

\* = required field

Some content may be updated based on selection



# COR Proposal Submission Form

## New or Revised COR?

- \*  Create a NEW course not based on a previous course
- REVISE a course based on a previous course
- DELETE a previous course

## Proposal Information

### Proposer

Corey Marvin

### Submission Justification

\* [Text area for submission justification]

## Effective Date

Choose the effective date carefully with the guidance of CIC members. The effective date can be impacted by a number of factors, including transferability, UC/CSU general ed approval, other courses it may be a prerequisite for or courses it is a prerequisite of, SLO assessment schedules, and others. In some cases, effective dates can be out as far as three years.

### Effective term

\* [Dropdown menu]

### Effective year

\* [Dropdown menu]

## Basic Course Information

Course subject (CB01a) \*

Course number (CB01b) \*

[Text input field]

Course Code

[Text input field]

Course title (CB02) \*

[Text input field]

Catalog description \*

[Text area for catalog description]

TOP Code (CB03) \*

[Dropdown menu]

SAM Priority Code (CB09) \*

[Dropdown menu]

Repeatability \*

[Dropdown menu]

Recommended section size \*

[Text input field]

Grading option \*

[Dropdown menu]

Transfer Status (CB05) \*

[Dropdown menu]

Credit Status (CB04) \*

[Dropdown menu]

Course Units Min (CB07) \*

[Text input field]

Course Units Max (CB06) \*

[Text input field]

Co-op Work Exp (CB10) \*

[Dropdown menu]

Basic Skills (CB08) \*

[Dropdown menu]

Course Classification (CB11) \*

Prior to Transfer Level (CB21) \*

Funding Agency Category (CB23) \*

General Education (CB25) \*

Upper Division (CB27) \*

Materials Fee? \*

Special Class (CB13) \*

Non-Credit Category (CB22) \*

Program Status (CB24) \*

Support Course (CB26) \*

Credit for Prior Learning? \*

Course crosslisted with (if applicable)

Course previously known as (if applicable)

### Faculty Minimum Qualifications

Field Service Area(s) (When a value is entered, another row appears. Up to 10 entries.)

\*

Additional Faculty Minimum Qualifications (rare)

### Hours & Units

After choosing the type of course below, enter values into the highlighted fields as appropriate. The non-highlighted fields are designed to calculate automatically. In any of the cases, when you have entered the values germane to your course and generated a final number in the Rounded Units field, you will need to transfer this value to CB codes 06 and 07 in the Basic Course Information section above. If the course is a fixed number of units (most common), enter the same number into both CB06 (max) and CB07 (min). If the course variable in units (rare), enter the maximum and minimum values respectively. If the course is noncredit, enter zeroes.

Is this course credit, variable credit, or noncredit?

\*

### Requisites

Prerequisite, Corequisite or Advisory

	Type	Course		Rationale
	<input type="text"/>	<input type="text"/>		<input type="text"/>
		Alternative Course		Additional Course
	Or	<input type="text"/>	<input type="text"/>	<input type="text"/>
AND	Type	Course		Rationale
	<input type="text"/>	<input type="text"/>		<input type="text"/>
		Alternative Course		Additional Course
	Or	<input type="text"/>	<input type="text"/>	<input type="text"/>
AND	Type	Course		Rationale

	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Alternative Course	Additional Course
	Or	<input type="text"/>	<input type="text"/>
AND	Type	Course	Rationale
	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Alternative Course	Additional Course
	Or	<input type="text"/>	<input type="text"/>
AND	Type	Course	Rationale
	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Alternative Course	Additional Course
	Or	<input type="text"/>	<input type="text"/>
AND	Type	Course	Rationale
	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Alternative Course	Additional Course
	Or	<input type="text"/>	<input type="text"/>
AND	Type	Course	Rationale
	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Alternative Course	Additional Course
	Or	<input type="text"/>	<input type="text"/>
AND	Type	Course	Rationale
	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Alternative Course	Additional Course
	Or	<input type="text"/>	<input type="text"/>
AND	Type	Course	Rationale
	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Alternative Course	Additional Course
	Or	<input type="text"/>	<input type="text"/>
AND	Type	Course	Rationale
	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Alternative Course	Additional Course
	Or	<input type="text"/>	<input type="text"/>

**Limitations on Enrollment**

COR is a requisite for these Courses:

NA

## Outcomes and Objectives

### Student Learning Outcomes

Number	SLO	Target %
* <input type="text"/>	* <input type="text"/>	* <input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

### Course Objectives

## General Education and Program Applicability

### Cerro Coso Local GE

Category

1

2

3

### CSU Breadth

Category (proposed)

1

2

3

Status

Effective Date

### IGETC

Category

1

2

3

Status

Effective Date

### CalGETC

Category

1

2

3

Status

Effective Date

**C-ID Applicability**

C-ID

1   
2

C-ID Status

C-ID Approval Date

**CSU Comparable Courses**

CTE Only - Comparable CSU Courses

**Program Applicability**

The following is generated for your information only and shows the programs which this course is applied to in the CAMS database, as well as which courses this course is a requisite for. Adding or deleting courses to or from a program must be done through a revision of the official Program Outline of Record, submitted as an action item to the curriculum committee

COR in these Programs:

NA

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**Instructional Specifications**

Please clean up any html tags and other stray bits in the existing Topical Outline and in other fields, where you find them.

**Topical Outline**

with overflow fields if needed

\*

More space for those who need it...

Even more space for those who need it...

**Methods of Instruction**

Category

Examples

\*  \*



**Types and Examples of Assignments**

\*

**Textbooks and Other Course Materials**

\*

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**Distance Education Addendum**

**Distance Education Approval**

\*

**Correspondence Education Approval**

\*

**DE/CE Rationale and Rigor Statement**

Assignments and evaluations should be of the same rigor as those used in the on-ground course. If they are not the same as those noted in the COR on the Methods of Evaluation and out-of-class assignments pages, indicate what the differences are and why they are being used. For instance, if labs, field trips, or site visits are required in the face to face section of this course, how will these requirements be met with the same rigor in the Distance Education section? Describe the ways in which instructor-student contact and student-student contact will be facilitated in the distance ed environments.

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Save Progress

Next

## HISTC125

### Proposal Information

**Proposer**

Matthew Jones

**Action**

This is a Brand New COR for a new course

**Justification**

This course is being created to add another Area F class to the social science catalogue, and to help ensure Cerro Coso has a course dedicated to the academic study of the African-American role and contribution to American history.

**Effective Term**

Fall 2024

### Course Information

**Course Subject and Number (CB01)**

HIST C125

**Course Title (CB02)**

African American History

**Catalog Description**

This survey history course examines the political, cultural, social, and economic experiences of African Americans in North America from the time of their initial presence early in the colonial period, throughout the creation and development of the United States, to their role as American citizens who helped define and shape the social actions and political consciousness of the nation.

**TOP Code (CB03)**

2205.00 History

**CIP Code****SAM Priority Code (CB09)**

E - Non-Occupational

**Repeatability**

Not repeatable



## Full COR HISTC125

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### Grading Option

Standard letter with P/NP option

### Recommended Section Size

35

### Credit Status (CB04)

D - Credit - Degree Applicable

### Transfer Status (CB05)

A - Transferable to both UC and CSU

### Course Units (CB06 & CB07)

3.00 Units

### Basic Skills Status (CB08)

N - Course is not a basic skills course.

### Co-operative Work Experience Status (CB10)

N - Is not part of a cooperative work experience education program

### Course Classification Code (CB11)

Y - Credit Course

### Special Class Status (CB13)

N - Course is not a special class.

### Prior to Transfer Level Status (CB21)

Y - Not Applicable

### Non-credit Category (CB22)

Y - Credit Course

### Funding Agency Category (CB23)

Y - Not Applicable (funding not used to develop course.)

### Program Status (CB24)

Yes - Program Applicable

### General Education Status (CB25)

# Full COR HISTC125

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Y - Not Applicable

## Support Course Status (CB26)

N - Course is not a support course.

## Upper Division Status (CB27)

N - course is not an upper division course.

## Credit for Prior Learning

No

## Materials Fee

No

## Crosslisted Course

## Faculty Minimum Qualifications

### Field Service Areas

- Ethnic Studies (Masters)
- History (Masters)

## Hours and Units

### Credit Type

### Credit Course

### Hours and Units

Category	Hours	Units
Lecture	54	3.00
Lab		0.00
Activity		0.00
Non-Standard		0.00
Outside of Class	108.00	-
Total	162.00	3.00

## Requisites

### Advisories

### Requisite Course

ENGL C101

### Rationale for Requisite

Students are expected to read and comprehend a college-level works (textbooks, primary sources, and other assigned reading) explaining sophisticated social science theories. In addition, they must critically analyze scholarly or professional arguments for research assignments. They are also usually required to write at least one research and/or analytical essay, as well as respond to essay questions on exams. This necessitates that they write in a clear and organized manner free from major errors. The English Composition advisory level encourages students to have the skills necessary for success in these assignments.

### Requisite Course

LIBR C100

### Rationale for Requisite

Students are expected to read and comprehend a college-level works (textbooks and other assigned reading) explaining sophisticated social science theories. In addition, they must critically analyze scholarly or professional arguments for research assignments. They are also usually required to write at least one research and/or analytical essay, as well as respond to essay questions on exams. This necessitates that they write in a clear and organized manner free from major errors. This advisory level encourages students to have the skills necessary for success in these assignments.

## Outcomes and Objectives

### SLO 1

#### Outcome

Apply theory and knowledge produced by African American communities to describe the critical events, histories, cultures, intellectual traditions, contributions, lived experiences, and social struggles of those groups with a particular emphasis on agency and group-affirmation.

#### Expected Performance

70%

### SLO 2

#### Outcome

Critically analyze the intersection of race and racism as they relate to class, gender, sexuality, religion, spirituality, national origin, immigration status, ability, tribal citizenship, sovereignty, language, and/or age in African American communities.

#### Expected Performance

70%

### SLO 3

#### Outcome

Critically review how struggle, resistance, racial and social justice, solidarity, and liberation, as experienced and enacted by African Americans are relevant to current and structural issues such as communal, national, international, and transnational politics as, for example, in immigration, reparations, settler-colonialism, multiculturalism, and language policies.

### Expected Performance

70%

### Course Objectives

1. Identify race-related issues and assess them from a historical perspective.
2. Critically evaluate primary and secondary sources of information.
3. Evaluate African American history in the context of American history.
4. Evaluate the use of terms such as accommodation, resistance, civil rights, persistence, nationalism, and equality as they apply to the African American experience.
5. Evaluate the similarities and differences among African American communities with respect to race, religion, and gender.

### General Education and Program Applicability

#### IGETC

##### Area

Area 4 - Social and Behavioral Sciences: Social and Behavioral Sciences

##### Status

##### Approval

##### Area

Area 7 - Ethnic Studies: Ethnic Studies

##### Status

##### Approval

##### Area

Area 3B - Arts and Humanities: Humanities

##### Status

# Full COR HISTC125

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Approval

**CSU**

Area

Area D - Social Sciences: Social Sciences

Status

Approval

Area

Area F - Ethnic Studies

Status

Approval

Area

Area C2 - Arts and Humanities: Humanities

Status

Approval

**LOCAL**

Area

Area 2.3 - Social and Behavioral Science: Historical

Status

Active

Approval

April 10, 2024

Area

Area 6 - Ethnic Studies: Ethnic Studies

Status

Active

**Approval**

April 10, 2024

**Area**

Area 3.3 - Humanities: Humanities

**Status**

Active

**Approval**

April 10, 2024

**Instructional Specifications**

**Topical Outline**

**I. AMERICA'S AFRICAN HERITAGE (15TH CENTURY TO 1790)**

- A. Introduction to Traditional West African Society
- B. European Exploration, Colonialism, Slavery and the New World
- C. Beginnings of the Trade in African Peoples
- D. The African American experience and identity in Colonial America
- E. The American Revolution and the Role of African Americans

**II. THE NEW NATION AND AFRICAN AMERICANS (1790-1840)**

- A. The U.S. Constitution and the Contest of Liberty Versus Security
- B. The New Nation and Quasi-Free African Americans
- C. The Establishment of African American Institutions and Spiritualism
- D. African Americans' Experience in the Jeffersonian and Jacksonian Eras

**III. THE REFORM IMPULSE IN 19TH CENTURY U.S. HISTORY (1830-1850)**

- A. The Peculiar Institution and the Southern Economy
- B. Slavery: A Case Study
- C. The Proslavery Perspective
- D. The Reform Impulse in American History. Paternalism versus Liberation
- E. The Slave and the Quasi-Free Responses to Slavery
- F. The Abolitionist Movement in Black and White

**IV. TOWARDS A DIVIDED NATION (1840-1877)**

- A. Origins of the Civil War
- B. A Divided Nation; Slavery and Geography
- C. Why the Civil War: A Debate
- D. The American Civil War and Its Impact
- E. African Americans and the Civil War
- F. Towards Radical Reconstruction
- G. African Americans and Reconstruction

**V. ERA OF RECONSTRUCTION: THE RISE OF JIM CROW**

**AMERICA, 1865-1914**

- A. Reconstruction and its Consequences
- B. The Rise of Jim Crow in the South
- C. Race, Citizenship, and Identity, After Reconstruction
- D. Race and the Difference It Makes, c.1900

**VI. PROGRESSIVE ERA TO THE GREAT DEPRESSION:  
EVOLUTION OF AFRICAN AMERICAN COMMUNITY AND  
CULTURE**

- A. Understanding American Historiography: The African American Example
- B. The Progressive Influence On Twentieth Century Social and Racial Justice
- C. Growth of African American Inner City
- D. The Harlem Renaissance and Its Impact on African American and American Culture
- E. Pride and Solidarity, Pan Africanism and Black Nationalists: Race and National Identity
- F. African Americans and the Great Depression: Racism, Class, and the New Deal

**VII. FROM WORLD WAR II TO THE FIFTIES: THE ERA OF THE  
CIVIL RIGHTS MOVEMENT**

- A. African Americans and World War II
- B. Post War Times and Its Impact on African American identity
- C. The Origins of the Civil Rights Movement
- D. The Civil Rights Movement, 1955 to 1964
- E. The Civil Rights Movement, 1964 to 1968

**VIII. THE VIETNAM ERA AND BEYOND**

- A. The Vietnam War in America: Social and Political History
- B. 1968: America at the Crossroads
- C. Black Power and Black Women's movements
- D. Struggle for the Souls of Black Folk
- E. America's Right Turn and the Civil Rights Movement
- F. The Reagan Revolution: Conservatives in White and Black

**Methods of Instruction**

**Lecture**

Example - an instructor led lecture describing the three distinct slave systems (northern, Chesapeake/tobacco, and Rice Kingdom) that existed in the English colonies during the 18th century, and how each system resulted in different lived experiences and consequences for both individual agency and group identity for the Africans who found themselves enveloped by it.

**Discussion**

Example - an instructor led discussion comparing and contrasting the intellectual traditions of Booker T Washington and W.E.B. Dubois that encourages students to critically analyze how the intersection of race, class, and age influence both writers as they are influenced by the economic and social zeitgeist of their particular eras (i.e. the Gilded Age vs the Progressive Era).

**Group Work**

Example - group presentations in which the assigned groups analyze the Langston Hughes poem "Let America be America Again" in order to present a group conclusion as to how it spoke to the struggle of

African-Americans to grapple with their participation, or denial of participation, in the promises of the "American Dream" and how it represents a growing call towards racial solidarity among African Americans during the Harlem Renaissance.

### Methods of Evaluation

#### Research Paper

Write an analytical paper on how the lived experiences of Frederick Douglass' described in his autobiography reflect and drive the arguments made against slavery by abolitionists during the antebellum period, and agitate for not mere anti-slavery but racial justice.

#### Tests

Example exam question - What measures did ex-Confederates employ to limit the rights and opportunities of African Americans in the immediate aftermath of the Civil War? (You must include at least one political act and one social act that were used to undermine Blacks' newfound freedom.) Analyze the intentions behind these acts and how each limited economic and social agency.

#### Homework

Example - look up, either in your textbook and/or through online sources, working definitions and understandings of the following concepts and be prepared to present your definitions and understandings, along with the source from which you obtained it, at the beginning of class: Harlem Renaissance, Negro Nationalism, Pan-Africanism, de facto segregation, and Afro-centric.

### Assignments

A. Textbook Reading assignment Example: Take home study quizzes that provide specific multiple choice and/or short answer questions that assist the student in reading for specific content to be learned from the chapter. The study quizzes are discussed and reviewed to clarify and correct any misunderstanding of the material covered in both the lecture and assigned reading.

B. Psychology term paper - Example: Utilize the library's print and online resources to research and write a 1500-2000 word term paper, written in APA format, on one of the assigned research topics in American American history, such as the contributions of African American women to the civil rights movement between 1945 and 1965.

C. View assigned videos from the Online Learning Resource Center (Films on Demand) that corresponds with weekly lectures. For example, view the short film "African Art: Legacy of Oppression" and write 1/2 page to 1 page summary and explanation of how it connects with key themes in the weekly lecture.

### Textbooks and Instructional Material

J. Franklin and E. Higginbotham, From Slavery to Freedom: A History of African Americans, 10th Ed. 2020 (classic text)

OER: BlackPast.org. <https://www.blackpast.org/> 2020

### Distance Education Addendum

#### Distance Education Approval



Yes

**Correspondence Education Approval**

During Emergency Conditions Only

**DE/CE Rationale and Rigor Statement**

All assignments and SLO assessments in distance education courses (online, hybrid and iTV) of HIST C125 are the same as those in the on-ground course, except that students in purely online sections will submit all of their assignments virtually, and students in hybrid sections will submit some of their assignments virtually. Instructor evaluation of student work in distance education courses is the same as in the on-ground course, except that evaluation of student work in online and hybrid courses is presented virtually. Instead of onsite lectures, hybrid and online courses will use videos and written lecture notes. Student interaction will take place in online discussion forums.

**Instruction Office Addendum**

**COR Status**

Active

**CIC Approval**

March 8, 2024

**Board Approval**

April 16, 2024

**Course Control Number**

CCC000644252

**Assignment Load Factor**

15 - Lecture, Laboratory

**Load Amount**

0.2

**COR Listing History**

Updated: April 29, 2024 04:55:33. Created: April 10, 2024 02:28:45.

## AEROC108X

### Proposal Information

**Proposer**

Jarrold Bowen

**Action**

This is a Brand New COR for a new course

**Justification**

In accordance with the stated needs of the community, advisory group, and industry partners, courses will be developed to prepare students to complete the Federal Aviation Administration Airman Certificate in the areas of Aviation Mechanic Technician-General (AMG), Aviation Mechanic Technician-Airframe (AMA), and/or Aviation Mechanic Technician-Powerplant (AMP) as specified in 14 Code of Federal Regulation (CFR) part 65 Certification: Airmen Other Than Flight Crewmembers.

**Effective Term**

Fall 2024

**Course Information****Course Subject and Number (CB01)**

AERO C108X

**Course Title (CB02)**

Aircraft Mechanic Technician Powerplant II

**Catalog Description**

This career-oriented course presents the fundamental concepts of general aircraft maintenance. This course is intended as part of a certification program to prepare the student to take the Aviation Mechanic Technician Powerplant test for Federal Aviation Administration licensure in accordance with 14 Code of Federal Regulations part 65. Topics include engine induction systems, exhaust systems, engine ignition systems, powerplant electrical systems, and magneto-ignition systems.

**TOP Code (CB03)**

0950.20 Aviation Powerplant Mechanics

**CIP Code**

**SAM Priority Code (CB09)**

C - Clearly Occupational

**Repeatability**

Not repeatable

**Grading Option**

Standard letter with P/NP option

**Recommended Section Size**

30

**Credit Status (CB04)**

D - Credit - Degree Applicable

**Transfer Status (CB05)**

C - Not transferable

**Course Units (CB06 & CB07)**

7.50 Units

**Basic Skills Status (CB08)**

N - Course is not a basic skills course.

**Co-operative Work Experience Status (CB10)**

N - Is not part of a cooperative work experience education program

**Course Classification Code (CB11)**

Y - Credit Course

**Special Class Status (CB13)**

N - Course is not a special class.

**Prior to Transfer Level Status (CB21)**

Y - Not Applicable

**Non-credit Category (CB22)**

Y - Credit Course

**Funding Agency Category (CB23)**

Y - Not Applicable (funding not used to develop course.)

**Program Status (CB24)**

Yes - Program Applicable

**General Education Status (CB25)**

Y - Not Applicable

**Support Course Status (CB26)**

N - Course is not a support course.

**Upper Division Status (CB27)**

N - course is not an upper division course.

**Credit for Prior Learning**

Yes

**Materials Fee**

No

**Faculty Minimum Qualifications**

**Field Service Areas**

- Aeronautics (Airframe and power plant, aircraft mechanics, aeronautical engineering technician, avionics) (Any degree and professional experience)

**Hours and Units**

**Credit Type**

**Credit Course**

**Hours and Units**

Category	Hours	Units
Lecture	90	5.00
Lab	135	2.50
Activity		0.00
Non-Standard		0.00
Outside of Class	180.00	-
Total	405.00	8.00

**Requisites**

**Advisories**

**Requisite Course**

## ENGL C101

### Rationale for Requisite

During aircraft maintenance and repair, the technician will be required to use repair manuals and preventive maintenance manuals. This course requires comprehension and analysis of college-level reading material, including active reading to understand structure and purpose, as well as pre-reading and active reading strategies.

### Outcomes and Objectives

#### SLO 1.

##### Outcome

Differentiate between the various types of spark plug fouling and erosion during a visual inspection of the plugs.

##### Expected Performance

70%

#### SLO 2.

##### Outcome

Perform a turbine ignition system inspection.

##### Expected Performance

70%

#### SLO 3.

##### Outcome

Explain the difference between bench timing and timing the magneto to the engine.

##### Expected Performance

70%

### General Education and Program Applicability

### Instructional Specifications

#### Topical Outline

#### Lecture Topical Outline

1. Induction and Exhaust Systems
  - a. Reciprocating Engine Induction Systems
  - b. Basic Carburetor Induction Systems
    - i. Induction System Icing

- ii. Induction System Filtering
- c. Supercharged Induction Systems
  - i. Internally Driven Superchargers
  - ii. Turbosuperchargers
  - iii. Normalizer Turbocharger
  - iv. Ground-Boosted Turbosupercharger System
  - v. Turbocharger Controllers and System Descriptions
  - vi. Variable Absolute Pressure Controller (VAPC)
  - vii. Sloped Controller
  - viii. Absolute Pressure Controller
- d. Turbine Engine Inlet Systems
  - i. Divided-Entrance Duct
  - ii. Variable-Geometry Duct
  - iii. Compressor Inlet Screens
  - iv. Bellmouth Compressor Inlets
  - v. Turboprop and Turboshaft Compressor Inlets
  - vi. Turboprop Engine Inlet Sections
- e. Reciprocating Engine Exhaust Systems
  - i. Radial Engine Exhaust Collector Ring System
  - ii. Manifold and Augmentor Exhaust Assembly
- f. Exhaust Systems with Turbocharger
  - i. Augmentor Exhaust System
  - ii. Turbine Engine Exhaust Nozzles
  - iii. Convergent Nozzles
  - iv. Convergent-Divergent Exhaust Nozzles
- g. Thrust Reversers
- h. Afterburning/Thrust Augmentation
  - i. Thrust Vectoring
- j. Engine Noise Suppression
- k. Turbine Engine Emissions
- 2. Engine Ignition and Electrical Systems
  - a. Reciprocating Engine Ignition Systems
  - b. Magneto-Ignition System Operating Principles
  - c. High-Tension Magneto System Theory of Operation
    - i. Magnetic Circuit
    - ii. Primary Electrical Circuit
    - iii. Secondary Electrical Circuit
  - d. Ignition Harness
  - e. Ignition Switches
  - f. Single and Dual High-Tension System Magnetos
  - g. Types of DC Generators
    - i. Series Wound DC Generators
    - ii. Parallel (Shunt) Wound DC Generators
    - iii. Compound Wound DC Generators
  - h. FADEC (Full Authority Digital Engine Control) System Description
    - i. Low-Voltage Harness
    - ii. Electronic Control Unit (ECU)
    - iii. PowerLink Ignition System
  - iv. Engine Indicating and Crew Alerting System
    - i. Auxiliary Ignition Units

- i. Booster Coil
- ii. Impulse Coupling
- iii. High-Tension Retard Breaker Vibrator
- iv. Low-Tension Retard Breaker Vibrator
- j. Spark Plugs
- k. Magneto-Ignition Timing Devices
- l. Turbine Engine Ignition Systems
- i. Capacitor Discharge Exciter Unit
- ii. Igniter Plugs
- m. Powerplant Electrical Systems
- i. Wire Size
- ii. Factors Affecting the Selection of Wire Size
- iii. Factors Affecting Selection of Conductor Material
- iv. Voltage Drop in Aircraft Wire and Cable
- v. Conductor Insulation
- vi. Identifying Wires and Cables
- vii. Wire Groups and Bundles
- viii. Bend Radii
- ix. Protection Against Chafing
- x. Protection Against High Temperatures
- xi. Protection Against Solvents and Fluids
- xii. Protection of Wires in Wheel Well Area
- n. Connectors
- i. Types of Connectors
- ii. Connector Identification
- o. Conduit
- p. Electrical Load Limits
- q. Circuit Protection Devices
- r. Switches
- s. Relays
- 3. Engine Starting Systems
- a. Introduction
- b. Reciprocating Engine Starting Systems
- i. Inertia Starters
- ii. Direct Cranking Electrical Starter
- c. Gas Turbine Engine Starters
- d. Electrical Starting System and Starter Generator Starting System
- e. Air Turbine Starters

#### Laboratory Topical Outline

- 1. Induction and Exhaust Systems
- a. Reciprocating Induction Systems
- b. Basic Carburetor Induction System
- i. Induction Systems Inspection
- ii. Induction System Maintenance
- iii. Extinguishing Engine Fires
- iv. Induction System Troubleshooting
- c. Supercharged Induction System
- i. Turbocharger System Troubleshooting

- d. Turbine Engine Inlet Systems
- e. Reciprocating Engine Exhaust Systems
  - i. Reciprocating Engine Exhaust Systems Maintenance Practices
  - ii. Exhaust System Inspection
  - iii. Muffler and Heat Exchanger Failures
  - iv. Internal Muffler Failures
- f. Exhaust Systems with Turbochargers
  - i. Exhaust System Repairs
- 2. Engine Ignition and Electrical Systems
  - a. Magneto and Distributor Venting
  - b. Generator Ratings
    - i. DC Generator Maintenance
  - c. Spark Plugs
    - i. Reciprocating Engine Ignition System Maintenance
    - ii. Reciprocating Engine Ignition System Inspection
  - d. Magneto-Ignition Timing Devices
    - i. Built-In Engine Timing Reference Marks
    - ii. Timing Discs
    - iii. Piston Position Indicators
    - iv. Timing Lights
  - e. Checking the Internal Timing of a Magneto
    - i. High-Tension Magneto E-Gap Setting (Bench Timing)
    - ii. Timing the High-Tension Magneto to the Engine
    - iii. Performing Ignition System Checks
    - iv. Ignition Switch Check
    - v. Maintenance and Inspection of Ignition Leads
    - vi. Replacement of Ignition Harness
    - vii. Checking Ignition Induction Vibrator Systems
  - f. Spark Plug Inspection and Maintenance
    - i. Carbon Fouling of Spark Plugs
    - ii. Oil Fouling of Spark Plugs
    - iii. Lead Fouling of Spark Plugs
    - iv. Graphite Fouling of Spark Plugs
    - v. Gap Erosion of Spark Plugs
    - vi. Spark Plug Removal
    - vii. Spark Plug Reconditioning Service
    - viii. Inspection Prior to Installation
    - ix. Breaker Point Inspection
    - x. Dielectric Inspection
    - xi. Ignition Harness Maintenance
    - xii. High-Tension Ignition Harness Faults
    - xiii. Harness Testing
  - g. Turbine Engine Ignition Systems Inspection and Maintenance
    - i. Inspection
    - ii. Check System Operation
    - iii. Repair
  - h. Removal, Maintenance, and Installation of Ignition System Components
    - i. Ignition System Leads
    - ii. Igniter Plugs
    - i. Lacing and Tying Wire Bundles



- i. Single-Cord Lacing
- ii. Double-Cord Lacing
- iii. Lacing Branch-Offs
- iv. Tying
- j. Cutting Wire and Cable
- k. Stripping Wire and Cable
- i. Solderless Terminals and Splices
- ii. Copper Wire Terminals
- iii. Crimping Tools
- iv. Aluminum Wire Terminals
- v. Splicing Copper Wires Using Pre-Insulated Wires
- I. Emergency Splicing Repairs
  - i. Splicing with Solder and Potting Compound
- m. Connecting Terminal Lugs to Terminal Blocks
- n. Bonding and Grounding
  - i. General Bonding and Grounding Procedures
- o. Connectors
  - i. Installation of Connectors
- p. Electrical Equipment Installation
- q. Controlling or Monitoring the Electrical Load
- 3. Engine Starting System
  - a. Reciprocating Engine Starting System Maintenance Practices
  - b. Troubleshooting Small Aircraft Starting Systems
  - c. Troubleshooting a Starter Generator Starting System
  - d. Air Turbine Starter Troubleshooting

**Methods of Instruction**

**Lecture**

The instructor explains the function of a turbocharger absolute pressure controller.

**Demonstration**

The instructor demonstrates how to properly perform an induction system inspection.

**Methods of Evaluation**

**Skills Demonstration**

The students perform a breaker point inspection of an aircraft magneto.

**Final Exam**

The students complete a comprehensive final exam covering the material learned in class lectures and labs. The final exam will include multiple-choice, fill-in-the-blank, and short-answer questions. The following is an example question: "List the possible causes for a wastegate that will not fully close."

**Assignments**

In a laboratory setting, the students demonstrate the removal and replacement of a spark plug.

**Textbooks and Instructional Material**

Federal Aviation Administration (2023) Aviation Maintenance Technician Handbook-Powerplant. FAA-H-8083-32B. Oklahoma City: U.S. Department of Transportation.

**Distance Education Addendum**

**Distance Education Approval**

No

**Correspondence Education Approval**

No

**DE/CE Rationale and Rigor Statement**

**Instruction Office Addendum**

**COR Status**

Active

**CIC Approval**

February 23, 2024

**Board Approval**

April 16, 2024

**Course Control Number**

**Assignment Load Factor**

15 - Lecture, Laboratory

**Load Amount**

0.833

**COR Listing History**

Updated: April 17, 2024 10:37:21. Created: April 10, 2024 02:22:58.

Report pulled April 17, 2024.