 1 per semester
C. Home Work

~~1. Weekly~~

1. At the discretion of the instructor

D. Lab Activities

1. weekly

E. Oral Presentation
   1. 1 per semester
F. Papers

~~1. 2 per semester~~

1. 1 per semester

G. Quizzes
   1. 5 per semester
H. Examples of evaluation methods used to observe or measure students' achievement of course outcomes and objectives may include but are not limited to quizzes, exams, laboratory work, field journals, projects, research demonstrations, etc.
I. Methods of evaluation are at the discretion of local faculty.

Student Learning Outcomes

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

A. ~~Upon completion of BIO 10, students should be able to conduct~~ Conduct guided experiments in the laboratory and interpret the results of these investigations, - individually and/or in collaboration with other students.
B. ~~Upon completion of BIO 10, students should be able to explain~~ Explain and apply basic principles of ecology, cellular, evolutionary, and organismal biology.
C. ~~Upon completion of BIO 10, students should be able to properly~~ Properly manipulate a compound microscope and demonstrate knowledge of its parts and uses.
D. ~~Upon completion of BIO 10, the student will have~~ Have gained hands-on experience with and demonstrated proficiency in standard biological techniques, using - industry-level biology laboratory equipment and/or discipline-specific computer hardware and software.

Textbooks (Typical):

OER:

1. S. Fowler, J. Wise, & R. Roush *Concepts of Biology.* , OpenStax, 2024. https://openstax.org/details/books/concepts-biology.

Textbook:

1. Mariëlle Hoefnagels *Biology: The Essentials.* 4th ed., McGraw Hill, 2021.
2. Taylor, M., Simon, E., Dickey, J., & Reece J. *Campbell Essential Biology.* 7th ed., Pearson, 2020.
3. Martha R. Taylor, Eric J. Simon, Jean L. Dickey, Kelly A. Hogan, Jane B. Reece *Campbell Biology: Concepts & Connections.* 10th ed., Pearson, 2020.
4. Cecie Starr, Christine Evers, Lisa Starr *Biology: Concepts and Applications.* 10th ed., Brooks/Cole - Cengage Learning, 2018.
5. David Hillis, Mary Price, Richard Hill, David Hall, Marta Laskowski *Principles of Life.* 3 ed., Macmillan, 2022.

Manual:

1. Bres, M., & Weisshaar, A.. Thinking About Biology: An Introductory Lab Manual , Pearson, 2021.
2. Mader, S. Lab Manual for Inquiry into Life. McGraw Hill, 2023.
3. Jean L. Dickey. Laboratory Investigations for Biology. Pearson, 2003.

Other Materials Required of Students

Equity Based Curriculum

- Methods of Instruction
  Address
  Methods of instruction vary to support diversity in student learning styles such as lectures, discussions, field trips, projects, and multimedia presentations.
- Assignments
  Address
  A variety of assignments are used to support student learning such as readings, lab reports, word problems, and research papers.
- Methods of Evaluation
  Address
  Diverse methods of evaluation are employed such as exams, oral presentations, homework, and lab reports.

Requisite Skills

DE Proposal

Delivery Methods

- **Fully Online (FO)**
- **Online with the Flexible In-Person Component (OFI)**
- **Partially Online**

Rationale for DE

Explain why this course should be offered in Distance Education mode.
In discussion with fellow biology colleagues, we felt there must be a way to offer this course in case of an emergency (Fully Online) so that students could complete their General Education requirements and not prolong their academic career due to an emergency beyond their control.

Partially Online will be taught as lecture Online with face-to-face labs.
Explain how the decision was made to offer this course in a Distance Education mode.
The decision was made after discussion with colleagues, the STEM dean, and feedback from students.

Accessibility:

- Closed captioning for videos.
- Transcription for audio.
- Alt-text/ tags for images.
- Utilizing headers/styles for text formatting to make web pages accessible for screen readers.
- Utilizing headers/styles for text formatting to make Word, PowerPoint, PDF, etc. accessible for screen readers.
- Formatting and coding to make tables accessible for screen readers.
- Exploratory links.
- Proper color contrast.
- Modifying assignment time limits for students with accommodations.

Syllabus:

- Instructor response time.
- Grade turnaround time.
- Student participation.
- Instructor participation.
- Student rights and responsibilities.
- Student behavior in a DE course.
- Academic Integrity.

Course Objectives:

- The same standards of course quality identified in the course outline of record can be applied.
- The content identified in the course outline of record can be presented effectively and with the same degree of rigor.
- A student can achieve the same goals and objectives identified in the course outline of record.
- The same assignments in the course outline of record can be completed by the student and graded by the instructor.
- The same assessments and level of student accountability can be achieved.

DE Course Interaction

Instructor-Student Interaction

- **Email:** *The instructor will initiate interaction with students to determine that they are accessing and comprehending course material and are participating regularly in course activities.*
  Frequency: ~~Each~~ as ~~student will be emailed a minimum of once every two weeks.~~ needed
- **Feedback on assignments:** *The instructor will provide regular substantive, academic feedback to students on assignments and assessments. Students will know the reason for the grade they received and what they can do to improve.*
  Frequency: Feedback on a minimum of two assignments or assessments each semester.
- **Announcements:** *Regular announcements that are academic in nature will be posted to the class.*
  Frequency: 1 per week.
- **Web conferencing:** *The instructor will use web conferencing to interact with students in real time.*
  Frequency: ~~1~~ At ~~per~~ the ~~week.~~ discretion of the instru
- **Face-to-face meetings (partially online courses only):** *Students will come to campus during face-to-face sessions (office hours, etc.) to discuss any facet of the course.*
  Frequency: A minimum of 8 in-person labs.

Student-Student Interaction

- ~~- **Email:** - *Students will be encouraged to email each other to ask questions about the course, including assignments.*~~
  ~~**Frequency:** - Weekly.~~
- **Class discussion board:** *Students will post to the discussion board, answering questions posed by the instructor. They will also reply to each other's postings.*
  Frequency: A minimum of two per semester.
- **Group work:** *Students will work in teams to complete group projects. The projects will then be shared with the rest of the class.*
  Frequency: 1 per semester.
- ~~**Web conferencing**~~ **Chat :** *Students will ~~interact~~ use ~~in~~ the ~~real~~ class ~~time with each other~~ chatroom to discuss ~~coursework~~ assignments and ~~assignments~~ course material in realtime .*
  Frequency: ~~2~~ as ~~per semester to discuss group work.~~ needed

Student-Content Interaction

- **Class discussion board:** *Students will post to the discussion board, answering questions on course content posed by the instructor.*
  Frequency: 2 per semester.
- **Group work:** *Students will collaborate in private groups to solve problems, become experts on certain topics, etc. They will then present their findings to the class.*
  Frequency: 1 per semester.
- **Written papers:** *Papers will be written on various topics.*
  Frequency: 1 per semester.
- **Quizzes, tests/exams:** *Quizzes will be used to make sure students completed assigned material and understood it.*
  Frequency: Minimum of 2 midterm exams and one comprehensive final exam.
- **Lecture:** *Students will attend or access synchronous or asynchronous lectures on course content.*
  Frequency: ~~2 per week (synchronous or asynchronous).~~ weekly
- ~~**Other**~~ **Projects :** *Students will complete projects that demonstrate their mastery of outcomes of the course.*
  Frequency: 1 per semester ~~:~~
- **Other:**
  Frequency: Homework: Weekly.

General Education/Transfer Request

General Education/Transfer Request

~~Chabot College GE~~ Cal-GETC

- ~~II.~~ 5B ~~Natural~~ - ~~Sciences~~ Biological Science - Approved

- 5C - Laboratory - Approved

CSU Transfer

- Transfers to CSU - Approved

~~IGETC~~ Las Positas College GE

- ~~5B~~ 5 - ~~Biological~~ Natural Sciences - Approved

UC Transfer

- Transfers to UC - Approved

Codes and Dates

Course CB Codes

CB00: State ID

CCC000355623

CB03: TOP Code

040100 - Biology, General

CIP Code

26.0101 - Biology/Biological Sciences, General.

CB04: Credit Status

D - Credit - Degree Applicable

CB05: Transfer Status

A - Transferable to both UC and CSU.

CB08: Basic Skills Status

N - Not Basic Skills

CB09: SAM Code

E - Non-Occupational

CB10: Cooperative Work Experience

N - Is not part of a cooperative work experience education program.

CB11: Course Classification Status

CB13: Special Class Status

N - Course is not a special class.

CB21: Course Prior to College

Y - Not applicable

CB22: Non Credit Course Category

Y - Not Applicable, Credit course

CB23: Funding Agency Category

Y - Not Applicable (funding not used to develop course)

CB24: Program Status

1 - Program Applicable

CB25: Course General Education Status

Y. Not Applicable

CB26: Course Support Course Status

N - Course is not a support course

CB27: Upper Division Status

6.3. Course Deactivations

Effective Term: **Fall 2026**

- NNTR 201 Introduction to Nutrition Science
  Justification: The course is not a good fit for noncredit instruction due to scientific rigor.

6.4. New Programs

Effective Term: **Fall 2026**

- Automotive Concepts, NCL
- Automotive Master, NCL

Effective Term: **Fall 2027**

- Elementary Teacher Education: Integrated Programs, AA-T

LAS POSITAS COLLEGE

New Program: Automotive Concepts - Certificate of Completion

Rationale
Mirror of Credit Certificate

TOP Code
0948.00 - Automotive Technology*

CIP Code
47.0604 - Automobile/Automotive Mechanics Technology/Technician.

1. Statement of Program Goals and Objectives
This program is CTE focus and will help students attain a job-ready state to gain employment in the Automotive industry.

2. Catalog Description
The Automotive Concepts Certificate of Completion can provide the skills necessary for students to qualify for entry-level non-technician positions. This program focuses on all the theoretical aspects of the automobile.

3. Program Requirements

Course	Title	Hours	Term
Required Core: (630 Hours)			
NAUT CA1	Engine Repair Concepts	36.0	1st
NAUT CA2	Automatic Transmission/Transaxle Concepts	36.0	1st
NAUT CA3	Manual Drive Train and Axles Concepts	36.0	1st
NAUT CA4	Suspension and Steering Concepts	36.0	2nd
NAUT CA5	Brakes Concepts	36.0	2nd
NAUT CA6	Electrical/Electronic Systems Concepts	54.0	2nd
NAUT CA7	Automotive Heating and Air Conditioning Concepts	36.0	3rd
NAUT CA8	Engine Performance Concepts	54.0	3rd
NAUT CA9	Light Vehicle Diesel Engines Concepts	36.0	3rd
NAUT CL1	Advanced Engine Performance Concepts	36.0	4th
NAUT CL3	Light Duty Hybrid/Electric Vehicles Concepts	36.0	4th
NAUT CSDR	Specified Diagnostic and Repair Concepts	72.0	5th
NAUT CSMG	Smog Level One and Level Two Concepts	90.0	4th
NAUT INT	Introduction to Automotive	36.0	1st

Total: 630.0

4. Master Planning
The program meets LPC's Education Master Plan areas A1 "address the educational needs of a diverse student population and global workforce," A2 "support existing and new programs," and A6 "focus on workforce readiness."

5. Enrollment and Completer Projections

6. Place of Program in Curriculum/Similar Programs

The Automotive Concepts Certificate of Completion can provide the skills necessary for students to qualify for entry-level non-technician positions. This program focuses on all the theoretical aspects of the automobile.

SEMESTER-BY-SEMESTER PROGRAM PLAN FOR FULL-TIME STUDENTS

All plans can be modified to fit the needs of part-time students by adding more semesters

Term 1 - Fall Semester **Units:** 0.0

Course		Units	MAJ/GEN/ELEC	Semester(s) Offered
NAUT INT	Introduction to Automotive	0.0	Major/Required	
NAUT CA1	Engine Repair Concepts	0.0	Major/Required	
NAUT CA2	Automatic Transmission/Transaxle Concepts	0.0	Major/Required	
NAUT CA3	Manual Drive Train and Axles Concepts	0.0	Major/Required	

Term 2 - Spring Semester **Units:** 0.0

Course		Units	MAJ/GEN/ELEC	Semester(s) Offered
NAUT CA4	Suspension and Steering Concepts	0.0	Major/Required	
NAUT CA5	Brakes Concepts	0.0	Major/Required	
NAUT CA6	Electrical/Electronic Systems Concepts	0.0	Major/Required	

Term 3 - Fall Semester **Units:** 0.0

Course		Units	MAJ/GEN/ELEC	Semester(s) Offered
NAUT CA7	Automotive Heating and Air Conditioning Concepts	0.0	Major/Required	
NAUT CA8	Engine Performance Concepts	0.0	Major/Required	
NAUT CA9	Light Vehicle Diesel Engines Concepts	0.0	Major/Required	

Term 4 - Spring Semester **Units:** 0.0

Course		Units	MAJ/GEN/ELEC	Semester(s) Offered
NAUT CL1	Advanced Engine Performance Concepts	0.0	Major/Required	
NAUT CL3	Light Duty Hybrid/Electric Vehicles Concepts	0.0	Major/Required	
NAUT CSMG	Smog Level One and Level Two Concepts	0.0	Major/Required	

Term 5 - Fall Semester **Units:** 0.0

Course		Units	MAJ/GEN/ELEC	Semester(s) Offered
NAUT CSDR	Specified Diagnostic and Repair Concepts	0.0	Major/Required	

Total: 0.0

LAS POSITAS COLLEGE

New Program: Automotive Master - Certificate of Completion

Rationale
Mirror of Credit Certificate

TOP Code
0948.00 - Automotive Technology*

CIP Code
47.0604 - Automobile/Automotive Mechanics Technology/Technician.

1. Statement of Program Goals and Objectives
This program is CTE focus and will help students attain a job-ready state to gain employment in the Automotive industry.

2. Catalog Description
The Automotive Master Certificate of Completion can provide the skills necessary for students to qualify as trained entry-level technicians, as well as for career advancement. Students work side-by-side and hands-on with industry professionals in a fully equipped and up-to-date facility.

3. Program Requirements

Course	Title	Hours	Term
Required Core: (1827 Hours)			
NAUT A1	Engine Repair	144.0	1st
NAUT A2	Automatic Transmission/Transaxle	144.0	1st
NAUT A3	Manual Drive Train and Axles	144.0	1st
NAUT A4	Suspension and Steering	144.0	2nd
NAUT A5	Brakes	144.0	2nd
NAUT A6	Electrical/Electronic Systems	162.0	2nd
NAUT A7	Automotive Heating and Air Conditioning	144.0	3rd
NAUT A8	Engine Performance	162.0	3rd
NAUT A9	Light Vehicle Diesel Engines	144.0	3rd
NAUT INT	Introduction to Automotive	36.0	1st
NAUT INTL	Introduction to Automotive Hands-On Lab	108.0	1st
NAUT LAB	Automotive Lab	108.0	1st
NAUT L1	Advanced Engine Performance	0.0	4th
NAUT L3	Light Duty Hybrid/Electric Vehicles	0.0	4th
NAUT SDR	Specified Diagnostic and Repair	126.0	5th
NAUT SMOG	Smog Level One and Level Two	117.0	4th

Total: 1827.0

4. Master Planning
The program meets LPC's Education Master Plan areas A1 "address the educational needs of a diverse student population and global workforce," A2 "support existing and new programs," and A6 "focus on workforce readiness."

5. Enrollment and Completer Projections

6. Place of Program in Curriculum/Similar Programs

The Automotive Master Certificate of Completion can provide the skills necessary for students to qualify as trained entry-level technicians, as well as for career advancement. Students work side-by-side and hands-on with industry professionals in a fully equipped and up-to-date facility.

SEMESTER-BY-SEMESTER PROGRAM PLAN FOR FULL-TIME STUDENTS

All plans can be modified to fit the needs of part-time students by adding more semesters

Term 1 - Fall Semester **Units:** 0.0

Course		Units	MAJ/GEN/ELEC	Semester(s) Offered
NAUT INT	Introduction to Automotive	0.0	Major/Required	
NAUT INTL	Introduction to Automotive Hands-On Lab	0.0	Major/Required	
NAUT LAB	Automotive Lab	0.0	Major/Required	
NAUT A1	Engine Repair	0.0	Major/Required	
NAUT A2	Automatic Transmission/Transaxle	0.0	Major/Required	
NAUT A3	Manual Drive Train and Axles	0.0	Major/Required	

Term 2 - Spring Semester **Units:** 0.0

Course		Units	MAJ/GEN/ELEC	Semester(s) Offered
NAUT A4	Suspension and Steering	0.0	Major/Required	
NAUT A5	Brakes	0.0	Major/Required	

NAUT A6	Electrical/Electronic Systems	0.0	Major/Required	

Term 3 - Fall Semester **Units:** 0.0

Course		Units	MAJ/GEN/ELEC	Semester(s) Offered
NAUT A7	Automotive Heating and Air Conditioning	0.0	Major/Required	
NAUT A8	Engine Performance	0.0	Major/Required	
NAUT A9	Light Vehicle Diesel Engines	0.0	Major/Required	

Term 4 - Spring Semester **Units:** 5.0

Course		Units	MAJ/GEN/ELEC	Semester(s) Offered
NAUT L1	Advanced Engine Performance	5.0	Major/Required	
NAUT L3	Light Duty Hybrid/Electric Vehicles	0.0	Major/Required	
NAUT SMOG	Smog Level One and Level Two	0.0	Major/Required	

Term 5 - Fall Semester **Units:** 0.0

Course		Units	MAJ/GEN/ELEC	Semester(s) Offered
NAUT SDR	Specified Diagnostic and Repair	0.0	Major/Required	

Total: 5.0

6.5. Program Modifications

Program Narrative/Guided Map - Effective Term: **Fall 2026**

- Liberal Arts & Sciences: Arts and Humanities, AA
- Liberal Arts & Sciences: Business, AA
- Liberal Arts & Sciences: Computer Studies, AA
- Liberal Arts & Sciences: Mathematics and Science, AA
- Liberal Arts & Sciences: Social and Behavioral Sciences, AA

LAS POSITAS COLLEGE

Program Modification: Liberal Arts & Sciences: Arts and Humanities - Associate of Arts Degree

Program Modification: Liberal Arts & Sciences: Arts and Humanities - Associate of Arts Degree (Launched - Implemented 10-21-2025)
compared with
Liberal Arts & Sciences: Arts and Humanities - Associate of Arts Degree (Active - Implemented 08-15-2025)

Rationale

TOP Code
4901.00 - Liberal Arts and Sciences, General

CIP Code
24.0101 - Liberal Arts and Sciences/Liberal Studies.

1. Statement of Program Goals and Objectives
The Liberal Arts & Sciences: Arts and Humanities AA is designed to prepare the students to enter the workforce prepared with an associate degree. The curriculum allows student to develop an appreciation of the beauty and values that have shaped and enriched our culture. This program prepares students in analytical thinking, critical analysis, group collaboration, and effective communication.

2. Catalog Description
The Liberal Arts & Sciences: Arts and Humanities AA courses emphasize the study of cultural, literary, humanistic activities and artistic expression of human beings. Students will evaluate and interpret the ways in which people through the ages in different cultures have responded to themselves and the world around them in artistic and cultural creation. Students will also learn to value aesthetic understanding and incorporate these concepts when constructing value judgments.

3. Program Requirements
Course
Title
Units
Term

~~*Required Core: Complete at least 18 units from below with at least 6 units from Arts and 6 units from Humanities (18-21) units)*~~ *Required Core: Complete at least 18 units from below with at least 6 units from Arts and 6 units from Humanities (18-21 Units)*

Arts		-
ARHS 1	Introduction to Art History	3.0
ARHS 2	Art of the Ancient Americas	3.0
ARHS 3	Arts of Africa, Oceania, and Indigenous North Americas	3.0
ARHS ~~4~~	~~Western Art History - Ancient to Medieval~~	~~3.0~~
~~ARHS 5~~	~~Western Art History - Renaissance to Contemporary~~	~~3.0~~
~~ARHS~~ 7	Modern Art History	3.0
ARHS 8	Asian Art History	3.0
~~ARTS 2A~~ ARTH C1100	~~Introduction to Drawing~~ Survey of Art from Prehistory to the Medieval Era	3.0
ARTH C1200	Survey of Art from the Renaissance to Contemporary	3.0
ARTS ~~2B~~ 2A	~~Drawing and Composition~~ Introduction to Drawing	3.0
ARTS 3A	Figure and Composition I	3.0
ARTS 3B	Figure and Composition II	3.0
ARTS 3C	Figure and Composition III	3.0
ARTS 3D	Figure and Composition IV	3.0
ARTS 7A	Introduction to Watercolor Painting	3.0
ARTS 7B	Watercolor Painting	3.0
ARTS 7C	Advanced Watercolor Painting I	~~3.0~~
~~FLMS 7~~	~~Introduction to Screenwriting~~	3.0
ARTS 7D	Advanced Watercolor Painting II	3.0
ARTS 12A	Oil/Acrylic Painting: Beginning I	3.0
ARTS 12B	Oil/Acrylic Painting: Beginning II	3.0
ARTS 12C	Oil/Acrylic Painting: Advanced I	3.0
ARTS 12D	Oil/Acrylic Painting: Advanced II	3.0
ARTS 23	2-D Design	3.0
ARTS 24	Three-Dimensional Design and Modeling	3.0
ARTS 26	Color Theory	3.0
FLMS 5	Introduction to Film Editing	3.0
FLMS 7	Introduction to Screenwriting	3.0
GDDM 2	Wordpress and Content Management Systems	3.0
GDDM 3	History of Graphic Design	3.0
GDDM 4	User Interface and User Experience Design	3.0
GDDM 40	Design Shop: The Business of Design	3.0
GDDM 45A	Digital Painting I	3.0
GDDM 45B	Digital Painting II	3.0
GDDM 50	Introduction to Adobe Digital Tools	3.0
GDDM 51	Color Theory	3.0
GDDM 52	Introduction to Typography	3.0
GDDM 53	Adobe Photoshop I	3.0
GDDM 54	Adobe Illustrator I	3.0
GDDM 55	Web Design I	3.0
GDDM 56	Introduction to Graphic Design	3.0
GDDM 57	Branding and Identity Design	3.0
GDDM 58	Adobe Photoshop II	3.0
GDDM 59	Adobe Illustrator II	3.0
GDDM 60	Creative Portfolio Development & Self Promotion	3.0
GDDM 62	Web Design II	3.0
GDDM 64	Adobe InDesign I	3.0
GDDM 70	Photoshop and Lightroom for Photographers	3.0
JAMS 12	Introduction to Photojournalism	3.0
MUS 1	Introduction to Music	3.0
MUS 3	World Music	3.0
MUS 4	Jazz in American Culture	3.0
MUS 5	American Cultures in Music	3.0
MUS 6	Basic Music Skills	2.0
MUS 8A	Music Theory and Musicianship 1	4.0
MUS 8B	Music Theory and Musicianship 2	4.0
MUS 10A	Music Theory and Musicianship 3	4.0
MUS 10B	Music Theory and Musicianship 4	4.0
MUS 11	Commercial Music Combo	1.0
MUS 13	History of Rock & Roll	3.0
MUS 14	Jazz Workshop	1.0
MUS 15	Jazz Ensemble	1.0
MUS 16	Philharmonic Orchestra	1.0
MUS 21A	Beginning Piano	1.0

~~MUS 21A~~	~~Beginning Piano~~	~~1.0~~
MUS 21B	Intermediate Piano	1.0
MUS 22A	Scoring for Film and Multimedia 1	3.0
MUS 22B	Scoring for Film and Multimedia 2	3.0
MUS 23A	Elementary Voice	1.0
MUS 23B	Intermediate Voice	1.0
MUS 25	Teaching Beginning Piano	2.0
MUS 27	Teaching Intermediate Piano	2.0
MUS 28	Keyboard Skills	1.0
MUS 31	Study of Piano	1.0
MUS 34	Music in Film	3.0
MUS 35	Introduction to Music Technology	3.0
MUS 36	Intermediate Music Technology	3.0
MUS 37	Music Business	3.0
MUS 38	Applied Lessons	1.0
MUS 41	Instrumental Chamber Music	1.0
MUS 44	Concert Choir	1.0
MUS 45	Chamber Choir	2.0
MUS 46	Vocal Jazz Ensemble	2.0
MUS 48	Improvisation Lab	1.0
PHTO 50	Introduction to Photography	3.0
PHTO 51A	Individual Projects A	1.5
PHTO 56	Introduction to Digital Photography	1.5
PHTO 57	Intermediate Digital Photography	1.5
PHTO 58	Introduction to Videography	3.0
PHTO 60	Intermediate Black and White Photography	3.0
PHTO 64A	Artificial Light Photography	3.0
PHTO 66	Digital Imaging	3.0
PHTO 67	History of Photography	3.0
PHTO 68	Color Field Photography	3.0
PHTO 69	Intermediate Videography	3.0
PHTO 70	Photoshop and Lightroom for Photographers	3.0
PHTO 72	Introduction to Photojournalism	3.0
		3.0
POLI 25	Introduction to Political Theory	
THEA 1	Conservatory Readiness	1.0
THEA 1A	Theory/Practice of Acting I	3.0
THEA 1B	Theory/Practice of Acting II	3.0
THEA 3A	Beginning Improvisation	3.0
THEA 3B	Intermediate Improvisation	3.0
THEA 3C	Improvisation in Performance	3.0
THEA 4	Modern American Theater	3.0
THEA 5	Theater for Young Audiences	3.0
THEA 10	Introduction to Dramatic Arts	3.0
THEA 11	Stage to Screen	3.0
THEA 25	Fundamentals of Stage Speech	3.0
THEA 31A	Drama Workshop - Beginning	3.0
THEA 31B	Drama Workshop - Intermediate	3.0
THEA 31C	Drama Workshop - Technical Theater	3.0
THEA 31D	Drama Workshop - Directing	3.0
		~~3.0~~
THEA ~~39A~~	~~Musical Theater Workshop - Beginning~~	
~~THEA~~ 39B	Musical Theater Workshop - Intermediate	3.0
THEA 39C	Musical Theater Workshop - Advanced	3.0
THEA 47A	Performance in Production: Introduction to Live Performance	3.0
THEA 47B	Performance in Production: Beginning	3.0
THEA 47C	Performance in Production: Intermediate	3.0
THEA 47D	Performance in Production: Advanced	3.0
		3.0
THEA 48A	Technical Theater in Production - Beginning	
THEA 39A	Musical Theater Workshop - Beginning	3.0
THEA 48B	Technical Theater in Production - Intermediate	3.0
THEA 48C	Technical Theater in Production - Advanced	3.0
THEA 48D	Technical Theater in Production - Capstone	3.0
THEA 50	Stagecraft	3.0
THEA 50L	Introduction to Stage Lighting	3.0
THEA 51	Introduction to Costume Design	3.0
THEA 52	Introduction to Design	3.0
THEA 53	Script Analysis	3.0
THEA 54	Shakespeare Through Performance	3.0
THEA 55	Movement for the Actor	1.0
THEA 56	Acting for the Camera	3.0
~~THEA 57A~~	~~Performance in Production - Introduction to Musical Theater~~	~~3.0~~

~~THEA 57A~~	~~Performance in Production - Introduction to Musical Theater~~	~~3.0~~
THEA 57B	Performance in Production -Beginning Musical Theater	3.0
THEA 57C	Performance in Production -Intermediate Musical Theater	3.0
THEA 57D	Performance in Production -Advanced Musical Theater	3.0
THEA 58	Stage Combat	2.0
THEA 60	Business of Acting	1.0
WLDT 71	Welding for the Arts	3.0
		-
Humanities		-
FREN 1A	Beginning French	5.0
FREN 1B	Elementary French	5.0
HIST 1	Western Civilization to 1600	3.0
HIST 2	Western Civilization since 1600	3.0
HIST 3	World History to 1500	3.0
HIST 4	World History since 1500	3.0
HIST ~~7~~	~~US History Through Reconstruction~~	~~3.0~~
~~HIST 8~~	~~US History Post-Reconstruction~~	~~3.0~~
~~HIST~~ 14	History and American Cultures of California	3.0
HIST 25	American Indian History	3.0
HIST 28	History of American West	3.0
~~KIN 3~~ HIST 32	~~Sports in Films & Documentaries~~ U.S. Women's History	3.0
HIST ~~32~~ C1001	~~U.S. Women's History~~ United States History to 1877	3.0
HIST C1002	United States History since 1865	3.0
HUMN 2	Introduction to Film Studies	3.0
HUMN 3	Introduction to Humanities	3.0
HUMN 4	Global Cinemas	3.0
HUMN 6	Nature and Culture	3.0
HUMN 10	American Arts and Ideas	3.0
HUMN 11	Culture and the Arts I: Ancient World to the Renaissance	3.0
HUMN 12	Culture and the Arts II: The Modern World	3.0
HUMN 28	World Mythology	3.0
KIN 3	Sports in Films & Documentaries	3.0
LIBR 1	Working with Sources	1.0
LIBR 4	College Research Techniques	0.5
LIBR 6	Research in Special Subjects	0.5
LIBR 7	The Open Web and Search Engines	0.5
PHIL 1	God, Nature, Human Nature	3.0
PHIL 2	Ethics	3.0
PHIL 3	Aesthetics	3.0
PHIL 4	~~Intro to Philosophy: Knowledge~~ Introduction to Philosophy: Knowledge	3.0
PHIL 5	Feminist Philosophy	3.0
PHIL 6	Introduction to Logic	3.0
PHIL 8	Logic and Argumentation	4.0
RELS 1	Religions of the World	3.0
RELS 3	Introduction to Women's Spirituality	3.0
SPAN 1A	Beginning Spanish	5.0
SPAN 1B	Elementary Spanish	5.0
SPAN 2A	Intermediate Spanish I	4.0
SPAN 2B	Intermediate Spanish II	4.0
SPAN 21	Spanish for Spanish Speakers I	5.0
SPAN 22	Spanish for Spanish Speakers II	5.0
SPAN 23	Introduction to Hispanic Literature	3.0

Total Units in Area of Emphasis

18.0-21.0

Additional General Education and Elective Units

39.0-42.0

The Associate Degree is conferred upon those students who complete the required 60 or more semester units of the degree pattern with a grade-point average of 2.0 or better, of which 12 units must be earned at Las Positas College. In addition, students must complete a General Education pattern in order to earn a degree: see the Las Positas College Associate Degree General Education Pattern or the California General Education Transfer Curriculum (Cal-GETC) patterns for a listing of areas and courses. Double counting courses in GE and the major is permissible. The number of units that may be double counted will depend on the entry point to the degree program, the optional course(s) taken, and the GE pattern selected. Elective units must be degree applicable. Consult with an adviser or a counselor to plan the courses necessary to achieve your academic goal.

Total: 60.0

4. Master Planning

This local program fits our Educational Master Plan strategies A1 to "Address the educational needs of a diverse student population and global workforce" and A2 to "Support existing and new programs.

5. Enrollment and Completer Projections
15 per academic year

6. Place of Program in Curriculum/Similar Programs
This degree will remain a part of our Liberal Arts & Science family of programs.

7. Similar Programs at Other Colleges in Service Area
Almost all California Community Colleges have some form of these types of degrees.

The Liberal Arts & Sciences: Arts and Humanities AA courses emphasize the study of cultural, literary, humanistic activities and artistic expression of human beings. Students will evaluate and interpret the ways in which people through the ages in different cultures have responded to themselves and the world around them in artistic and cultural creation. Students will also learn to value aesthetic understanding and incorporate these concepts when constructing value judgments.

SEMESTER-BY-SEMESTER PROGRAM PLAN FOR FULL-TIME STUDENTS

All plans can be modified to fit the needs of part-time students by adding more semesters

Term 1 - Fall Semester **Units:** 13.0

Course	Units	MAJ/GEN/ELEC	Semester(s) Offered
AD Elective	3.0	Elective	
Arts Course	3.0	Major/Required	
English Composition (Area 1A)	3.0	General Education	
Health (Area 8)	3.0	General Education	
Kinesiology (Area 7)	1.0	General Education	

Term 2 - Spring Semester **Units:** 15.0

Course	Units	MAJ/GEN/ELEC	Semester(s) Offered
Humanities Course	3.0	Major/Required	
Oral Communication and Critical Thinking (Area 1B)	3.0	General Education	
Social and Behavioral Sciences (Area 4)	3.0	General Education	
American Institutions (Area 9)	3.0	General Education	
MATH 47 (Area 2)	3.0	General Education	

Term 3 - Fall Semester **Units:** 16.0

Course	Units	MAJ/GEN/ELEC	Semester(s) Offered

Arts Course	3.0 Major/Required	
Humanities Course	3.0 Major/Required	
Natural Sciences (Area 5)	3.0 General Education	
AD Elective	7.0 Elective	

Term 4 - Spring Semester **Units:** 16.0

Course Units Semester(s) Offered	MAJ/GEN/ELEC	
Arts and Humanities (Area 3)	3.0 General Education	
Arts or Humanities Course	3.0 Major/Required	
Ethnic Studies (Area 6)	3.0 General Education	
AD Elective	7.0 Elective	Summer

Total: 60.0

LAS POSITAS COLLEGE

Program Modification: Liberal Arts & Sciences: Business - Associate of Arts Degree

Program Modification: Liberal Arts & Sciences: Business - Associate of Arts Degree (Launched - Implemented 10-21-2025)
compared with
Liberal Arts & Sciences: Business - Associate of Arts Degree (Active - Implemented 08-15-2025)

Rationale

TOP Code
4901.00 - Liberal Arts and Sciences, General

CIP Code
24.0101 - Liberal Arts and Sciences/Liberal Studies.

1. Statement of Program Goals and Objectives
The Liberal Arts & Sciences: Business AA is designed to prepare the students to enter the workforce prepared with an associate degree. The curriculum allows student to develop an appreciation of the beauty and values that have shaped and enriched our culture. This program prepares students in analytical thinking, critical analysis, group collaboration, and effective communication.

2. Catalog Description
The Liberal Arts and Sciences: Business AA courses emphasize the integration of theory and practice within the field of business. Students will develop the ability to effectively manage and lead organizations. Students will demonstrate an understanding of the place of business within the global economy. Students will critically apply ethical standards to business practices and decisions.

3. Program Requirements
Course
Title
Units
Term

Required Core: Select at least 18 units from below with at least 3 units from two disciplines (18-20 units)

BUSN 1A	Financial Accounting	4.0
BUSN 1B	Managerial Accounting	4.0
BUSN 18	Business Law	3.0
BUSN 20	International Business	3.0
BUSN 30	Business Ethics and Society	3.0
BUSN 33	The Fundamentals of Personal and Family Financial Planning	3.0
BUSN 40	Introduction to Business	3.0
BUSN 45	Entrepreneurship	3.0
BUSN 48	Human Relations in Organizations	3.0
BUSN 51	Accounting for Small Businesses	3.0
BUSN 52	Business Communications	3.0
BUSN 56	Introduction to Management	3.0
BUSN 58	Small Business Management	3.0
BUSN 61	Quickbooks Accounting	2.0
BUSN 65	Federal Income Tax Accounting	3.0
BUSN 86	Management Strategies & Dilemmas	3.0
BUSN 87	Organizational Management and Leadership	3.0
BUSN 88	Human Resources Management	3.0
		3.0
ECON ~~1~~ 10	General Economics	
ECON C2001	Principles of Microeconomics	3.0
		~~3.0~~
ECON ~~2~~ C2002	Principles of Macroeconomics	
~~ECON 10~~	~~General Economics~~	3.0
MKTG 50	Introduction to Marketing	3.0
MKTG 56	Marketing Strategies	3.0
MKTG 61	Professional Selling	3.0

Total Units in the Area of Emphasis

18.0-20.0

Additional General Education and Elective Units

40.0-42.0

The Associate Degree is conferred upon those students who complete the required 60 or more semester units of the degree pattern with a grade-point average of 2.0 or better, of which 12 units must be earned at Las Positas College. In addition, students must complete a General Education pattern in order to earn a degree: see the Las Positas College Associate Degree General Education Pattern or the California General Education Transfer Curriculum (Cal-GETC) patterns for a listing of areas and courses. Double counting courses in GE and the major is permissible. The number of units that may be double counted will depend on the entry point to the degree program, the optional course(s) taken, and the GE pattern selected. Elective units must be degree applicable. Consult with an adviser or a counselor to plan the courses necessary to achieve your academic goal.

Total: 60.0

4. Master Planning

This local program fits our Educational Master Plan strategies A1 to "Address the educational needs of a diverse student population and global workforce" and A2 to "Support existing and new programs.

5. Enrollment and Completer Projections

15 per academic year

6. Place of Program in Curriculum/Similar Programs

This degree will remain a part of our Liberal Arts & Science family of programs.

7. Similar Programs at Other Colleges in Service Area

Almost all California Community Colleges have some form of these types of degrees.

The Liberal Arts and Sciences: Business AA courses emphasize the integration of theory and practice within the field of business. Students will develop the ability to effectively manage and lead organizations. Students will demonstrate an understanding of the place of business within the global economy. Students will critically apply ethical standards to business practices and decisions.

SEMESTER-BY-SEMESTER PROGRAM PLAN FOR FULL-TIME STUDENTS

All plans can be modified to fit the needs of part-time students by adding more semesters

Term 1 - Fall Semester **Units:** 14.0

Course

Units MAJ/GEN/ELEC

Semester(s) Offered

Business Course	3.0 Major/Required	
AD Elective	3.0 Elective	
English Composition (Area 1A)	3.0 General Education	
STAT C1000 (Area 2)	4.0 General Education	
Kinesiology (Area 7)	1.0 General Education	

Term 2 - Spring Semester **Units:** 15.0

Course Units MAJ/GEN/ELEC Semester(s) Offered		
Economics or Marketing Course	3.0 Major/Required	
Oral Communication and Critical Thinking (Area 1B)	3.0 General Education	
Social and Behavioral Sciences (Area 4)	3.0 General Education	
American Institutions (Area 9)	3.0 General Education	
Health (Area 8)	3.0 General Education	

Term 3 - Fall Semester **Units:** 16.0

Course Units MAJ/GEN/ELEC Semester(s) Offered		
Business or Economics or Marketing Courses	6.0 Major/Required	
Natural Sciences (Area 5)	3.0 General Education	
Humanities (Area 3)	3.0 General Education	
AD Elective	4.0 Elective	

Term 4 - Spring Semester **Units:** 15.0

Course Units MAJ/GEN/ELEC Semester(s) Offered		

Business or Economics or Marketing Courses	6.0 Major/Required	
Ethnic Studies (Area 6)	3.0 General Education	
AD Elective	6.0 Elective	

Total: 60.0

LAS POSITAS COLLEGE

Program Modification: Liberal Arts & Sciences: Computer Studies - Associate of Arts Degree

Program Modification: Liberal Arts & Sciences: Computer Studies - Associate of Arts Degree (Launched - Implemented 10-21-2025)
compared with
Liberal Arts & Sciences: Computer Studies - Associate of Arts Degree (Active - Implemented 08-15-2025)

Rationale

TOP Code
4901.00 - Liberal Arts and Sciences, General

CIP Code
24.0101 - Liberal Arts and Sciences/Liberal Studies.

1. Statement of Program Goals and Objectives
The Liberal Arts & Sciences: Computer Studies AA is designed to prepare the students to enter the workforce prepared with an associate degree. The curriculum allows student to develop an appreciation of the beauty and values that have shaped and enriched our culture. This program prepares students in analytical thinking, critical analysis, group collaboration, and effective communication.

2. Catalog Description
The Liberal Arts & Sciences: Computer Studies AA courses emphasize the integration of theory and practice within the field of computer applications, computer networking, and computer science. Students will develop the ability to effectively use computer applications, manage and maintain networks, and develop software applications. Students will demonstrate an understanding of the place of technology within the global economy. Students will critically evaluate the impact of technology on the workplace, on their lives, and on society as a whole.

3. Program Requirements
Course
Title
Units
Term

Required Core: Select at least 18 units from below with at least 3 units from each discipline (18-20)

CIS 7	Introduction to Programming Concepts and Methodologies	3.0
CIS 10	Business Data Analytics	3.0
CIS 11	Data Visualization Tools	3.0
CIS 43	Professional Communications	3.0
CIS ~~44~~	~~IT Fundamentals+~~	~~2.0~~
~~CIS~~ 50	Introduction to Computing Information Technology	3.0
CIS 54	MS Excel Essentials	4.0
CIS 55	Integrating Office Applications	4.~~0~~
~~CIS 55B~~	~~Advanced MS Office Skills~~	~~2~~.0
CIS 57	Database Concepts	3.0
CIS 59	Web Dev: HTML/CSS/Javascript	3.0
CIS 59C	Web Programming - JavaScript	3.0
CIS 60	Systems Analysis and Design	3.0
CIS 62	Project Management	3.0
CIS 66	Networking Fundamentals	3.0
CIS 88A	Introduction to Microsoft Word	1.5
CIS 88B	Adv Microsoft Word	1.5
CIS 89A	Desktop Presentation	1.0
CIS 92	Web: PHP Programming, MySQL	3.0
CIS 9002	Introduction to Database Management	3.0
~~CIS 9005~~	~~Oracle: APEX Application Development~~	~~3.0~~
CNT 43	Professional Communications	3.0
CNT 51	CompTIA's A+ Certification Computer Technician	4.0
CNT 52	Networking Fundamentals	3.0
CNT 55	~~MCSA I Windows Server Installation, Storage, and Compute~~ Windows Server Installation, Storage, and Compute	3.0
CNT 56	~~MCSA II Networking with Windows Server~~	~~3.0~~
~~CNT 57~~	~~MCSA III Identity with Windows Server~~ Networking with Windows Server	3.0
CNT 68	Digital Forensics Fundamentals	3.0
CNT 69	Network Security; CompTIA Security + Certification	3.0
CNT 7285	Cloud Infrastructure: CompTIA Cloud+ Certification	3.0
CNT 7401	Red Hat Linux Administration I	3.0
CNT 7402	Red Hat Linux Administration II	3.0
CNT 7501	Ethical Hacking	3.0
CNT 8001	Cisco CCNA1/3 Introduction to Networks (ITN)	3.0
CNT 8002	Cisco CCNA2/3 Switching, Routing, and Wireless Essentials (SRWE)	3.0
CNT 8003	Cisco CCNA3/3 Enterprise Networking, Security, and Automation v7.0 (ENSA)	3.0
CS 1	Computing Fundamentals I	4.0
CS 2	Computing Fundamentals II	4.0
CS 3	Red Hat Linux Administration II	3.0
CS 4	Introduction to Artificial Intelligence	3.0
CS 5	Introduction to Machine Learning	3.0
CS 7	Introduction to Computer Programming Concepts	3.0
CS 20	Advanced Programming with Data Structures/C++	4.0
CS 21	Computer Organization and Assembly Language Programming	4.0
CS 31	Java Programming	4.0
CS 41	Red Hat Linux Administration I	3.0
CS 43	Professional Communications	3.0
CS 45	Database Programming	4.0
CS 47	Capstone Project	3.0

Total Units in the Area of Emphasis

18.0-20.0

Additional General Education and Elective Units

40.0-42.0

The Associate Degree is conferred upon those students who complete the required 60 or more semester units of the degree pattern with a grade-point average of 2.0 or better, of which 12 units must be earned at Las Positas College. In addition, students must complete a General Education pattern in order to earn a degree: see the Las Positas College Associate Degree General Education Pattern or the California General Education Transfer Curriculum (Cal-GETC) patterns for a listing of areas and courses. Double counting courses in GE and the major is permissible. The number of units that may be double counted will depend on the entry point to the degree program, the optional course(s) taken, and the GE pattern selected. Elective units must be degree applicable. Consult with an adviser or a counselor to plan the courses necessary to achieve your academic goal.

Total: 60.0

4. Master Planning

This local program fits our Educational Master Plan strategies A1 to "Address the educational needs of a diverse student population and global workforce" and A2 to "Support existing and new programs.

5. Enrollment and Completer Projections
15 per academic year.

6. Place of Program in Curriculum/Similar Programs
This program will remain part of the Liberal Arts & Sciences family of programs.

7. Similar Programs at Other Colleges in Service Area
Almost all California Community Colleges have some form of these types of degrees.

The Liberal Arts & Sciences: Computer Studies AA courses emphasize the integration of theory and practice within the field of computer applications, computer networking, and computer science. Students will develop the ability to effectively use computer applications, manage and maintain networks, and develop software applications. Students will demonstrate an understanding of the place of technology within the global economy. Students will critically evaluate the impact of technology on the workplace, on their lives, and on society as a whole.

SEMESTER-BY-SEMESTER PROGRAM PLAN FOR FULL-TIME STUDENTS

All plans can be modified to fit the needs of part-time students by adding more semesters

Term 1 - Fall Semester **Units:** 13.0

Course	Units	MAJ/GEN/ELEC	Semester(s) Offered
English Composition (Area 1A)	3.0	General Education	
AD Elective	3.0	Elective	
Computer Studies Course	3.0	Major/Required	
Health (Area 8)	3.0	General Education	
Kinesiology (Area 7)	1.0	General Education	

Term 2 - Spring Semester **Units:** 15.0-16.0

Course	Units	MAJ/GEN/ELEC	Semester(s) Offered
Computer Studies Course	3.0	Major/Required	
Oral Communication and Critical Thinking (Area 1B)	3.0	General Education	
Social and Behavioral Sciences (Area 4)	3.0	General Education	
American Institutions (Area 9)	3.0	General Education	
STAT C1000 or MATH 47 (Area 2)	3.0 - 4.0	General Education	

Term 3 - Fall Semester **Units:** 16.0-15.0

Course	Units	MAJ/GEN/ELEC	Semester(s) Offered

Computer Studies Courses	6.0 Major/Required
Natural Sciences (Area 5)	3.0 General Education
Arts and Humanities (Area 3)	3.0 General Education
AD Elective	4.0 - 3.0 Elective

Term 4 - Spring Semester **Units:** 16.0

Course Units Semester(s) Offered	MAJ/GEN/ELEC
Computer Studies Courses	6.0 Major/Required
AD Elective	7.0 Elective
Ethnic Studies (Area 6)	3.0 General Education

Total: 60.0

LAS POSITAS COLLEGE

Program Modification: Liberal Arts & Sciences: Mathematics and Science - Associate of Arts Degree

Program Modification: Liberal Arts & Sciences: Mathematics and Science - Associate of Arts Degree (Launched - Implemented 10-21-2025)
compared with
Liberal Arts & Sciences: Mathematics and Science - Associate of Arts Degree (Active - Implemented 08-15-2025)

Rationale

TOP Code
4901.00 - Liberal Arts and Sciences, General

CIP Code
24.0101 - Liberal Arts and Sciences/Liberal Studies.

1. Statement of Program Goals and Objectives
The Liberal Arts & Sciences: Mathematics and Science AA is designed to prepare the students to enter the workforce prepared with an associate degree. The curriculum allows student to develop an appreciation of the beauty and values that have shaped and enriched our culture. This program prepares students in analytical thinking, critical analysis, group collaboration, and effective communication.

2. Catalog Description
The Liberal Arts & Sciences: Mathematics and Science AA courses emphasize the natural sciences, which examine the physical universe, its life forms and its natural phenomena. Courses in math emphasize the development of mathematical and quantitative reasoning skills beyond the level of intermediate algebra. Students will be able to demonstrate an understanding of the methodologies of science as investigative tools. Students will also examine the influence that the acquisition of scientific knowledge has on the development of the world's civilizations.

3. Program Requirements
Course
Title
Units
Term

Required Core: Select at least 18 units from below with at least 6 units from Science and 3 units from Mathematics (18-21 units)

Mathematics		-
CS 17	Discrete Mathematical Structures	4.0
MATH 1	Calculus I	5.0
MATH 2	Calculus II	5.0
MATH 3	Multivariable Calculus	5.0
MATH 5	Ordinary Differential Equations	3.5
MATH 7	Elementary Linear Algebra	3.5
MATH 10	Discrete Mathematical Structures	4.0
MATH 21	Precalculus	4.0
MATH ~~22~~	~~Precalculus & Trigonometry~~	~~6.0~~
~~MATH~~ 27	Number Systems for Educators	3 ~~.0~~
~~MATH 30~~	~~College Algebra for STEM~~	~~4~~ .0
MATH 33	Finite Mathematics	4.0
MATH 34	Business Calculus	4.0
MATH 39	Trigonometry	4.0
MATH 47	Mathematics for Liberal Arts	3.0
STAT C1000	Introduction to Statistics	4.0
		-
Science		-
ANTR 1	Biological Anthropology	3.0
ANTR 1L	Biological Anthropology Laboratory	1.0
ANTR 2L	Archaeology Field Laboratory	1.0
ANTR 13	Introduction to Forensic Anthropology	3.0
ASTR 30L	Introduction to Astronomy Laboratory	1.0
ASTR 31	Introduction to Astronomy: The Solar System	3.0
ASTR 32	Introduction to Astronomy: Stars and the Universe	3.0
BIO ~~1A~~ 1C	~~General Botany~~ Cell and Molecular Biology	5.0
BIO ~~1B~~ 1R	~~General Zoology~~	~~5.0~~
~~BIO 1C~~	~~Cell and Molecular Biology~~ Organismal Biology	5.0
BIO 7A	Human Anatomy	5.0
BIO 7B	Human Physiology	5.0
BIO 7C	Microbiology	5.0
BIO 10	Introduction to the Science of Biology	4.0
BIO 20	Contemporary Human Biology	3.0
BIO 30	Introduction to College Biology	4.0
BIO 40	Humans and the Environment	3.0
BIO 50	Anatomy and Physiology	4.0
BIO 60	Marine Biology	4.0
BIO 70	Field Biology	3.0
CHEM 1A	General College Chemistry I	5.0
CHEM 1B	General College Chemistry II	5.0
CHEM 6	Environmental Chemistry	4.0
CHEM 12A	Organic Chemistry I	5.0
CHEM 12B	Organic Chemistry II	5.0
CHEM 30A	Introductory and Applied Chemistry I	4.0
CHEM 30B	Introductory and Applied Chemistry II	4.0
CHEM 31	Introduction to College Chemistry	4.0
EVST 5	Energy and Sustainability	3.0
EVST 5L	Energy and Sustainability Laboratory	1.0
GEOG 1	Introduction to Physical Geography	3.0
GEOG 1L	Introduction to Physical Geography Laboratory	1.0
GEOG 8	Introduction to Atmospheric Science	3.0
GEOG 12	Geography of California	3.0
GEOL 1	Physical Geology	3.0
GEOL 1L	Physical Geology Laboratory	1.0
GEOL 2	Historical Geology	4.0
GEOL 5	Environmental Geology: Hazards & Disasters	3.0
GEOL 7	Environmental Geology: Resources, Use Impact & Pollution	3.0
GEOL 12	Introduction to Oceanography	3.0
GEOL 12L	Introduction to Oceanography Laboratory	1.0
GEOL 13	Introduction to Climate Science	3.0
GEOL 20	Earth Science for Educators	4.0
PHYS 1A	General Physics I	5.0
PHYS 1B	General Physics II	5.0
PHYS 1C	General Physics III	5.0
PHYS 1D	General Physics IV	3.0

PHYS 2A	Introduction to Physics I	4.0
PHYS 2B	Introduction to Physics II	4.0
PHYS 10	Descriptive Physics	3.0
PHYS 10L	Descriptive Physics Laboratory	1.0
PSYC 4	Brain, Mind, and Behavior	3.0

Total Units in the Area of Emphasis

18.0-21.0

Additional General Education and Elective Units

39.0-42.0

The Associate Degree is conferred upon those students who complete the required 60 or more semester units of the degree pattern with a grade-point average of 2.0 or better, of which 12 units must be earned at Las Positas College. In addition, students must complete a General Education pattern in order to earn a degree: see the Las Positas College Associate Degree General Education Pattern or the California General Education Transfer Curriculum (Cal-GETC) patterns for a listing of areas and courses. Double counting courses in GE and the major is permissible. The number of units that may be double counted will depend on the entry point to the degree program, the optional course(s) taken, and the GE pattern selected. Elective units must be degree applicable. Consult with an adviser or a counselor to plan the courses necessary to achieve your academic goal.

Total: 60.0

4. Master Planning
This local program fits our Educational Master Plan strategies A1 to "Address the educational needs of a diverse student population and global workforce" and A2 to "Support existing and new programs.

5. Enrollment and Completer Projections
15 per academic year.

6. Place of Program in Curriculum/Similar Programs
This program will remain part of the Liberal Arts & Sciences family of programs.

7. Similar Programs at Other Colleges in Service Area
Almost all California Community Colleges have some form of these types of degrees.

The Liberal Arts & Sciences: Mathematics and Science AA courses emphasize the natural sciences, which examine the physical universe, its life forms and its natural phenomena. Courses in math emphasize the development of mathematical and quantitative reasoning skills beyond the level of intermediate algebra. Students will be able to demonstrate an understanding of the methodologies of science as investigative tools. Students will also examine the influence that the acquisition of scientific knowledge has on the development of the world's civilizations.

SEMESTER-BY-SEMESTER PROGRAM PLAN FOR FULL-TIME STUDENTS

All plans can be modified to fit the needs of part-time students by adding more semesters

Term 1 - Fall Semester **Units:** 15.0

Course	Units	MAJ/GEN/ELEC	Semester(s) Offered
Mathematics Course in Program	3.0 - 6.0	Major/Required	
English Composition (Area 1A)	3.0	General Education	
Oral Communication and Critical Thinking (Area 1B)	3.0	General Education	
AD Elective	5.0 - 2.0	Elective	
Kinesiology (Area 7)	1.0	General Education	

Term 2 - Spring Semester **Units:** 15.0-17.0

Course	Units	MAJ/GEN/ELEC	Semester(s) Offered

AD Elective	~~3.0 - 0.0~~ 6.0 - 3.0 Elective
Science course in Program	3.0 - 5.0 Major/Required
Math or Science course in program	3.0 - 6.0 Major/Required
Social and Behavioral Sciences (Area 4)	~~3.0~~ ~~General Education~~ -
~~Health (Area 8)~~	3.0 General Education

Term 3 - Fall Semester **Units:** 15.0-13.0

Course Units MAJ/GEN/ELEC Semester(s) Offered	
AD Elective	6.0 - 1.0 Elective
Math or Science Course in Program	3.0 - 6.0 Major/Required
American Institutions (Area 9)	3.0 General Education
Humanities (Area 3)	3.0 General Education

Term 4 - Spring Semester **Units:** 15.0

Course Units MAJ/GEN/ELEC Semester(s) Offered	
AD Elective	6.0 - 3.0 Elective
Math or Science Course in Program	3.0 - 6.0 Major/Required
Ethnic Studies (Area 6)	3.0 General Education
Health (Area 8)	3.0 General Education

Total: 60.0

LAS POSITAS COLLEGE

Program Modification: Liberal Arts & Sciences: Social and Behavioral Sciences - Associate of Arts Degree

Program Modification: Liberal Arts & Sciences: Social and Behavioral Sciences - Associate of Arts Degree (Launched - Implemented 10-21-2025)
compared with
Liberal Arts & Sciences: Social and Behavioral Sciences - Associate of Arts Degree (Active - Implemented 08-15-2025)

Rationale

TOP Code
4901.00 - Liberal Arts and Sciences, General

CIP Code
24.0101 - Liberal Arts and Sciences/Liberal Studies.

1. Statement of Program Goals and Objectives
The Liberal Arts & Sciences: Social and Behavioral Sciences AA is designed to prepare the students to enter the workforce prepared with an associate degree. The curriculum allows student to develop an appreciation of the beauty and values that have shaped and enriched our culture. This program prepares students in analytical thinking, critical analysis, group collaboration, and effective communication.

2. Catalog Description
The Liberal Arts & Sciences: Social and Behavioral Sciences AA courses emphasize the perspective, concepts, theories and methodologies of the disciplines typically found in the vast variety of disciplines that comprise study in the Social and Behavioral Sciences. Students will study about themselves and others as members of a larger society. Topics and discussion to stimulate critical thinking about ways people have acted in response to their societies will allow students to evaluate how societies and social subgroups operate.

3. Program Requirements
Course
Title
Units
Term

Required Core: Select at least 18 units from below with at least 3 units from 3 disciplines (18-20 Units)

AJ 50	Introduction to Administration of Justice	3.0
AJ 54	Investigative Report Writing	3.0
AJ 55	Introduction to Correctional Science	3.0
AJ 59	Child Abuse in the Community	3.0
AJ 60	Criminal Law	3.0
AJ 61	Evidence	3.0
AJ 63	Criminal Investigation	3.0
AJ 64	~~Patrol Procedures~~ Police Patrol Operations	3.0
AJ 66	Juvenile Procedures	3.0
AJ 68	Police Ethics and Leadership	3.0
AJ 70	Community Relations	3.0
AJ 89	Family Violence	3.0
ANTR 1	Biological Anthropology	3.0
ANTR 2	Introduction to Archaeology	3.0
ANTR 3	Cultural Anthropology	3.0
ANTR 4	Language and Culture	3.0
ANTR 7	Native American Cultures of North America	3.0
ANTR 8	World Prehistory in an Archaeological Perspective	3.0
ANTR 12	Magic/Religion/Witchcraft/Healing	3.0
ANTR 13	Introduction to Forensic Anthropology	3.0
ECE 10	Introduction to Education	3.0
ECE 40	Social and Emotional Foundations for Early Learning	3.0
ECE 54	Child Health, Safety and Nutrition	3.0
ECE 56	Child Growth and Development	3.0
ECE 60	Introduction to the Young Child with Exceptional Needs	3.0
ECE 61	Literature for the Young Child	3.0
ECE 62	Child, Family and Community	3.0
ECE 74	Child Guidance	2.0
ECE 79	Teaching in a Diverse Society	3.0
ECON ~~1~~ C2001	Principles of Microeconomics	3.0
ECON ~~2~~ C2002	Principles of Macroeconomics	3.0
ECON 10	General Economics	3.0
ENG 44	Literature of the American West	3.0
ETHS 5	Psychology of Race and Identity	3.0
ETHS 6	Introduction to Race and Ethnicity	3.0
ETHS 10	Introduction to African American and Black Studies	3.0
ETHS 20	Introduction to Asian American Studies	3.0
ETHS 30	Introduction to Chicanx and Latinx Studies	3.0
GEOG 2	Cultural Geography	3.0
GEOG 5	World Regional Geography	3.0
GEOG 12	Geography of California	3.0
GS 1	Introduction to Global Studies	3.0
GS 2	Political, Economic, and Cultural Globalization	3.0
HIST 1	Western Civilization to 1600	3.0
HIST 2	Western Civilization since 1600	3.0
HIST 3	World History to 1500	3.0
HIST 4	World History since 1500	3.0
HIST ~~7~~ C1001	~~US History Through Reconstruction~~ United States History to 1877	3.0
HIST ~~8~~ C1002	~~US History Post-Reconstruction~~ United States History since 1865	3.0
HIST 14	History and American Cultures of California	3.0
HIST 25	American Indian History	3.0
HIST 28	History of American West	3.0
HIST 32	U.S. Women's History	3.0
HEA 1	Introduction to Personal Health	3.0
HEA 3	Women's Health	3.0
HEA 7	Introduction to Public Health	3.0
HEA 11	Health and Social Justice	3.0
JAMS 1	Introduction to Mass Communications	3.0
JAMS 2	Introduction to Media	3.0
LGBT 1	Introduction to LGBTQ Studies	3.0
LGBT 2	Lesbian, Gay, Bisexual, Transgender, and Queer Psychology	3.0
NTRN 10	Perspectives in Cultural Nutrition	3.0
PCN 5	Introduction to Social Work and Human Services	3.0
PCN 13	Cultural Identity and Diversity in Social Work and Human Services	3.0
POLI 12	Introduction to California State and Local Government	3.0
POLI 20	Comparative Government	3.0

~~POLI 20~~	~~Comparative Government~~	~~3.0~~
POLI 25	Introduction to Political Theory	3.0
POLI 30	International Relations	3.0
POLS C1000	American Government and Politics	~~3.0~~
~~PCN 3~~	~~Theories And Concepts Of Counseling: An Introduction~~	~~3.0~~
~~PCN 5~~	~~Introduction to Social Work and Human Services~~	
~~PCN 13~~	~~Multicultural Issues in Contemporary America~~	3.0
PSYC 3	Introduction to Social Psychology	3.0
PSYC 4	Brain, Mind, and Behavior	3.0
PSYC 6	Abnormal Psychology	3.0
PSYC 10	Psychology of Human Sexuality	3.0
PSYC 12	Life-Span Psychology	3.0
PSYC 13	Psychology of Women	3.0
PSYC 15	Abnormal Child Psychology	3.0
PSYC 17	The Psychology of Sleep and Dreams	3.0
PSYC 21	Psychology of Race and Identity	3.0
PSYC 25	Research Methods	4.0
PSYC 27	Introduction to Cognitive Science	3.0
PSYC C1000	Introduction to Psychology	3.0
SOC 1	Principles of Sociology	3.0
SOC 3	Introduction to Race and Ethnicity	3.0
SOC 4	Marriage and Family Relations	3.0
SOC 5	Introduction to Global Studies	3.0
SOC 6	Social Problems	3.0
SOC 7	Sociology of Sexuality	3.0
SOC 11	Sociology of Gender	3.0
SOC 12	Popular Culture	3.0
SOC 13	Research Methods	4.0
WMST 1	Introduction to Women's Studies	3.0
WMST 2	Global Perspective of Women	3.0
Total Units in the Area of Emphasis		18.0-20.0
Additional General Education and Elective Units		40.0-42.0

The Associate Degree is conferred upon those students who complete the required 60 or more semester units of the degree pattern with a grade-point average of 2.0 or better, of which 12 units must be earned at Las Positas College. In addition, students must complete a General Education pattern in order to earn a degree: see the Las Positas College Associate Degree General Education Pattern or the California General Education Transfer Curriculum (Cal-GETC) patterns for a listing of areas and courses. Double counting courses in GE and the major is permissible. The number of units that may be double counted will depend on the entry point to the degree program, the optional course(s) taken, and the GE pattern selected. Elective units must be degree applicable. Consult with an adviser or a counselor to plan the courses necessary to achieve your academic goal.

Total: ~~18.0-~~ ~~20~~ 60 .0

4. Master Planning
This local program fits our Educational Master Plan strategies A1 to "Address the educational needs of a diverse student population and global workforce" and A2 to "Support existing and new programs.

5. Enrollment and Completer Projections
15 per academic year.

6. Place of Program in Curriculum/Similar Programs
This program will remain part of the Liberal Arts & Sciences family of programs.

7. Similar Programs at Other Colleges in Service Area
Almost all California Community Colleges have some form of these types of degrees.

The Liberal Arts & Sciences: Social and Behavioral Sciences AA courses emphasize the perspective, concepts, theories and methodologies of the disciplines typically found in the vast variety of disciplines that comprise study in the Social and Behavioral Sciences. Students will study about themselves and others as members of a larger society. Topics and discussion to stimulate critical thinking about ways people have acted in response to their societies will allow students to evaluate how societies and social subgroups operate.

SEMESTER-BY-SEMESTER PROGRAM PLAN FOR FULL-TIME STUDENTS

All plans can be modified to fit the needs of part-time students by adding more semesters

Term 1 - Fall Semester **Units:** 13.0

Course

Units MAJ/GEN/ELEC

Semester(s) Offered

English Composition (Area 1A)	3.0 General Education
AD Elective	3.0 Elective
Health (Area 8)	3.0 General Education
Social and Behavioral Sciences (Area 4)	3.0 General Education
Kinesiology (Area 7)	1.0 General Education

Term 2 - Spring Semester **Units:** 16.0

Course Units Semester(s) Offered	MAJ/GEN/ELEC	
Social and Behavioral Sciences Courses		6.0 Major/Required
Oral Communication and Critical Thinking (Areas 1B)		3.0 General Education
American Institutions (Area 9)		3.0 General Education
STAT C1000 (Area 2)		4.0 General Education

Term 3 - Fall Semester **Units:** 15.0

Course Units Semester(s) Offered	MAJ/GEN/ELEC	
Social and Behavioral Sciences Courses		6.0 Major/Required
Natural Sciences (Area 5)		3.0 General Education
Arts and Humanities (Area 3)		3.0 General Education
AD Elective		3.0 Elective

Term 4 - Spring Semester **Units:** 16.0

Course Units Semester(s) Offered	MAJ/GEN/ELEC	

Social and Behavioral Sciences Course	3.0 Major/Required
Ethnic Studies (Area 6)	3.0 General Education
AD Elective	10.0 Elective

Total: 60.0

6.6. Program Deactivations

Effective Term: **Fall 2026**

- Elementary Teacher Education, AA-T
  Rationale: Program is being replaced with the “2.0” version.
- Mathematics, AS-T
  Rationale: The Mathematics, AS-T is being replaced with the Mathematics, 2.0 AS-T, which is considered a new program.

6.7. Policy Modifications

Effective Term: **Fall 2026**

- CCP 1090 Program Completion Requirements

CCP 1090 PROGRAM COMPLETION REQUIREMENTS

Associate Degree

The Associate Degree is conferred upon students who complete the required 60 or more semester units of the degree pattern with a grade-point average of 2.0 or better, of which 12 units must be earned at Las Positas College. As part of the 60 or more units, students must complete the Las Positas College Associate Degree General Education (ADGE) pattern. Instead of following the ADGE pattern, students may earn the degree by following the California General Education Transfer Curriculum (Cal-GETC) pattern, but this may require students to take more overall units to earn the degree. All courses for the major or area of emphasis must be completed with a grade of "C" (or "P") or better.

Associate Degree for Transfer

The Associate Degree for Transfer is conferred upon students who complete the 60 semester units of the degree pattern that are eligible for transfer to the California State University with a grade-point average of 2.0 or better of which 12 units must be earned at Las Positas College. As part of the 60 units students must complete the Cal-GETC general education pattern. All courses for the major or area of emphasis must be completed with a grade of "C" (or "P") or better.

Certificate of Achievement

The Certificate of Achievement is conferred upon students who successfully complete the required courses for the certificate with a grade of "C" (or "P") or better and complete at least 50% of the program requirements within the Chabot-Las Positas Community College District of which at least one course must be completed at Las Positas College.

Certificate of Accomplishment

The Certificate of Accomplishment is conferred upon students who successfully complete the required courses for the certificate with a grade of "C" (or "P") or better and completes at least 50% of the program requirements within the

Chabot-Las Positas Community College District of which at least one course must be completed at Las Positas College.

Certificate of Competency

The Certificate of Competency is conferred upon students who successfully complete the required courses for the certificate with a grade of "C" (or "P") or better.

Certificate of Completion

The Certificate of Completion is conferred upon students who successfully complete the required courses for the certificate with a grade of "C" (or "P") or better.

Adopted: March 17, 2025; Revised: November 3, 2025