5/13/2019: Updates were made per IPM email to Curriculum Services. For additional information please see pages 227-232 for technical review updates to details per requested updates. If you have any questions, please contact curriculum@fscj.edu or you may contact the proposal faculty originators, IPM, and/or dean directly.

5/10/2019: This proposal is pending additional review by faculty originators, IPM and dean per conversation with Rebecca Nelson, Curriculum Specialist and David Dagenais, Instructional Program Manager on 5/10, updates will be made to correct areas identified during the technical review and revised document will be provided no later than 5/14 to the office of Curriculum Services. For additional information, please see pages 223-226 for technical review details and requested updates. If you have any questions, please contact curriculum@fscj.edu or you may contact the proposal faculty originators, IPM, and/or dean directly.
To: Dr. Kathleen Ciez-Volz  
Curriculum Committee  

From: Douglas Brauer  

Date: May 3, 2019  

Subject: Aviation Maintenance Management (2150) Curriculum Changes  

A subject curriculum revision proposal was submitted for April formal Committee review and approval. However, due to late discussion between the Curriculum and Engineering & Industry departments the proposal was pulled back. It is resubmitted for May formal Committee review and approval.  

The curriculum for the Aviation Maintenance Management Program leading to an Associate of Science Degree is revised for implementation Fall 2019. Highlights include:  

1. The current "C" lecture/laboratory combination courses are separated into a course for lecture and a course for laboratory.  
2. With this curriculum revision, the workload assigned to the Laboratory courses warrants a 0.5 multiple per the Collective Bargaining Agreement in place.  
3. This revision to the Program's curriculum has been thoroughly evaluated and approved by the existing Aviation Program (2150) faculty and Instructional Program Manager.  
4. The curriculum revision for allocating faculty workload to laboratory time was presented to the Program’s Advisory Committee on February 15, 2019 for evaluation and was, subsequently, approved at that meeting.  
5. The revised Program Curriculum adheres to the applicable Florida Department of Education Framework for an 83 credit Associate of Science degree reflecting the FAA student classroom/laboratory contact hour requirements in compliance with Federal Aviation Regulation Part 147. The courses are Federal Aviation Administration Certified.  
6. Revising the curriculum to allocate workload time for Aviation laboratory activities is supported by Dr. Sheri Litt and Dr. Douglas Brauer stemming from initial discussion in Fall 2018.  

Cc: Dr. Sheri Litt, David Dagenais, Don Coy, Robert Crognale, Gary Davidson, John Mayes
# Table of Contents

## I. Proposal Background and Summary
- ✓ Title and Actions
- ✓ Implementation Term
- ✓ Summary
- ✓ College Strategic Priorities
- ✓ Curriculum Collaborations
- ✓ Cost Analysis
- ✓ Articulation

## II. Program Information
- ✓ Framework
- ✓ Type
- ✓ School
- ✓ Identifier
- ✓ Labor Market Data
- ✓ Access
- ✓ Assessment Scores
- ✓ Support
- ✓ Occupational Completion Points (Clock Hour Only)
- ✓ Impact

## III. Program Accreditation
- ✓ Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Assessment
- ✓ SACSCOC Timeline School
- ✓ Specialized Assessment

## IV. Program Funding and Reporting
- ✓ Financial Aid
- ✓ Financial Aid Assessment
- ✓ Gainful Employment
- ✓ Gainful Employment Assessment

## V. Program Page
- ✓ College Catalog Layout
- ✓ Recommended Course Sequence by Term

## VI. Course Information
- ✓ Assignment
- ✓ Identifier
- ✓ Eligibility
- ✓ Impact

## VII. Course Outline
- ✓ College Layout
- ✓ Learning Outcomes and Assessment

## VIII. Addenda
- ✓ Faculty Support (Optional)
- ✓ Program Advisory Committee Meeting Minutes
- ✓ Program Inactivation (Notice to Students, District Board of Trustees Item and SACSCOS Approval)

## IX. Signatures

Obtained by Proposal Originator(s) Prior to Submission to Curriculum Services
- ✓ Faculty Member
- ✓ Instructional Program Manager or Department Chair
- ✓ Director or Dean

Obtained by Curriculum Services on behalf of Proposal Originator(s)
- ✓ Technical/Quality Review
- ✓ SACSCOC Liaison
- ✓ Associate Provost or Associate Vice President or Executive Director or Vice President of FSCJ Online and Workforce Education
- ✓ Curriculum Committee Chair
- ✓ Provost/Vice President of Academic Affairs
I. Proposal Background and Summary

All sections of the Curriculum Proposal form are required to be completed for all actions identified within the proposal. Specific questions pertaining to programs and courses are located in their respective sections of the form. Please refer to the Curriculum Committee calendar for critical dates and deadlines pertaining to the curriculum process.

Key Topics

✓ Title and Actions
✓ Implementation Term
✓ Summary
✓ College Strategic Priorities
✓ Curriculum Collaborations
✓ Cost Analysis
✓ Articulation
Title and Actions

Insert the title of the curriculum proposal and place an “X” in the box next to the action(s) identified within the proposal.

<table>
<thead>
<tr>
<th>Title</th>
<th>Action(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aviation Maintenance Management (2150) (A.S.), Aviation Airframe Mechanics (6115) (T.C.), &amp; Aviation Powerplant Mechanics (6117) (T.C.) Program &amp; Course Modifications; Aviation Mechanic (6119) (T.C.) New Program</td>
<td>☒ New Program</td>
</tr>
<tr>
<td></td>
<td>☒ Modify Program</td>
</tr>
<tr>
<td></td>
<td>☐ Inactivate Program</td>
</tr>
<tr>
<td></td>
<td>☐ Reactivate Program</td>
</tr>
<tr>
<td></td>
<td>☒ New Course</td>
</tr>
<tr>
<td></td>
<td>☒ Modify Course</td>
</tr>
<tr>
<td></td>
<td>☐ Inactivate Course</td>
</tr>
<tr>
<td></td>
<td>☐ Reactivate Course</td>
</tr>
<tr>
<td></td>
<td>☒ Other</td>
</tr>
</tbody>
</table>
| The modification is to correct the lecture/lab annotation on page 1 of the course outlines and to align the associated CCC with the frameworks.

Implementation Term

In the space provided, add the two-digit academic year, and then place an “X” in the box next to the requested academic term for implementation of the actions identified within the proposal. All new programs and substantially modified programs require the College’s District Board of Trustees, SACSCOC and Financial Aid approval. Please review the current Curriculum Committee calendar for critical due dates. Implementation term(s) for specific course(s) is/are also identified in the course section of this form.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Academic Term</th>
<th>Academic Season</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>2198</td>
<td>☒ Fall</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Spring</td>
</tr>
<tr>
<td></td>
<td></td>
<td>☐ Summer</td>
</tr>
</tbody>
</table>

Based on Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) policy, many new programs are required to submit a prospectus and obtain approval from SACSCOC prior to implementation. See Program Accreditation for further information.

Summary

Provide a brief summary narrative and rationale of the actions identified within the proposal.

This proposal will align the Aviation Maintenance Management (2150) embedded technical certificates within the A.S. degree with the FLDOE (Florida Department of Education) frameworks. The new Aviation Mechanic (6119) Technical Certificate (T.C.) will also enable students to obtain an additional college credit certificate as they progress toward the Aviation Maintenance Management (2150) associate of science degree.

This proposal additionally removes prerequisite coursework from Professional Coursework Aviation Airframe I-IV (AMT 1761C-AMT 1764C) and Aviation Powerplant I-IV (AMT 1771C-AMT 1764C) of existing programs to better align with FLDOE certificate frameworks.

Lastly, the proposal will modify AMT17xx combined lecture/lab AMT courses into separate classroom and lab courses in addition to modifying two A.S. required courses and two A.S. professional elective courses.

NOTE: The revised program curriculum adheres to the applicable Florida Department of Education framework for an 83 credit hour Associate in Science degree reflecting the FAA student classroom/laboratory contact hour requirements in compliance with the Federal Aviation Regulation Part 147. The courses are Federal Aviation Administration certified.
## College Strategic Priorities

Identify strategic priorities with which the actions in the proposal best align. New programs and substantially modified programs should support at least one (1) strategic priority. Please review the College’s Strategic Planning webpage in regard to the College’s strategic goal and associated strategic priorities:

<table>
<thead>
<tr>
<th>Strategic Priority</th>
<th>Description</th>
<th>Align</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Provide a student-centered education.</td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>Impact community.</td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Increase institutional capacity.</td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

## College Strategic Goal: Increase the Success of FSCJ Students

<table>
<thead>
<tr>
<th>Strategic Priority</th>
<th>Description</th>
<th>Align</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

## Curriculum Collaborations

Identify any business partnerships, grant requirements, or faculty collaborations that support the actions identified within the proposal. Provide a brief statement about the partnership and its collaborators:

<table>
<thead>
<tr>
<th>Type</th>
<th>Partnerships</th>
<th>Align</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Partnerships</td>
<td>N/A</td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Grant Requirements</td>
<td>N/A</td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Faculty Collaboration</td>
<td>Robert Crognale, Don Coy, Gary Davidson, and John Mayes</td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Other</td>
<td>N/A</td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

*Curriculum proposal originators are encouraged to gather additional support from their faculty discipline colleagues. See Disciplinary Faculty Support (Optional) (Addendum A) for further information.*

## Cost Analysis

Identify any new cost(s) to the College based on the actions identified within the proposal. Provide a brief cost analysis statement. Please do not include special fees in this section. Special fees attached to courses should be addressed with the Bursar’s office:

<table>
<thead>
<tr>
<th>Type</th>
<th>Cost Analysis</th>
<th>Align</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment/Supplies</td>
<td>No major changes in equipment/supplies needed due to course modifications.</td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Faculty Resources</td>
<td>The AMT 17XX combination courses will be split into separate lecture and lab courses to provide faculty compensation for both their lecture time and lab time.</td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Materials/Software</td>
<td>N/A</td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Other</td>
<td>N/A</td>
<td>☒</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

## Articulation

Current *internal and external articulation agreements* are available online as a point of reference. Workforce Education and Economic Development: Internal articulations such as PSAV/Clock Hour/Workforce to Associate in Science and external articulations such as industry certifications to Associate in Science; and Liberal Arts and Sciences and Articulation: Courses intended for transfer to another institution and external upper-division articulations (2+2).

**Will the actions identified within the proposal affect existing articulation agreements?**

<table>
<thead>
<tr>
<th>Align</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>☒</td>
<td>No</td>
</tr>
</tbody>
</table>
II. Program Information

If the actions identified within the proposal involve the development, modification, inactivation or reactivation of a program (or of a course/courses within one or more programs), then complete this section prior to the Course Information section.

Key Topics

- Framework
- Type
- Identifier
- Labor Market Data
- Access
- Assessment Scores
- Support
- Completion Points (PSAV/Clock Hour Only)
- Impact
Framework

The Florida Department of Education (FLDOE) classifies each program according to its discipline area/career cluster. The FLDOE compiles a curriculum framework for each program that identifies information such as program title, program hours, CIP code(s), SOC code(s), program standards and occupational completion points (PSAV only). The information requested below is assigned by the FLDOE according to the current edition of the academic year curriculum framework. The Office of Curriculum Services will assign the initial program code for all new programs. Existing programs must maintain their current program code unless previously discussed with the Office of Curriculum Services and the proposal is identified as a substantive change by the OIEA requiring SACSCOC notification.

Type

Identify the program of study/degree type that best aligns with the actions identified within the proposal:

- [ ] Bachelor of Science
- [X] Bachelor of Applied Science
- [ ] Bachelor of Science in Nursing
- [ ] Associate in Arts
- [X] Associate in Science
- [ ] Associate in Applied Science
- [X] Technical Certificate
- [ ] Advanced Technical Certificate
- [ ] PSAV/Clock Hour/Workforce
- [ ] Applied Technical Diploma
- [ ] Adult Studies
- [ ] Other

Use this space to identify program type if not listed.

School

Identify the program of study/degree type that best aligns with the actions identified within the proposal:

- [ ] Liberal Arts and Sciences
- [X] Business, Professional Studies, and Public Safety
- [ ] Technology and Industry
- [ ] Health, Education, and Human Services
- [ ] Other

Use this space to identify program school if not listed.

Identifier

Specify the program information and appropriate identification numbers that the actions within the proposal impact. The program code is assigned by the College. The program title, program hours and information for the State CIP Number are assigned by the FLDOE according to the current edition of the academic year curriculum frameworks. The information for the Federal CIP Number is assigned by the Federal Department of Education, National Center for Education Statistics.

<table>
<thead>
<tr>
<th>Program Title (Assigned by FLDOE)</th>
<th>Aviation Maintenance Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Hours (Assigned by FLDOE)</td>
<td>83 credit hours</td>
</tr>
<tr>
<td>State CIP Number (Assigned by FLDOE)</td>
<td>1649010401</td>
</tr>
<tr>
<td>Federal CIP Number (Assigned by USDOE-NCES)</td>
<td>490104</td>
</tr>
<tr>
<td>New and/or Revised?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Title (Assigned by FLDOE)</th>
<th>Aviation Mechanic (New program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Hours (Assigned by FLDOE)</td>
<td>12 credit hours</td>
</tr>
<tr>
<td>State CIP Number (Assigned by FLDOE)</td>
<td>0649010408</td>
</tr>
<tr>
<td>Federal CIP Number (Assigned by USDOE-NCES)</td>
<td>490104</td>
</tr>
<tr>
<td>New and/or Revised?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Title (Assigned by FLDOE)</th>
<th>Aviation Airframe Mechanics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Hours (Assigned by FLDOE)</td>
<td>24 credit hours</td>
</tr>
<tr>
<td>State CIP Number (Assigned by FLDOE)</td>
<td>0649010409</td>
</tr>
<tr>
<td>Federal CIP Number (Assigned by USDOE-NCES)</td>
<td>490104</td>
</tr>
<tr>
<td>New and/or Revised?</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Identifier (Continued)

Specify the program information and appropriate identification numbers that the actions within the proposal impact. The program code is assigned by the College. The program title, program hours and information for the State CIP Number are assigned by the FLDOE according to the current edition of the academic year curriculum frameworks. The information for the Federal CIP Number is assigned by the Federal Department of Education, National Center for Education Statistics. The program code is assigned by the College. The program title, program hours and information for the State CIP Number are assigned by the FLDOE according to the current edition of the academic year curriculum frameworks. The information for the Federal CIP Number is assigned by the Federal Department of Education, National Center for Education Statistics.

<table>
<thead>
<tr>
<th>Program Title (Assigned by FLDOE)</th>
<th>Aviation Powerplant Mechanics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Hours (Assigned by FLDOE)</td>
<td>24 credit hours</td>
</tr>
<tr>
<td>Program Code (Assigned by the College)</td>
<td>6117</td>
</tr>
<tr>
<td>State CIP Number (Assigned by FLDOE)</td>
<td>0649010410</td>
</tr>
<tr>
<td>New and/or Revised?</td>
<td>☑ Yes ☒ No</td>
</tr>
<tr>
<td>Federal CIP Number (Assigned by USDOE-NCES)</td>
<td>490104</td>
</tr>
<tr>
<td>New and/or Revised?</td>
<td>☑ Yes ☒ No</td>
</tr>
</tbody>
</table>

### Labor Market Data

Identify the labor market data that the actions within the proposal impact. The information for the SOC Number is assigned by the FLDOE according to the current edition of the academic year curriculum frameworks. The information for SOC NAV military programs is determined by the Service Members Opportunity Colleges. The information for estimated employment and growth is assigned by the Florida Department of Economic Opportunity, Employment Projections Data.

<table>
<thead>
<tr>
<th>Occupation Title</th>
<th>Aircraft Mechanics and Service Technicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC Number</td>
<td>49-3011</td>
</tr>
<tr>
<td>SOC NAV Number</td>
<td>(Military &amp; Veteran Use) N/A</td>
</tr>
<tr>
<td>Entry Wage</td>
<td>$16.36</td>
</tr>
<tr>
<td>Median Wage</td>
<td>$26.43</td>
</tr>
</tbody>
</table>

### Access

Identify the type of program access that best align(s) with the actions identified within the proposal. Program access MUST BE clearly identified on the catalog program page.

#### Limited Access: Programs that limit the admission of prospective students on the basis of enrollment capacity (i.e., the number of students whom the program can accommodate because of available seats).

- ☐ Yes ☒ No
- If YES, identify the specific program by title(s), code(s) and degree type(s).
  - N/A

#### Selective Access: Programs that admit prospective students who meet specific admissions criteria, including, without being limited to, grade point average (G.P.A.), entrance exams, scores, letters of application, letters of reference and/or professional background criteria (e.g., criminal background check, drug screening, medical examination, and/or professional licensure or certification).

- ☒ Yes ☐ No
- If YES, identify the specific program by title(s), code(s) and degree type(s).
  - A.S. Aviation Maintenance Management (2150) (A.S.), Aviation Airframe Mechanics (6115) (T.C.), & Aviation Powerplant Mechanics (6117) (T.C.); new program Aviation Mechanic (6119) (T.C.)

#### Open Access: Programs that do not limit the admission of prospective students due to available seats and/or the criteria for admission does not require specific additional standards.

- ☒ Yes ☐ No
- If YES, identify the specific program by title(s), code(s) and degree type(s).
  - N/A
Assessment Scores

Identify TABE assessment scores (English, Reading and Mathematics) that satisfy the exit criteria for the identified PSAV/Clock Hours/Workforce program(s). For other program types that require assessment(s), please use the space designated as “other” to identify those items specifically:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Score</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Support

Provide information about the Program Advisory Committee support for the actions identified in the proposal. State mandated changes do not require Program Advisory Committee approval; however, documentation which indicates notification to Program Advisory Committee members is required.

<table>
<thead>
<tr>
<th>Meeting Date</th>
<th>Meeting Minutes (Addendum B)</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/11/2018, 4/12/2019 and 5/6/2019</td>
<td>☒ Yes ☐ No</td>
<td>☒ Yes ☐ No</td>
<td></td>
</tr>
</tbody>
</table>

If YES, provide a brief summary of the Program Advisory Committee recommendations/vote and attach a copy of the meeting minutes in Addendum B.

The 2018-19 FLDOE curriculum frameworks for the Aviation Maintenance Management Associate in Science now includes three College credit certificates: Aviation Mechanic, Aviation Airframe Mechanics and Aviation Powerplant Mechanics. The College has determined that it would be advantageous to modify the existing AMM program to embed the new certificates beginning with the fall term 2019. As part of the development of the new certificates, the College will phase out (inactivate) the existing PSAV programs and provide students the opportunity to select the credit options as their program of study. Existing students who move from the PSAV programs to the credit programs will be awarded credit via an existing articulation agreement for coursework already complete. All committee members voted in agreement on 5-11-2018.

An electronic vote was conducted on 4/12/2019 in support of the new 12 credit hour embedded Aviation Mechanic technical certificate. PAC members voted in support of the new addition.

An electronic vote was conducted on 5/6/2019 in support of the separation of lecture courses from laboratory courses and were advised that this would be the only change to the courses, no content changes were being made. PAC members voted in support of the change.

Occupational Completion Points (Clock Hour Programs Only)

Identify Occupational Completion Points (OCPs) for all Clock Hour/Workforce programs that best align with the actions identified within the proposal. Provide a brief summary of each OCP. The information for OCPs is assigned by the FLDOE according to the current edition of the academic year curriculum frameworks:

| Occupational Completion Point(s) | N/A |

Impact

Identify any impact based on the actions identified within the proposal. Provide a brief statement in response to each question:

**Will the actions identified within the proposal meet a specific student success, workforce, or university transfer need?**

| ☒ Yes | ☐ No |

If YES, identify the specific student success, workforce and/or university transfer needs.

The addition of the new Aviation Mechanic technical certificate program will provide students with the opportunity to earn three 3 separate technical certificates in addition to earning the Associate in Science in Aviation Maintenance Management. Also, by removing unnecessary “hidden” prerequisite barriers within the AMT coursework, the curriculum will better align with the FLDOE frameworks and provide students with a more structured pathway for technical certification and degree completion.

**Will additional programs of study be indirectly impacted by the actions identified within the proposal?**

| ☒ Yes | ☐ No |

If YES, identify the specific program by title, program code and degree type. Also, include information about the impacted programs and the plan for addressing any concerns.

The continued increase of student enrollment within the College credit technical certificate programs in Aviation Airframe and Aviation Powerplant both embedded within the Associate in Science degree further supports the future program inactivation submissions to remove the same Aviation Airframe and Aviation Powerplant PSAV clock hour program from the College’s inventory. (Forthcoming proposal being submitted to the May 2019 Curriculum Committee.)
### Impact (Continued)

Identify any impact based on the actions identified within the proposal. Provide a brief statement in response to each question:

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are currently enrolled and/or past term students affected by the actions identified within the proposal?</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

If YES, identify any concerns and how you plan to communicate the actions to currently enrolled and/or past term students. Include the approximate number of students impacted.

| N/A | |

<table>
<thead>
<tr>
<th>Are the actions identified within the proposal based on student cohorts?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

If YES, identify how the actions affect currently enrolled student cohorts and/or future term student cohorts.

| N/A | |

<table>
<thead>
<tr>
<th>Will the actions identified within the proposal provide students with a teach-out plan in order to complete their program of study with minimal disruption or additional expense?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

If YES, identify the specific details of the teach-out plan, the length of time the teach-out plan will be maintained, and agreements for specific teach-out periods with other institutions.

**A teach-out plan is a written plan developed by an institution that provides for the equitable treatment of students if an institution, or an institutional location that provides fifty percent or more of at least one program, ceases to operate before all students have completed their program of study, and may include, if required by the institution’s accrediting agency, a teach-out agreement between institutions. Teach-out plans must be approved by SACSCOC in advance of implementation.**

| N/A | |

<table>
<thead>
<tr>
<th>Will the actions identified within the proposal affect students due to a program replacement and/or program inactivation?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

If YES, in Addendum C, attach a copy of the notification of program closure including alternate programs that may serve as transfer options and the length of time students have to complete their current program of study.

**For any program inactivation, the last term in which a student can enroll must be identified as the term immediately preceding the requested term for program closure (e.g., fall term 2018 = program closure; summer term 2018 = last enrollment term).**

| N/A | |

<table>
<thead>
<tr>
<th>Will the actions identified within the proposal affect faculty and/or staff due to a program replacement and/or program inactivation?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

If YES, identify the impact on faculty and/or staff and the plan to address this impact.

| N/A | |

<table>
<thead>
<tr>
<th>Will the effectiveness of the actions identified within the proposal be assessed and/or evaluated?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

If YES, identify the methods of assessment and/or evaluation model you plan to utilize.

The curriculum will continue to utilize existing evaluation methods to determine student and program success.
III. Program Accreditation

If the actions identified within the proposal involve the development, modification, inactivation or reactivation of a program (or of a course/courses within one or more programs), then complete this section to determine if additional approval from the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) is required.

Key Topics

- Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Assessment
- SACSCOC Timeline
- Specialized Assessment
**Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Assessment**

In order to maintain the College’s continued accreditation through the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC), all originators are required to complete this section to determine if reporting to SACSCOC is required. Please contact the Office of Institutional Effectiveness and Accreditation (OIEA) at oiea@fscj.edu at the beginning of the proposal process to discuss the specific requirements for your proposed change to minimize the possibility of implementation delay.

If you answer YES to one or more of the questions below, complete the substantive change intake form found on the OIEA website. Timelines for the development and submission of reports to SACSCOC can also be found on the OIEA website.

Based on the information provided within the proposal, please identify if the proposal involves any of the following actions related to substantive change.

<table>
<thead>
<tr>
<th>The development of a new degree or certificate program?</th>
<th>☒</th>
<th>Yes</th>
<th>☐</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>A contract, MOU, grant or consortium for the development of all or part of a new program or course?</td>
<td>☐</td>
<td>Yes</td>
<td>☒</td>
<td>No</td>
</tr>
<tr>
<td>The inactivation of a degree or certificate program?</td>
<td>☐</td>
<td>Yes</td>
<td>☒</td>
<td>No</td>
</tr>
<tr>
<td>An increase or decrease in the total degree or certificate program hours by ≥25%?</td>
<td>☐</td>
<td>Yes</td>
<td>☒</td>
<td>No</td>
</tr>
<tr>
<td>Adding or modifying coursework that requires new faculty, course content, equipment, facilities, library or other resources?</td>
<td>☐</td>
<td>Yes</td>
<td>☒</td>
<td>No</td>
</tr>
<tr>
<td>Changing the program from clock hours to credit hours or vice versa?</td>
<td>☐</td>
<td>Yes</td>
<td>☒</td>
<td>No</td>
</tr>
<tr>
<td>The instruction of courses delivered by College faculty/instructors and/or employees at an off-campus location?</td>
<td>☐</td>
<td>Yes</td>
<td>☒</td>
<td>No</td>
</tr>
</tbody>
</table>

**SACSCOC Timeline**

Below is a list of common SACSCOC substantive changes and their requirements for approval. This list should serve as a guideline to help you prepare for your change. Please contact the Office of Institutional Effectiveness and Accreditation for information specific to your proposed change.

<table>
<thead>
<tr>
<th>Types of Substantive Change</th>
<th>Timeline for Contacting OIEA</th>
<th>Timeline for Submission to SACSCOC</th>
<th>Instrument to be submitted to SACSCOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Programs*</td>
<td>18 months prior to planned implementation</td>
<td>[Details not visible in the image]</td>
<td>Prospectus (20+ page document describing how institution will administer change)</td>
</tr>
<tr>
<td>Altering program length by &gt;25%</td>
<td>12 months prior to planned implementation</td>
<td>[Details not visible in the image]</td>
<td>Modified Prospectus (15+ page document describing how institution will administer change)</td>
</tr>
<tr>
<td>Initiating degree completion programs</td>
<td>18 months prior to planned implementation</td>
<td>[Details not visible in the image]</td>
<td>Prospectus (20+ page document describing how institution will administer change)</td>
</tr>
<tr>
<td>Closure of a program</td>
<td>3-6 months prior to planned implementation</td>
<td>[Details not visible in the image]</td>
<td>Letter of Notification. Must describe how students, faculty, and staff will be affected</td>
</tr>
<tr>
<td>Offering 25-49.9% of a program at an off-campus location</td>
<td>6 months prior to planned implementation</td>
<td>[Details not visible in the image]</td>
<td>Letter of Notification</td>
</tr>
<tr>
<td>Offering 50%+ of a program at an off-campus location</td>
<td>12 months prior to planned implementation</td>
<td>[Details not visible in the image]</td>
<td>Prospectus (20+ page document describing how institution will administer change)</td>
</tr>
</tbody>
</table>

*Not all new programs will qualify for substantive change.

**Specialized Assessment**

Some programs may have specialized accreditation requirements that initiate a curriculum a change. If you need assistance in determining the specialized accreditation status and requirements of the program(s) affected in this proposal, please contact the Office of Institutional Effectiveness and Accreditation (OIEA) at oiea@fscj.edu.

If the program(s) identified in this proposal has/have a specialized accreditor, are the requirements of the accreditor, in whole or part, initiating this curriculum change? ☑ Yes ☐ No

If YES, identify the title of the organization.

| N/A |
**IV. Program Funding and Reporting**

If the actions identified within the proposal involve the development, modification, inactivation or reactivation of a program (or of a course/courses within one or more programs), then complete this section to determine if additional approval from the Office of Federal Financial Aid is required.

For institutions that are **fully approved** by the U.S. Department of Education for Federal Financial Aid funding eligibility, approval is only required for new vocational programs that are greater than 24 credit hours in length or greater than 600 clock hours in length. In this scenario, Financial Aid is awarded to students in programs such as the Associate in Arts, Associate in Science or a Baccalaureate degree in conjunction with the notice to the U.S. Department of Education, Federal Financial Aid office.

For institutions that are **provisionally** approved by the U.S. Department of Education for Federal Financial Aid funding eligibility, approval is required for ALL new and modified programs regardless of credit hours in length or clock hours in length. Financial Aid will not be awarded to ANY student until the U.S. Department of Education Federal Financial Aid office approves funding. Please exercise caution when selecting an implementation term for new and/or modified programs as the approval process can take 12-18 months.

Gainful employment is applicable ONLY to the following types of programs:
- Career technical education training programs of at least one academic year in length and that lead to a clock hour/workforce certificate.
- Credentialed, non-degree programs such as credit programs requiring 24 or more credit hours or clock hour programs requiring 600 or more contact hours.

**Key Topics**

- Financial Aid
- Financial Aid Assessment
- Gainful Employment
- Gainful Employment Assessment
Financial Aid

From the U.S. Department of Education, Office of Federal Financial Aid, in order to be eligible for funding under the Title IV programs, an educational program must lead to a degree (associate, bachelor's, graduate, or professional) or prepare students for "gainful employment in a recognized occupation."

The following includes the types of programs eligible to apply for Federal Financial Aid approval:

- The program leads to an associate's, bachelor's, professional, or graduate degree.
- The program is at least 60 credit hours (minimum 2 academic years) in duration and is acceptable as credit toward a bachelor's degree.
- The program is at least 600 clock hours or 24 credit hours (minimum of 1 academic year) in duration and leads to a certificate, degree, or other recognized credential that prepares students for gainful employment in a recognized occupation.

If you answer YES to one or more of the questions below, contact the College’s office of Financial Aid at financialaid@fscj.edu for assistance with the Financial Aid process.

Financial Aid Assessment

Based on the information provided within the proposal, please answer the following questions related to financial aid.

| Does the program lead to an associate’s, bachelor’s, professional, or graduate degree? | ☑ Yes ☐ No |
|-------------------------------------------------------------------------------------|
| Is the program at least 60 credit hours (minimum 2 academic years) in duration and acceptable as credit toward a bachelor’s degree? | ☑ Yes ☐ No |
| Is the program at least 600 clock hours or 24 credit hours (minimum of 1 academic year) in duration and leads to a certificate, degree, or other recognized credential which prepares students for gainful employment in a recognized occupation? | ☑ Yes ☐ No |

If YES, identify the specific program by title(s), program of study code(s) and degree type(s).

- 83 credit hours = Aviation Maintenance Management (2150) (A.S.);
- 24 credit hours = Aviation Airframe Mechanics (6115) (T.C.)
- 24 credit hours = Aviation Powerplant Mechanics (6117) (T.C.)

Gainful Employment

The following educational programs offered by Domestic Public and Domestic Nonprofit Institutions are Gainful Employment programs:

- Non-degree programs, including all certificate programs. Certificate programs include undergraduate certificate programs, post-baccalaureate certificate programs, graduate certificate programs, and postgraduate certificate programs. Note that awarding students one or more certificates as part of a degree program does not create Gainful Employment programs based upon the awarding of the certificate(s).
- Teacher certification programs, including programs that result in a certificate awarded by the institution and those where the institution itself does not provide a certificate but which consist of a collection of course work necessary for the student to receive a State professional teaching credential or certification.
- Approved “Comprehensive Transition Programs” for students with intellectual disabilities.

If you answer YES to one or more of the questions below, contact the College’s office of Financial Aid at financialaid@fscj.edu for assistance with the Financial Aid process as it relates to Gainful Employment.

Gainful Employment Assessment

Based on the information provided within the proposal, please answer the following questions related to financial aid.

| Is the program a career technical education training program of at least one academic year in length and that leads to a clock hour/workforce certificate? | ☑ Yes ☐ No |
|-------------------------------------------------------------------------------------------------------------------------------|
| Is the program a credentialed, non-degree program such as a credit program requiring 24 or more credit hours or clock hour program requiring 600 or more contact hours? | ☑ Yes ☐ No |
| Is the program a teacher certification program that results in a certificate awarded by the institution and/or a program for which the institution itself does not provide a certificate but which consists of a collection of course work necessary for the student to receive a State professional teaching credential or certification? | ☑ Yes ☐ No |
| Is the program an approved “Comprehensive Transition Program” for students with intellectual disabilities? | ☑ Yes ☐ No |

If YES, identify the specific program by title(s), code(s) and degree type(s).

- 24 credit hours = Aviation Airframe Mechanics (6115) (T.C.)
- 24 credit hours = Aviation Powerplant Mechanics (6117) (T.C.)
V. Program Page

In the space below, please insert a copy of the College Catalog program page. To illustrate the actions identified within the proposal, program(s) layout must use red font to add information and the strike-through feature to remove information. Please follow the College Catalog program page template for design consistency. A copy of the current College Catalog may be accessed online as a point of reference.

Key Topics

✓ College Catalog Layout

✓ Recommended Course Sequence by Term
Aviation Maintenance Management (2150) (A.S.)

Associate in Science

This is a Selective Access program.

Mission/Purpose

The mission of the Aviation Maintenance Management program is to serve the air transportation industry with highly trained individuals having the knowledge and skills for entry-level management in the aviation maintenance industry. Through practical training and education in Federal Aviation Administration standards on the methods, techniques, and skills through realistic experience with aircraft, avionics, engines and their subsystems, the program produces qualified airframe and powerplant technicians ready to perform and manage aviation maintenance.

The Program

The Aviation Maintenance Management Associate in Science degree builds upon the knowledge and skills of students' aviation training with the academic skills that will help enhance their communication and management skills as an aviation maintenance technician. The completion of the A.S. degree will help prepare technicians for employment in entry-level positions in the aviation maintenance industry with excellent promotional opportunities into maintenance management positions.

Students who already hold an FAA Airframe & Powerplant Mechanic certificate have the opportunity to earn college credit by evaluation of this certificate and then pursue an A.S. degree by satisfying the general education and professional elective course requirements.

In lieu of students completing the professional AMT prefix courses included in the program, students may be awarded credit for completion of the airframe mechanic and powerplant mechanic workforce certificates or provide valid proof of FAA A&P certification.

A minimum grade of "C" or better must be achieved in all professional coursework.

Embedded Certificate(s)

Two Three technical certificates are available within this degree program: Aviation Airframe Mechanics (6115) (T.C.), Aviation Powerplant Mechanics (6117) (T.C.), and Aviation Mechanic (6119). Students may pursue the A.S. degree and earn technical certificates while completing the requirements for the degree, or pursue one or more certificates to develop or upgrade their skills in a particular field. Contact an advisor to determine the career education path that is best for you.

Please note that by being enrolled in Aviation Maintenance Management (2150) (A.S.) you may automatically meet the requirements for one of the aforementioned technical certificates. If you meet the requirements for a technical certificate, as a result of being enrolled in Aviation Maintenance Management (2150) (A.S.), you may automatically be awarded the technical certificate(s) upon meeting their requirements as well. If you choose to opt out of this automatic awarding of a technical certificate please contact an advisor to do so.
Certification/Licensing

With the successful completion of this program, students will be prepared to take the FAA Airframe and Powerplant (A&P) Mechanic certification examinations.

Program Accreditation

The AMT Professional courses comply with Federal Aviation Regulation (FAR) Part 147 and is FAA certified.

Application Procedure

To apply for the program, students must:

1. Complete College Admission Degree Application and select program of study (2150) Aviation Maintenance Management.
2. Complete a college-ready assessment, if needed.
3. Prior to enrolling in the AMT Professional courses, the student must submit a drug screen report and a local background check to the Aviation Maintenance Department. Contact the department for details.

Need More Information? Contact:

David Dagenais, Program Manager, Cecil Center, (904) 317-3821 or David.W.Dagenais@fscj.edu
Pat Conway, Cecil Center (904) 317-3824 or Patricia.H.Conway@fscj.edu
Program Advisor, (904) 779-4200

More Information Online

Recommended Roadmap for this Program
Federal Aviation Administration Career Information

Curriculum

General Education Coursework

Credit Hours: 15

Mathematics Credit Hours: 3
Refer to General Education Requirements.

Humanities Credit Hours: 3
Refer to General Education Requirements.

Recommended course:
PHI 2603 - Introduction to Applied Ethics Credit Hours: 3
Social and Behavioral Sciences Credit Hours: 3
Refer to General Education Requirements.
Recommended course:
ECO 2013 - Principles of Economics I Credit Hours: 3
ENC 1101 - English Composition I Credit Hours: 3
or ENC 1101C - English Composition I Enhanced Credit Hours: 4
SPC 2608 - Fundamentals of Public Speaking Credit Hours: 3

Professional Coursework
Credit Hours: 62

A minimum grade of "C" or better is required in all Professional coursework.
Students must be enrolled in the base lecture course number and the associated lab course concurrently.
Note: In lieu of students completing the professional AMT prefix courses included in the program, students may be awarded credit for completion of the airframe mechanic and powerplant mechanic workforce certificates or provide valid proof of FAA A&P certification.

- AMT 1751 - Aviation Maintenance Technology General I Credit Hours: 2
- AMT 1751L - Aviation Maintenance Technology General I Lab Credit Hours: 1
- AMT 1752 - Aviation Maintenance Technology General II Credit Hours: 2
- AMT 1752L - Aviation Maintenance Technology General II Lab Credit Hours: 1
- AMT 1753 - Aviation Maintenance Technology General III Credit Hours: 2
- AMT 1753L - Aviation Maintenance Technology General III Lab Credit Hours: 1
- AMT 1754 - Aviation Maintenance Technology General IV Credit Hours: 2
- AMT 1754L - Aviation Maintenance Technology General IV Lab Credit Hours: 1
- AMT 1761 - Aviation Maintenance Technology Airframe I Credit Hours: 6
- AMT 1761L - Aviation Maintenance Technology Airframe I Lab Credit Hours: 2
- AMT 1762 - Aviation Maintenance Technology Airframe II Credit Hours: 6
- AMT 1762L - Aviation Maintenance Technology Airframe II Lab Credit Hours: 2
- AMT 1763 - Aviation Maintenance Technology Airframe III Credit Hours: 6
- AMT 1763L - Aviation Maintenance Technology Airframe III Lab Credit Hours: 2
- AMT 1764 - Aviation Maintenance Technology Airframe IV Credit Hours: 6
- AMT 1764L - Aviation Maintenance Technology Airframe IV Lab Credit Hours: 2
- AMT 1771 - Aviation Maintenance Technology Powerplant I Credit Hours: 6
- AMT 1771L - Aviation Maintenance Technology Powerplant I Lab Credit Hours: 2
- AMT 1772 - Aviation Maintenance Technology Powerplant II Credit Hours: 6
- AMT 1772L - Aviation Maintenance Technology Powerplant II Lab Credit Hours: 2
- AMT 1773 - Aviation Maintenance Technology Powerplant III Credit Hours: 6
- AMT 1773L - Aviation Maintenance Technology Powerplant III Lab Credit Hours: 2
- AMT 1774 - Aviation Maintenance Technology Powerplant IV Credit Hours: 6
- AMT 1774L - Aviation Maintenance Technology Powerplant IV Lab Credit Hours: 2
- AVM 1942 - Aviation Internship Credit Hours: 2
or AVM 1931 - Aviation Capstone Credit Hours: 2

Professional Elective Coursework
Minimum Credit Hours: 6

- AVM 1010 - Aviation Management Credit Hours: 3
- AMT 1261 - Avionics Line Maintenance Fundamentals  Credit Hours: 3
- AMT 1261L - Avionics Line Maintenance Fundamentals Lab  Credit Hours: 1
- AMT 1231 - Avionics Installation and Troubleshooting  Credit Hours: 3
- AMT 1231L - Avionics Installation and Troubleshooting Lab  Credit Hours: 1
- ENC 2210 - Technical Report Writing  Credit Hours: 3
- FIN 2000 - Principles of Finance  Credit Hours: 3

Total Credit Hours: 83
NEW PROGRAM EFFECTIVE FALL TERM 2019 (2198)

Aviation Mechanic (6119) (T.C.)

Technical Certificate

This is a Selective Access program.

Mission/Purpose

The mission of the Aviation Mechanic program is to serve the air transportation industry with highly trained individuals having the knowledge and skills for an entry-level technician in the aviation maintenance industry. The program produces qualified Airframe Technicians ready to perform aviation maintenance through practical training and education on Federal Aviation Administration standard methods, techniques, and skills via realistic experience with aircraft, avionics, engines, and their subsystems.

The Program

This program prepares you for a rewarding career in the commercial and general aviation industries. Instruction consists of academic as well as laboratory training designed to prepare you for the FAA written, oral and practical certificate examinations for the Airframe or Powerplant Mechanic rating. With this rating, you will be qualified for a position as an aviation maintenance technician. Note: It is recommended that students pursue both the airframe and powerplant ratings for maximum employment potential.

A minimum grade of "C" or better must be achieved in all professional coursework.

The Career

FAA certified maintenance technicians have the important responsibility of keeping aircraft and their equipment working safely and efficiently. They service, repair and overhaul various aircraft components and systems including airframes, landing gear, electrical and hydraulic systems. Aviation maintenance technicians employed by the airlines perform either line maintenance work (for example, routine maintenance, servicing, or emergency repairs at airline terminals) or major repairs and periodic inspections at an airline’s overhaul base. Aviation Maintenance Technicians in general aviation perform maintenance and repair tasks similar to those performed by airline mechanics, and they may work on small piston-engine or larger turbine-powered aircraft, depending on the specialty of business where employed.

Program Accreditation

The AMT Professional courses comply with Federal Aviation Regulation (FAR) Part 147 and is FAA certified.

Application Procedure

FAA certified Repair Stations are required to have all employees complete drug screening and a criminal background check for employment. Completion of this program is intended to lead to employment in certain safety sensitive positions. To ensure your safety as well as your employability in the widest possible manner, all students are required to submit drug screening and criminal background check results to the Aviation Department prior to enrolling in the
program. Call the Aviation Maintenance Department at the number below for instructions on completing these requirements.

*It is strongly recommended that students meet with the program manager or program advisor prior to enrollment in professional coursework to ensure proper curriculum sequencing.*

**Need More Information? Contact:**

David Dagenais, Program Manager, Cecil Center, (904) 317-3821 or David.W.Dagenais@fscj.edu
Pat Conway, Cecil Center (904) 317-3824 or Patricia.H.Conway@fscj.edu
Program Advisor, (904) 779-4200

**More Information Online**

Federal Aviation Administration Career Information

**Curriculum**

**Professional Coursework**

Credit Hours: 12

*A minimum grade of "C" or better is required in all Professional coursework.*

*It is strongly recommended that students meet with the program manager or program advisor prior to enrollment in professional coursework to ensure proper curriculum sequencing.*

- **AMT 1751 - Aviation Maintenance Technology General I** Credit Hours: 2
- **AMT 1751L - Aviation Maintenance Technology General I Lab** Credit Hours: 1
- **AMT 1752 - Aviation Maintenance Technology General II** Credit Hours: 2
- **AMT 1752L - Aviation Maintenance Technology General II Lab** Credit Hours: 1
- **AMT 1753 - Aviation Maintenance Technology General III** Credit Hours: 2
- **AMT 1753L - Aviation Maintenance Technology General III Lab** Credit Hours: 1
- **AMT 1754 - Aviation Maintenance Technology General IV** Credit Hours: 2
- **AMT 1754L - Aviation Maintenance Technology General IV Lab** Credit Hours: 1

**Total Credit Hours: 12 / 5 months**
Aviation Airframe Mechanics (6115) (T.C.)

Technical Certificate

This is a Selective Access program.

Mission/Purpose

The mission of the Aviation Airframe Mechanics program is to serve the air transportation industry with highly trained individuals having the knowledge and skills for an entry-level technician in the Aviation Maintenance Industry. The program produces qualified Airframe Technicians ready to perform aviation maintenance through practical training and education on Federal Aviation Administration standard methods, techniques, and skills via realistic experience with aircraft, avionics, engines, and their subsystems.

The Program

This program prepares you for a rewarding career in the commercial and general aviation industries. Instruction consists of academic as well as laboratory training designed to prepare you for the FAA written, oral and practical certificate examinations for the Airframe Mechanic rating. With this rating, you will be qualified for a position as an Aviation Maintenance Technician with the FAA Airframe Rating.

A minimum grade of "C" or better must be achieved in all professional coursework.

The Career

FAA certified maintenance technicians have the important responsibility of keeping aircraft and their equipment working safely and efficiently. They service, repair and overhaul various aircraft components and systems including airframes, landing gear, electrical and hydraulic systems. Aviation Maintenance Technicians employed by the airlines perform either line maintenance work (for example, routine maintenance, servicing, or emergency repairs at airline terminals) or major repairs and periodic inspections at an airline's overhaul base. Aviation Maintenance Technicians in general aviation perform maintenance and repair tasks similar to those performed by airline mechanics, and they may work on small piston-engine or larger turbine-powered aircraft, depending on the specialty of business where employed.

Program Accreditation

The AMT Professional courses comply with Federal Aviation Regulation (FAR) Part 147 and is FAA certified.

Application Procedure

FAA certified Repair Stations are required to have all employees complete drug screening and a criminal background check for employment. Completion of this program is intended to lead to employment in certain safety sensitive positions. To ensure your safety as well as your employability in the widest possible manner, all students are required to submit drug screening and criminal background check results to the Aviation Department prior to enrolling in the program. Call the Aviation Maintenance Department at the number below for instructions on completing these requirements.
It is strongly recommended that students meet with the program manager or program advisor prior to enrollment in professional coursework to ensure proper curriculum sequencing.

Need More Information? Contact:
David Dagenais, Program Manager, Cecil Center, (904) 317-3821 or David.W.Dagenais@fscj.edu
Pat Conway, Cecil Center (904) 317-3824 or Patricia.H.Conway@fscj.edu
Program Advisor, (904) 779-4200

More Information Online
Federal Aviation Administration Career Information

Curriculum

Professional Coursework
Credit Hours: 24
A minimum grade of "C" or better is required in all Professional coursework.

It is strongly recommended that students meet with the program manager or program advisor prior to enrollment in professional coursework to ensure proper curriculum sequencing.

- AMT 1761 - Aviation Maintenance Technology Airframe I Credit Hours: 6
- AMT 1761L - Aviation Maintenance Technology Airframe I Lab Credit Hours: 2
- AMT 1762 - Aviation Maintenance Technology Airframe II Credit Hours: 6
- AMT 1762L - Aviation Maintenance Technology Airframe II Lab Credit Hours: 2
- AMT 1763 - Aviation Maintenance Technology Airframe III Credit Hours: 6
- AMT 1763L - Aviation Maintenance Technology Airframe III Lab Credit Hours: 2
- AMT 1764 - Aviation Maintenance Technology Airframe IV Credit Hours: 6
- AMT 1764L - Aviation Maintenance Technology Airframe IV Lab Credit Hours: 2

Total Credit Hours: 24
Aviation Powerplant Mechanics (6117) (T.C.)

**Technical Certificate**

This is a Selective Access program.

**Mission/Purpose**

The mission of the Aviation Airframe Powerplant Mechanics program is to serve the air transportation industry with highly trained individuals having the knowledge and skills for an entry-level technician in the Aviation Maintenance Industry. The program produces qualified Powerplant Technicians ready to perform aviation maintenance through practical training and education on Federal Aviation Administration standard methods, techniques, and skills via realistic experience with aircraft, avionics, engines, and their subsystems.

**The Program**

This program prepares you for a rewarding career in the commercial and general aviation industries. Instruction consists of academic as well as laboratory training designed to prepare you for the FAA written, oral and practical certificate examinations for the Airframe Powerplant Mechanic rating. With this rating, you will be qualified for a position as an Aviation Maintenance Technician with the FAA Airframe Powerplant Rating.

A minimum grade of "C" or better must be achieved in all professional coursework.

**The Career**

FAA certified maintenance technicians have the important responsibility of keeping aircraft and their equipment working safely and efficiently. They service, repair and overhaul various aircraft components and systems including airframes, landing gear, electrical and hydraulic systems. Aviation Maintenance Technicians employed by the airlines perform either line maintenance work (for example, routine maintenance, servicing, or emergency repairs at airline terminals) or major repairs and periodic inspections at an airline’s overhaul base. Aviation Maintenance Technicians in general aviation perform maintenance and repair tasks similar to those performed by airline mechanics, and they may work on small piston-engine or larger turbine-powered aircraft, depending on the specialty of business where employed.

**Program Accreditation**

The AMT Professional courses comply with Federal Aviation Regulation (FAR) Part 147 and is FAA certified.

**Application Procedure**

FAA certified Repair Stations are required to have all employees complete drug screening and a criminal background check for employment. Completion of this program is intended to lead to employment in certain safety sensitive positions. To ensure your safety as well as your employability in the widest possible manner, all students are required to submit drug screening and criminal background check results to the Aviation Department prior to enrolling in the
program. Call the Aviation Maintenance Department at the number below for instructions on completing these requirements.

*It is strongly recommended that students meet with the program manager or program advisor prior to enrollment in professional coursework to ensure proper curriculum sequencing.*

Need More Information? Contact:

David Dagenais, Program Manager, Cecil Center, (904) 317-3821 or David.W.Dagenais@fscj.edu
Pat Conway, Cecil Center (904) 317-3824 or Patricia.H.Conway@fscj.edu
Program Advisor, (904) 779-4200

More Information Online

Federal Aviation Administration Career Information

Curriculum

Professional Coursework

Credit Hours: 24

*A minimum grade of “C” or better is required in all Professional coursework.*

*It is strongly recommended that students meet with the program manager or program advisor prior to enrollment in professional coursework to ensure proper curriculum sequencing.*

- AMT 1771- Aviation Maintenance Technology Powerplant I Credit Hours: 6 4
- AMT 1771L - Aviation Maintenance Technology Powerplant I Lab Credit Hours: 2
- AMT 1772- Aviation Maintenance Technology Powerplant II Credit Hours: 6 4
- AMT 1772L - Aviation Maintenance Technology Powerplant II Lab Credit Hours: 2
- AMT 1773 - Aviation Maintenance Technology Powerplant III Credit Hours: 6 4
- AMT 1773L - Aviation Maintenance Technology Powerplant III Lab Credit Hours: 2
- AMT 1774 - Aviation Maintenance Technology Powerplant IV Credit Hours: 6 4
- AMT 1774L - Aviation Maintenance Technology Powerplant IV Lab Credit Hours: 2

Total Credit Hours: 24
# Recommended Course Sequence by Term

Identify the recommended course sequence by academic term. This information will be included with the program page in the College Catalog and utilized as a roadmap for facilitating students timely program completion. When completing the recommended course sequencing, please assume full-time student enrollment.

For multiple programs within a proposal, please copy the blank table template into a new page.

<table>
<thead>
<tr>
<th>Program Title</th>
<th>Aviation Maintenance Management (2150) (A.S.)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Term</th>
<th>Course(s)</th>
</tr>
</thead>
</table>
| Term I | • AMT1754C 1751  
          • AMT1751L  
          • AMT1752C 1752  
          • AMT1752L  
          • AMT1753C 1753  
          • AMT1753L  
          • AMT1754C 1754  
          • AMT1754L  
          • Mathematics |
| Term II | • AMT1764C 1761  
          • AMT1761L  
          • AMT1762C 1762  
          • AMT1762L  
          • ENC 1101 - English Composition I  
          or ENC 1101C - English Composition I Enhanced |
| Term III| • AMT1763C 1763  
          • AMT1763L  
          • AMT1764C 1764  
          • AMT1764L  
          • Humanities  
          Recommended course: PHI 2603 – Introduction to Applied Ethics |
| Term IV | • AMT1774C 1771  
          • AMT1771L  
          • AMT1772C 1772  
          • AMT1772L  
          • Social and Behavioral Sciences  
          Recommended course: ECO 2013 - Principles of Economics I |
| Term V  | • AMT1773C 1773  
          • AMT1773L  
          • AMT1774C 1774  
          • AMT1774L  
          • Professional Electives – select one |
| Term VI | • SPC 2608 - Fundamentals of Public Speaking  
          • Professional Electives – select one  
          • AVM 1942 or AVM 1931 |
VI. Course Information

If the actions identified within the proposal involve the development, modification, inactivation or reactivation of a course or courses, then complete this section.

Key Topics

- Assignment
- Identifier
- Eligibility
- Impact
The Florida Department of Education (FLDOE) compiles a curriculum framework for each program which includes curriculum benchmark standards required for the course(s) identified within a program. Not all course(s) are included within a program as some may be identified as electives. The FLDOE classifies each course according to its discipline area and prefix. Course information is maintained via the State Course Numbering System (SCNS). The organizational schema for SCNS utilizes a three-letter prefix and four-digit identification. The first digit denotes the course level (freshman, sophomore, etc.) and is recommended by each institution, while the three-letter prefix and three-digit number are utilized for categorization of content. Each course number may include a lab code ("L") that denotes a laboratory or a combination code ("C") that denotes a combination lecture/laboratory course.

<table>
<thead>
<tr>
<th>Prefix/Number</th>
<th>Title</th>
<th>Effective Term (e.g., Fall 2019 [2198])</th>
<th>Dept ID</th>
<th>New</th>
<th>Modify</th>
<th>Inactivate</th>
<th>Reactivate</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMT 1751C</td>
<td>Aviation Maintenance Technology General 1</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1751L</td>
<td>Aviation Maintenance Technology General 1 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1752C</td>
<td>Aviation Maintenance Technology General 2</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1752L</td>
<td>Aviation Maintenance Technology General 2 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1753C</td>
<td>Aviation Maintenance Technology General 3</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1753L</td>
<td>Aviation Maintenance Technology General 3 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1754C</td>
<td>Aviation Maintenance Technology General 4</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1754L</td>
<td>Aviation Maintenance Technology General 4 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1761C</td>
<td>Aviation Maintenance Technology Airframe 1</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1761L</td>
<td>Aviation Maintenance Technology Airframe 1 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1762C</td>
<td>Aviation Maintenance Technology Airframe 2</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1762L</td>
<td>Aviation Maintenance Technology Airframe 2 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1763C</td>
<td>Aviation Maintenance Technology Airframe 3</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1763L</td>
<td>Aviation Maintenance Technology Airframe 3 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1764C</td>
<td>Aviation Maintenance Technology Airframe 4</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1764L</td>
<td>Aviation Maintenance Technology Airframe 4 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1771C</td>
<td>Aviation Maintenance Technology Powerplant 1</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1771L</td>
<td>Aviation Maintenance Technology Powerplant 1 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1772C</td>
<td>Aviation Maintenance Technology Powerplant 2</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1772L</td>
<td>Aviation Maintenance Technology Powerplant 2 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1773C</td>
<td>Aviation Maintenance Technology Powerplant 3</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1773L</td>
<td>Aviation Maintenance Technology Powerplant 3 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1774C</td>
<td>Aviation Maintenance Technology Powerplant 4</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1774L</td>
<td>Aviation Maintenance Technology Powerplant 4 Laboratory</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prefix/Number</td>
<td>Title</td>
<td>Effective Term (e.g., Fall 2019 [2198])</td>
<td>Dept ID</td>
<td>New</td>
<td>Modify</td>
<td>Inactivate</td>
<td>Reactivate</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------</td>
<td>----------------------------------------</td>
<td>---------</td>
<td>-----</td>
<td>--------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>AMT 1231</td>
<td>Avionics Installation and Troubleshooting</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td>☐</td>
<td>☒</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1231L</td>
<td>Avionics Installation and Troubleshooting Lab</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td>☐</td>
<td>☒</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1261</td>
<td>Avionics Line Maintenance Fundamentals</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td>☐</td>
<td>☒</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMT 1261L</td>
<td>Avionics Line Maintenance Fundamentals Lab</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td>☐</td>
<td>☒</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AVM 1931</td>
<td>Aviation Capstone</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td>☐</td>
<td>☒</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AVM 1942</td>
<td>Aviation Internship</td>
<td>Fall 2019 [2198]</td>
<td></td>
<td>☐</td>
<td>☒</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Department ID is to be added by academic administrators for instructional payment.
### Eligibility

<table>
<thead>
<tr>
<th>Gordon Rule of Writing Requirement?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If YES, identify the specific course prefix/number and course title, and address any concerns.</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**The following statement must be added to each communication course identified as “Gordon Rule” eligible:** This course fulfills the “Gordon Rule” writing requirement and must be completed with a grade of “C” or higher (pursuant to State Board of Education Rule 6A-10.030).

Per [State Board of Education Rule 6A-10.030(a)](https://www.fldoe.org/ode/rules/6a-10.030(a)) a College student must successfully complete the following: Six (6) semester hours of English coursework and six (6) semester hours of additional coursework in which the student is required to demonstrate college-level writing skills through multiple assignments. Each institution shall designate the courses that fulfill the writing requirements of this section. These course designations shall be submitted to the Statewide Course Numbering System. An institution to which a student transfers shall accept courses so designated by the sending institution as meeting the writing requirements outlined in this section.

### Gordon Rule of Computation Requirement?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**The following statement must be added to each mathematics course identified as “Gordon Rule” eligible:** This course fulfills the “Gordon Rule” computation requirement and must be completed with a grade of “C” or higher (pursuant to State Board of Education Rule 6A-10.030).

Per [State Board of Education Rule 6A-10.030(b)](https://www.fldoe.org/ode/rules/6A-10.030(b)) a College student must successfully complete the following: Six (6) semester hours of mathematics coursework at the level of college algebra or higher. For the purposes of this rule, applied logic, statistics and other such computation coursework which may not be placed within a mathematics department may be used to fulfill three (3) hours of the six (6) hours required by this section.

### Earn Credit More Than Once?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

### Impact

<table>
<thead>
<tr>
<th>Will additional course(s) be impacted by the actions identified within the proposal?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Impact**

Identify any impact that the actions identified within the proposal may have on another course(s) (e.g., prerequisite or corequisite changes). Provide a brief summary statement in the space below:

<table>
<thead>
<tr>
<th>Will additional course(s) be impacted by the actions identified within the proposal?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
VII. Course Outline(s)

In the space below, please insert a copy of the current College course outline(s). To illustrate the actions identified within the proposal, course outline(s) must use red font to add information and the strike-through feature to remove information. Please follow the College course outline template for design consistency. A copy of the current College course outline(s) may be accessed online as a point of reference.

Key Topics

✓ College Layout

✓ Learning Outcomes and Assessment
FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AMT 1751C 1751
COURSE TITLE: Aviation Maintenance Technology General I
PREREQUISITE(S): None
COREQUISITE(S): None AMT 1751L
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Mechanic (6119) (T.C.) program
CREDIT HOURS: 3 2
CONTACT HOURS/WEEK: 7 4
CONTACT HOUR BREAKDOWN:
Lecture/Discussion: 4
Laboratory: 3 0
Other:
FACULTY WORKLOAD POINTS: 4
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)
COURSE DESCRIPTION:
This course is designed to introduce general hangar and shop safety, environmental concerns, mathematics, physics, basic aerodynamics, federal aviation regulations, publications and records.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Aviation Maintenance Technician Workbook</td>
<td>9780977489688</td>
</tr>
<tr>
<td>3. FAR/AMT</td>
<td>9781560279310</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC 43.13-1B</td>
<td>9781560277286</td>
</tr>
<tr>
<td>5. Aviation Mechanic Handbook ASA/Dale Crane</td>
<td>9781560278986</td>
</tr>
<tr>
<td>6. Dictionary of Aeronautical Terms</td>
<td>9781560278641</td>
</tr>
<tr>
<td>8. Practical Test Standards</td>
<td>9781560277514</td>
</tr>
</tbody>
</table>

2. Airframe & Powerplant Mechanic - General Workbook (ATBC 8083-30WB) 9780977489688
3. Airframe & Powerplant Mechanic - General Test Guide (ATBC 8083-30TG) 9781947744480
4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA) 9781619540217
6. AMT Practical Test Standards (ASA 4th Edition) 9781569544949
7. FAR/AMT (ASA 2019 or most current year) 9781619546721
8. Aviation Mechanic Handbook (Dale Crane) 9781619544949
IMPLEMENTATION DATE: Summer Term, 2006 18(20063)

REVIEW OR MODIFICATION DATE:
- Fall Term, 2008 19 (20091) – Outline Review 2007
- Fall Term, 2012 (20131) Proposal 2012-108
- Fall Term, 2013 (20141) – Proposal 2013-22
- Fall Term, 2018 (2188) – Proposal 2018-27
- Fall Term, 2019 (2198) – Proposal 2019-18
I. GENERAL HANGAR AND SHOP SAFETY

A. Personal Safety
   Objectives:
   1. Define terms related to safety
   2. Discuss general safety practices and precautions
   3. Discuss causes of accidents
   4. List steps to be followed in case of an accident
   5. § Complete Discuss the completion of an accident report (GEN-001)

B. Fire Safety
   Objectives:
   1. Discuss classes of fires
   2. Discuss fire extinguisher safety procedures
   3. Match fire-extinguishing agents to classes of fires

C. Shop and Hangar Safety
   Objectives:
   1. Identify safety color codes and their correct applications
   2. Match accident prevention signs and tags with their colors and usage
   3. § Complete Discuss a hazard check of the hangar and shop area (GEN-002)
   4. Identify parts of a drill press, bench grinder, band saw, and disc grinder
   5. Discuss rules for safe use of power tools and shop equipment

D. Chemical Safety
   Objectives:
   1. Discuss the use of hazardous materials
   2. Discuss Material Safety Data Sheets and their purpose
   3. §§ Discuss the selection and interpretation of a Material Safety Data Sheet (GEN-003)
   4. Discuss proper hazardous waste disposal and its importance

E. Unit Test

II. FEDERAL AVIATION REGULATIONS, PUBLICATIONS AND RECORDS

A. Definitions and Abbreviations
   Objectives:
   1. Select terms and definitions related to FAR Part I
   2. Label the FAR titles to (their proper part) aircraft maintenance
   3. Explain the difference between acceptable and approved data

B. Certification: Airmen Other Than Flight Crew Members
   Objectives:
   1. List general eligibility requirements for certification of airmen other than flight crewmembers
   2. § Identify and Discuss exercise of the privileges of a certificated mechanic with airframe and power plant ratings (Level 3) (App.B.I.33) (GEN-004)
   3. List the facts related to the duration, loss, destruction, suspension, and revocation of the following certificates:
      a. Repairman's certificate
      b. Airframe and/or Powerplant certificate
      c. Inspection Authorization certificate
   4. List the privileges of certificated Repairmen
Note: § Denotes required project completed during corequisite lab course

C. General Operating and Flight Rules
   Objectives:
   1. Discuss FAR part 91
   2. § Demonstrate Discuss the ability to read, comprehend and apply data in FAR part 91 applicable to Airworthiness Directives. (Level 3) (App.B.k.31) (GEN-005)
   3. Define and interpret regulations related to aircraft permanent and temporary records and forms used to document the records

D. Maintenance, Preventive Maintenance, Rebuilding, and Alteration
   Objectives:
   1. § Demonstrate Discuss the ability to read, comprehend and apply data in the FAR as related to maintenance, preventive maintenance, alterations, rebuilding and inspections (Level 3) (App.B.k.31, 32) (GEN-006)
   2. Explain the relationship between an inspection checklist and appendix "D" of FAR Part 43
   3. § Develop Discuss a discrepancy list and perform the required logbook entries for maintenance, inspection, and Airworthiness Directive compliance (Level 3) (App.B.i.28, 29) (GEN-007)
   4. § Properly Discuss how to prepare an FAA Form 337 (Level 3) (App. B.i.28, 29) (GEN-008)

E. Maintenance Publications and Technical Data
   Objectives:
   1. § Discuss how to select, read, interpret and explain the purpose and use of Advisory Circulars (AC) (Level 3) (App. B.k. 31,32) (GEN-009)
   2. § Discuss how to select, read, interpret and explain the purpose and use of General Aviation Airworthiness Alerts. (Level 3) (App. B. k. 31,32) (GEN-010)
   3. § Discuss how to select, read, interpret and explain the purpose and use of Airworthiness Directives (AD) (Level 3) (App. B. k. 31,32) (GEN-011)
   4. Discuss the purpose and use of Aircraft Type Certificates (TC)
   5. § Discuss how to select, read, interpret and explain the purpose and use of Type Certificate Data Sheets (TCDS) and Aircraft Specifications (Level 3) (App. B. k. 31,32) (GEN-012)
   6. § Discuss how to select, read, interpret and explain the purpose and use of FAA and manufacturers’ aircraft maintenance specifications. (Level 3) (App. B. k. 31,32) (GEN-013)
   7. Discuss the use and purpose of Aircraft Listings
   8. Discuss the use and purpose of Supplemental Type Certificates (STC)
   9. Discuss the use and purpose of Parts Manufacturers' Approvals (PMA)
   10. Discuss the use and purpose of Technical Standard Orders (TSO)
   11. Discuss the use and purpose of Technical Data Service Difficulty Reporting Program
   12. Discuss ATA specification 100
   13. Explain manual systems for small and large engines
COURSE TOPICS (Continued)

Note: § Denotes required project

14. Discuss HBAW 98-18 Checklist for instructions for continued airworthiness for major alternations approved under the field approval process

F. Unit Test

III. MATHEMATICS

A. Fractions
   Objectives:
   1. Define terms related to the principles of mathematics
   2. Add, subtract, multiply, and divide whole numbers
   3. Add, subtract, multiply, and divide common fractions
   4. § A Discuss how to add, subtract, multiply, and divide decimal numbers and fractions (Level 3) (App. B. h. 27) (GEN-014)
   5. Add and subtract mixed numbers.
   6. § C Discuss how to convert numbers between common fractions and decimals using a calculator (Level 3) (App. B. h. 26) (GEN-015)
   7. § C Discuss how to convert decimal numbers to percentages (Level 3) (App. B. h. 26)(GEN-016)

B. Signed Numbers, Roots, and Powers
   Objectives:
   1. § A Discuss how to add, subtract, multiply, and divide negative numbers (Level 3) (App. B. h.27) (GEN-017)
   2. Discuss the use of positive and negative exponents
   3. § E Discuss how to extract roots and raise numbers to a given power (Level 3) (App. B. h.24) (GEN-018)
   4. § M Discuss how to multiply and divide by scientific notations (Level 3) (App. B. h.24)(GEN-019)

C. Applied Algebra
   Objectives:
   1. § D Discuss how to determine ratios (Level 3) (App. B. h.26) (GEN-020)
   2. § S Discuss how to solve problems involving proportions. (Level 3) (App. B. h.26) (GEN-021)
   3. § P Discuss how to perform algebraic operations involving addition, subtraction,multiplication, and division (Level 3) (App. B. h.27) (GEN-022)

D. Applied Geometry and Trigonometry
   Objectives:
   1. Discuss purposes for use of geometry and trigonometry in aviation
   2. Discuss the relationship between sine, cosine and tangent
   3. § D Discuss how to determine area and volume of various geometrical shapes (Level 3)(App. B. h. 25) (GEN-023)
   4. § S Discuss how to solve trigonometric problems showing the relationship between sine, co-sine and tangent (Level 3) (App. B. h. 26) (GEN-024)
IV. PHYSICS AND BASIC AERODYNAMICS

A. Basic Physics Fundamentals
   Objectives:
   1. Define terms related to the principles of physics
   2. Discuss the physical states of matter
   3. Discuss potential and kinetic energy
   4. § Discuss terms related to the origin of sound (Level 2) (App. B.q. 30) (GEN-026)

B. Simple Machines
   Objectives:
   1. Discuss work and power
   2. § Discuss how to solve problems related to simple machines (Level 2) (App. B.q. 30) (GEN-027)
   3. Discuss stress and strain

C. Laws of Motion
   Objectives:
   1. Discuss Newton's Laws of Motion
   2. Discuss vectors.

D. Heat Dynamics
   Objectives:
   1. Discuss the relationship between heat and energy
   2. Explain methods of heat transference
   3. Explain the relationship between the uses of the four commonly used temperature scales
   4. § Discuss how to convert temperatures between common temperature scales (Level 2)(App. B.q. 30) (GEN-028)

E. Fluid Dynamics
   Objectives:
   1. Discuss the three types of pressure
   2. Discuss general gas laws
   3. § Discuss how to calculate pressure and volume of gasses. (Level 2) (App. B.q. 30) (GEN-029)
   4. § Discuss how to solve problems in fluid mechanics. (Level 2) (App. B.q. 30) (GEN-030)

F. Basic Aerodynamics
   Objectives:
   1. Define terms related to basic aerodynamics
   2. Discuss characteristics of the atmosphere and measurement processes used in monitoring atmospheric conditions
   3. Determine density altitude using a density-altitude chart
   4. Discuss the four forces of flight
5. Discuss characteristics of drag and how it affects aircraft performance
6. Discuss the five types of stresses induced on aircraft
7. § Discuss how to identify types of aircraft structures. (Level 2) (App. B., J. 30) (GEN-031)
8. Identify basic sections of aircraft
9. Discuss laws of physics pertaining to aerodynamics
10. Discuss airfoil designs
11. Describe normal airflow around an airfoil and how a stall is produced
12. Discuss flaps and auxiliary lift devices
13. Describe how the center of pressure moves as the angle of attack of an asymmetrical airfoil changes and the effect the center of pressure's movement has on an aircraft in flight
14. Discuss supersonic and hypersonic aerodynamics and Mach number
15. Discuss airfoil sections, critical Mach numbers for supersonic airfoils, and engine inlets for high-speed flight
16. § Define Discuss airfoil characteristics and fundamentals of lift production (Level 2) (App. B., J. 30) (GEN-032)
17. Discuss the three axes of motion of an airplane
18. Discuss primary and secondary flight control surfaces
19. Discuss the functions of aircraft controls and their operation
20. Discuss operational and design characteristics of control systems used in heavy aircraft
21. Discuss types and conditions of aircraft stability, and how it is affected by the various axes
22. Explain how load factor is produced while an aircraft is in a coordinated level turn

G. Unit Test

V. GENERAL I REMEDIATION, REVIEW, AND TESTING
General Block I Final Exam
**Florida State College at Jacksonville**

### Course Learning Outcomes and Assessment

#### SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1751C 1751</th>
<th>Semester Credit Hours (Credit):</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology General I</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

#### SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
<th>Technical Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PSAV/Clock Hour/Workforce</th>
<th>Development Education</th>
<th>Apprenticeship</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Upper Division/Bachelors</th>
<th>Other: If selected, use this space to title “other” option.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>X Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>X Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>X Writing</th>
<th>Listening</th>
<th>Information Literacy</th>
<th>Ethical Judgement</th>
<th>X Working Collaboratively</th>
</tr>
</thead>
</table>

#### SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Natural Sciences</td>
<td></td>
</tr>
</tbody>
</table>

#### SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Quantitative Reasoning</td>
<td>Global Sociocultural Responsibility</td>
<td></td>
</tr>
</tbody>
</table>

#### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>APPLY GENERAL SHOP SAFETY PRINCIPLES IN DAILY WORK</th>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>Written tests, reports and/or use of equipment to demonstrate student competency in field.</td>
<td></td>
</tr>
</tbody>
</table>

| DEMONSTRATE ABILITY TO READ, COMPREHEND, AND APPLY DATA IN FAA DOCUMENTS AND REGULATIONS | Program | Written test created from FAA test bank of questions |
| Perform mathematical operations through elementary Algebra, Geometry and trigonometry | Program | Written test created from FAA test bank of questions |
| Understand basic laws of motion, thermodynamics and fluid dynamics | Program | Written test created from FAA test bank of questions |

#### SECTION 7

<table>
<thead>
<tr>
<th>Faculty name(s):</th>
<th>David Dagenais</th>
<th>Robert Crognale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>4/7/2018</td>
<td>4/19/2019</td>
</tr>
</tbody>
</table>

CS201050615
FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AMT 1751L
COURSE TITLE: Aviation Maintenance Technology General I Lab
PREREQUISITE(S): None
COREQUISITE(S): AMT 1751
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Mechanic (6119) (T.C.) program
CREDIT HOURS: 1
CONTACT HOURS/WEEK: 3
CONTACT HOUR BREAKDOWN:
  Lecture/Discussion: 3
  Laboratory: 3
  Other: 0
FACULTY WORKLOAD POINTS: 1.5
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course complements AMT 1751 to provide practical exercise to introduce general hangar and shop safety, environmental concerns, mathematics, physics, basic aerodynamics, federal aviation regulations, publications and records.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Airframe &amp; Powerplant Mechanic - General Workbook (ATBC 8083-30WB)</td>
<td>9780977489688</td>
</tr>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - General Test Guide (ATBC 8083-30TG)</td>
<td>9781947744480</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>6. AMT Practical Test Standards (ASA 4th Edition)</td>
<td>9781569544949</td>
</tr>
<tr>
<td>7. FAR/AMT (ASA 2019 or most current year)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>8. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>

IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18

REVIEW OR MODIFICATION DATE:
COURSE TOPICS

CONTACT HOURS PER TOPIC

Note: § Denotes required project

I. GENERAL HANGAR AND SHOP SAFETY 4
   A. Personal Safety
      Objectives:
      1. § Complete an accident report (GEN-001)
   B. Fire Safety
      Objectives:
      1. Demonstrate fire extinguisher handling safety procedures
   C. Shop and Hangar Safety
      Objectives:
      1. Match accident prevention signs and tags with their colors and usage
      2. § Complete a hazard check of the hangar and shop area (GEN-002)
      3. Demonstrate safe use of power tools and shop equipment
   D. Chemical Safety
      Objectives:
      1. § Select and interpret a Material Safety Data Sheet (GEN-003)
      2. Demonstrate proper hazardous waste disposal
   E. Unit Test

II. FEDERAL AVIATION REGULATIONS, PUBLICATIONS AND RECORDS 15
   A. Definitions and Abbreviations
      Objectives:
      1. Distinguish the difference between acceptable and approved data
   B. Certification: Airmen Other Than Flight Crew Members
      Objectives:
      1. § Identify and exercise the privileges of a certificated mechanic with airframe and power plant ratings (Level 3) (App.B.I.33) (GEN-004)
   C. General Operating and Flight Rules
      Objectives:
      1. § Demonstrate ability to read, comprehend and apply data in FAR part 91 applicable to Airworthiness Directives. (Level 3) (App.B.k.31) (GEN-005)
   D. Maintenance, Preventive Maintenance, Rebuilding, and Alteration
      Objectives:
      1. § Demonstrate ability to read, comprehend and apply data in the FAR as related to maintenance, preventive maintenance, alterations, rebuilding and inspections (Level 3) (App.B.k.31, 32) (GEN-006)
      2. § Develop a discrepancy list and perform logbook entries for maintenance, inspection, and Airworthiness Directive compliance (Level 3) (App.B.i.28, 29) (GEN-007)
      3. § Properly prepare an FAA Form 337 (Level 3) (App. B.i.28, 29) (GEN-008)
E. Maintenance Publications and Technical Data
Objectives:
1. § Select, read, interpret and explain the purpose and use of Advisory Circulars (AC) (Level 3) (App. B. k. 31,32) (GEN-009)
2. § Select, read, interpret and explain the purpose and use of General Aviation Airworthiness Alerts. (Level 3) (App. B. k. 31,32) (GEN-010)
3. § Select, read, interpret and explain the purpose and use of Airworthiness Directives (AD) (Level 3) (App. B. k. 31,32) (GEN-011)
4. § Select, read, interpret and explain the purpose and use of Type Certificate Data Sheets (TCDS) and Aircraft Specifications (Level 3) (App. B. k. 31,32) (GEN-012)
5. § Select, read, interpret and explain the purpose and use of FAA and manufacturers' aircraft maintenance specifications. (Level 3) (App. B. k. 31,32)
6. Demonstrate how to use the HBAW 98-18 Checklist for instructions for continued airworthiness for major alternations approved under the field approval process

F. Unit Test

III. MATHEMATICS

A. Fractions
Objectives:
1. § Add, subtract, multiply, and divide decimal numbers and fractions (Level 3) (App. B. h. 27) (GEN-014)
2. § Convert numbers between common fractions and decimals using a calculator (Level 3) (App. B. h. 26) (GEN-015)
3. § Convert decimal numbers to percentages (Level 3) (App. B. h. 26) (GEN-016)

B. Signed Numbers, Roots, and Powers
Objectives:
1. § Add, subtract, multiply, and divide negative numbers (Level 3) (App. B. h. 27) (GEN-017)
2. § Extract roots and raise numbers to a given power (Level 3) (App. B. h. 24) (GEN-018)
3. § Multiply and divide by scientific notations (Level 3) (App. B. h. 24) (GEN-019)

C. Applied Algebra
Objectives:
1. § Determine ratios (Level 3) (App. B. h. 26) (GEN-020)
2. § Solve problems involving proportions. (Level 3) (App. B. h. 26) (GEN-021)
3. § Perform algebraic operations involving addition, subtraction, multiplication, and division (Level 3) (App. B. h. 27) (GEN-022)

D. Applied Geometry and Trigonometry
Objectives:
1. § Determine area and volume of various geometrical shapes (Level 3) (App. B. h. 25) (GEN-023)
2. § Solve trigonometric problems showing the relationship between sine, co-sine and tangent (Level 3) (App. B. h. 26) (GEN-024)

E. Measurement systems
Objectives:
1. § Use conversion tables to convert units between English and metric systems (Level 3) (App. B.d.10, h. 27) (GEN-025)
F. Unit Test

Note: § Denotes required project

IV. PHYSICS AND BASIC AERODYNAMICS

A. Basic Physics Fundamentals
   Objectives:
   1. § Define terms related to the origin of sound (Level 2) (App. B.j. 30) (GEN-026)

B. Simple Machines
   Objectives:
   1. § Solve problems related to simple machines (Level 2) (App. B.j. 30) (GEN-027)

C. Laws of Motion
   Objectives:
   1. Demonstrate Newton's Laws of Motion

D. Heat Dynamics
   Objectives:
   1. Demonstrate methods of heat transference
   2. § Convert temperatures between common temperature scales (Level 2)(App. B. j. 30) (GEN-028)

E. Fluid Dynamics
   Objectives:
   1. § Calculate pressure and volume of gasses. (Level 2) (App. B. j.30) (GEN-029)
   2. § Solve problems in fluid mechanics. (Level 2) (App. B. j.30) (GEN-030)

F. Basic Aerodynamics
   Objectives:
   1. Demonstrate characteristics of drag and how it affects aircraft performance
   2. § Identify types of aircraft structures. (Level 2) (App. B. j. 30) (GEN-031)
   3. § Demonstrate airfoil characteristics and fundamentals of lift production (Level 2)(App.B.j.30)
      (GEN -032)
   4. Demonstrate types and conditions of aircraft stability, and how it is affected by the various axes

G. Unit Test

V. GENERAL I REMEDIATION, REVIEW, AND TESTING

General Block I Final Exam
**SECTION 1**

Course Prefix and Number: AMT 1751L  
Semester Credit Hours (Credit): 1  
Contact Hours (Workforce):  
Course Title: Aviation Maintenance Technology General I Lab  

**SECTION 2a (To be completed for General Education courses only.)**

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

General Education Core (If selected, core discipline area will be identified in Section 4.)

- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

**SECTION 2b**

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- A.A. Elective
- A.A.S. Required Course
- A.A.S. Professional Elective
- A.S. Required Course
- A.S. Professional Elective
- PSDV/Clock Hour/Workforce Development Education
- Apprenticeship
- Upper Division/Bachelors
- Other: If selected, use this space to title “other” option.

**SECTION 3**

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Competency</th>
<th>X</th>
<th>Acceptance</th>
<th>Critical Analysis</th>
<th>X</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
<th>Working Collaboratively</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualitative Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listening</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Literacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethical Judgement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 4 (To be completed for General Education courses only.)**

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

- Communications
- Humanities
- Mathematics
- Social and Behavioral Sciences
- Natural Sciences

**SECTION 5 (To be completed for General Education courses only.)**

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

- Communication
- Critical Thinking
- Information Literacy
- Scientific and Quantitative Reasoning
- Global Sociocultural Responsibility

**SECTION 6**

**LEARNING OUTCOMES**

- **TYPE OF OUTCOME (General Education, Course or Program)**
- **METHOD OF ASSESSMENT**

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Type of Outcome</th>
<th>Method of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply general shop safety principles in daily work</td>
<td>Program</td>
<td>Written tests, reports and/or use of equipment to demonstrate student competency in field.</td>
</tr>
<tr>
<td>Demonstrate ability to read, comprehend, and apply data in FAA documents and regulations</td>
<td>Program</td>
<td>Written test created from FAA test bank of questions</td>
</tr>
<tr>
<td>Perform mathematical operations through elementary Algebra, Geometry and trigonometry</td>
<td>Program</td>
<td>Written test created from FAA test bank of questions</td>
</tr>
<tr>
<td>Understand basic laws of motion, thermodynamics and fluid dynamics</td>
<td>Program</td>
<td>Written test created from FAA test bank of questions</td>
</tr>
</tbody>
</table>

**SECTION 7**

Faculty name(s): Robert Crognale  
Date: 4/19/2019  
CS201050615
COURSE NUMBER: AMT 1752C 1752
COURSE TITLE: Aviation Maintenance Technology General II
PREREQUISITE(S): None
COREQUISITE(S): AMT 1752L
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Mechanic (6119) (T.C.) program
CREDIT HOURS: 3 2
CONTACT HOURS/WEEK: 7 4
CONTACT HOUR BREAKDOWN:
- Lecture/Discussion: 4
- Laboratory: 3 0
- Other:
FACULTY WORKLOAD POINTS: 4
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course is designed to introduce aircraft hardware and precision measuring instruments; blueprints and drawings; hand and power tools; and fluid lines and fittings.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Aviation Maintenance Technician Workbook</td>
<td>9780977489688</td>
</tr>
<tr>
<td>3. FAR/AMT</td>
<td>9781560279310</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B</td>
<td>9781560277286</td>
</tr>
<tr>
<td>5. Aviation Mechanic Handbook ASA/Dale Crane</td>
<td>9781560278996</td>
</tr>
<tr>
<td>6. Dictionary of Aeronautical Terms</td>
<td>9781560278641</td>
</tr>
<tr>
<td>8. FAA Airframe &amp; Powerplant Mechanic Practical Test Standards</td>
<td>9781560277514</td>
</tr>
</tbody>
</table>

2. Airframe & Powerplant Mechanic - General Workbook (ATBC 8083-30WB) 9780977489688
3. FAR/AMT (ASA 2019 or most current year) 9781619546721
4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA) 9781619540217
5. Aviation Mechanic Handbook (Dale Crane) 9781619544949
8. AMT Practical Test Standards (ASA 4th Edition) 9781569544949
IMPLEMENTATION DATE: Summer Term, 2006 18(20063)

REVIEW OR MODIFICATION DATE: Fall Term, 2008 19 (20091) – Outline Review 2007
Fall Term, 2012 (20131) Proposal 2012-108
Fall Term, 2013 (20141) – Proposal 2013-22
Fall Term 2018 (2188) – Proposal 2018-27
Fall Term, 2019 (2198) – Proposal 2019-18
I. AIRCRAFT HARDWARE AND PRECISION MEASURING INSTRUMENTS

A. Aircraft Hardware

Objectives:
1. Define terms related to aircraft hardware
2. Identify Discuss aircraft rivets by alloy, specification code, symbol, and head marking (Level 3) (App. B. e.17) (GEN-033)
3. Discuss usage of common aircraft rivets
4. Describe special rivets
5. Discuss standard aircraft bolt types, thread fits, specific numbers, applications and installations
6. Identify Discuss common aircraft bolts by head markings and head shapes (Level 3) (App. B. e.17) (GEN-034)
7. Identify Discuss various types of screws, nuts and washers used in aircraft construction. (Level 3) (App. B. e.17) (GEN-035)
8. Identify Discuss types of pins used in aircraft construction (Level 3) (App. B. e.17) (GEN-036)
9. Discuss the usage of inserts for repairing threaded and unthreaded holes
10. Discuss Dzus, airlock, and Camlock fasteners
11. Identify Discuss aircraft cables and cable terminals (Level 3) (App. B. e.17) (GEN-037)
12. Discuss aircraft turnbuckles
13. Discuss safety methods used in aircraft construction
15. Identify Safety wire aircraft hardware. (Level 3) (App. B. e.17) (GEN-039)

B. Precision Measuring Instruments

Objectives:
1. Discuss non-precision measuring instruments and their usage
2. Demonstrate Discuss the proper use of a rule. (Level 3) (App. B. e. 19) (GEN-040)
3. Discuss precision measuring instruments and their usage
4. Interpret drawings of micrometer readings
5. Demonstrate Discuss the proper use of an outside, inside and depth micrometer (Level 3) (App. B. e. 19) (GEN-041)
6. Discuss how to use a vernier and dial caliper to take inside, outside, and depth measurements (Level 3) (App. B. e.19) (GEN-042)
7. Demonstrate the use of a dial indicator

C. Unit Test

II. BLUEPRINTS AND DRAWINGS

A. Usage and Interpretation

Objectives:
1. Define terms related to blueprints and drawings
2. Identify different types of aircraft drawings.
3. Identify types of sectional views
4. Discuss how to make orthographic drawings (Level 3) (App. B. b.8) (GEN-043)
COURSE TOPICS (Continued)

Note: § Denotes required project

5. § Make Discuss isometric sketches. (Level 3) (App. B. b.8) (GEN-044)
6. § Make Discuss how to make a sketch of an alteration and a repair (Level 3) (App. B. b.8)(GEN-045)
7. Match types of pictorial views to their correct descriptions
8. § Identify Describe the types of lines and symbols found on blueprints (Level 3)(App.B.b.7,9) (GEN-046)
9. § Interpret Describe notes on aircraft blueprints. (Level 3) (App. B. b.9) (GEN-047)
10. § Determine Describe dimensions and tolerances on aircraft drawings (Level 3) (App. B. b.7,9) (GEN-048)
11. Name information found in the title block of an aircraft drawing
12. Describe usage of fuselage station numbers, water lines, lines, and wing station numbers
13. § Interpret an aircraft drawing. (Level 3) (App. B. b.7,9) (GEN-049)
14. § Interpret information on graphs and charts. (Level 3) (App. B. b.10)(GEN-050)
15. § Discuss how to troubleshoot a system by using a chart and identifying components within the system schematic (Level 2) (App. B. b.7,10) (GEN-051)
16. Perform basic geometric exercises

B. Unit Test

III. HAND AND POWER TOOLS

A. Basic Hand Tools
   Objectives:
   1. State guidelines for care and safe use of hand tools
   2. Identify and discuss types of basic hand tools
   3. Discuss types of tools for electrical repairs and their usage
   4. Describe proper usage of hand-impact tools
   5. Identify basic types of torque wrenches
   6. Discuss the importance of proper calibration
   7. Identify methods to achieve required torque values using assorted extensions
   8. § Demonstrate Discuss proper set-up and use of a torque wrench (GEN-052)

B. Pneumatic Tools
   Objectives:
   1. State guidelines for proper care and safe use of pneumatic tools
   2. Identify different pneumatic tools and attachments used in the aviation industry
   3. Identify tool ratings
   4. § Connect Discuss connecting a pneumatic tool to an air supply and actuate (GEN-053)
COURSE TOPICS (Continued)

Note: § Denotes required project

C. Cutting Tools
   Objectives:
   1. Identify types of cutting tools
   2. Discuss types of cutting tools and their usage
   3. Discuss types and uses of taps and dies
   4. Match descriptions of types of thread fits to their correct classes
   5. Interpret the National Taper Pipe Thread Size Chart

D. Machine tools
   Objectives:
   1. Identify the various machine tools in the hangar
   2. Discuss the proper care and safe operation of drill presses, hydraulic presses, band saws, floor shears and assorted power tools
   3. § Demonstrate Describe proper use of power tools and shop equipment (GEN-054)
   4. § Fabricate Describe how to make a hardware block using hand, power and cutting tools (GEN-055)

E. Unit Test

IV. FLUID LINES AND FITTINGS

A. Rigid Fluid Lines
   Objectives:
   1. Define terms related to rigid and flexible fluid lines and fittings
   2. Discuss materials and size designations of rigid tubing
   3. Discuss the fabrication of rigid tubing assemblies
   4. Discuss flared fittings used to connect rigid fluid lines
   5. Identify typical flareless fittings
   6. § Fabricate Discuss how to make and install a bent flared and flareless rigid tube assembly (Level 3) (App. B. d.13) (GEN-99)

B. Flexible Fluid Lines
   Objectives:
   1. Discuss flexible hose construction
   2. Discuss measurement and identification of flexible fluid lines
   3. Discuss and identify low-, medium-, and high-pressure hose
   4. Discuss the construction, usage, and advantages of Teflon hose
   5. Discuss methods used for attaching fluid line fittings to components
   6. Discuss flexible hose fittings
   7. Identify correct and incorrect flexible hose and rigid tubing installations
   8. Match color codes or names to related fluid line code symbols
   9. § Fabricate Discuss how to make and install a flexible hose assembly. (Level 3) (App. B. d.13)(GEN-100)

C. Unit Test

V. GENERAL II REMEDIATION, REVIEW, AND TESTING
   General Block II Final Exam
# Course Learning Outcomes and Assessment

## SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1752C 1752</th>
<th>Semester Credit Hours (Credit):</th>
<th>3 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology General II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

## SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- A.A. Elective
  - X A.S. Required Course
  - A.A.S. Required Course
  - A.A.S. Professional Elective
  - PSAV/Clock Hour/Workforce
    - Development Education
  - Upper Division/Bachelors
    - Other: If selected, use this space to title “other” option.

## SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Writing</th>
<th>Listening</th>
<th>Information Literacy</th>
<th>Ethical Judgement</th>
<th>Working Collaboratively</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

- Communications
- Humanities
- Mathematics
- Social and Behavioral Sciences
- Natural Sciences

## SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

- Communication
- Critical Thinking
- Information Literacy
- Scientific and Quantitative Reasoning
- Global Sociocultural Responsibility

## SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select aircraft hardware appropriate for usage</td>
<td>Program</td>
</tr>
<tr>
<td>Pratical test based on FAA Practical Test Standards</td>
<td></td>
</tr>
<tr>
<td>Demonstrate proper use of precision measuring instruments</td>
<td>Program</td>
</tr>
<tr>
<td>Pratical test based on FAA Practical Test Standards</td>
<td></td>
</tr>
<tr>
<td>Use and interpret aircraft blueprints</td>
<td>Program</td>
</tr>
<tr>
<td>Written test created from FAA Test Bank of Questions</td>
<td></td>
</tr>
<tr>
<td>Demonstrate proper use and care of hand tools</td>
<td>Program</td>
</tr>
<tr>
<td>Written tests, reports and/or use of equipment to demonstrate student competency in field.</td>
<td></td>
</tr>
<tr>
<td>Fabricate fluid lines and fittings</td>
<td>Program</td>
</tr>
<tr>
<td>Pratical test based on FAA Practical Test Standards</td>
<td></td>
</tr>
</tbody>
</table>

## SECTION 7

**Faculty name(s):**

- David Dagenais
- Robert Crognale

**Date:**

- 4/7/2018
- 4/19/2019

CS20150615
COURSE NUMBER: AMT 1752L
COURSE TITLE: Aviation Maintenance Technology General II Lab
PREREQUISITE(S): None
COREQUISITE(S): AMT 1752
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Mechanic (6119) (T.C.) program
CREDIT HOURS: 1
CONTACT HOURS/WEEK: 3
CONTACT HOUR BREAKDOWN: Lecture/Discussion: 3
LABORATORY:
OTHER:
FACULTY WORKLOAD POINTS: 1.5
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course complements AMT 1752 to provide practical exercise to introduce aircraft hardware and precision measuring instruments; blueprints and drawings; hand and power tools; and fluid lines and fittings.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Airframe &amp; Powerplant Mechanic - General Workbook (ATBC 8083-30WB)</td>
<td>9780977489688</td>
</tr>
<tr>
<td>3. FAR/AMT (ASA 2019 or most current year)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>5. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
<tr>
<td>8. AMT Practical Test Standards (ASA 4th Edition)</td>
<td>9781569544949</td>
</tr>
</tbody>
</table>

IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18

REVIEW OR MODIFICATION DATE:
COURSE TOPICS

Note: § Denotes required project

I. AIRCRAFT HARDWARE AND PRECISION MEASURING INSTRUMENTS

A. Aircraft Hardware

Objectives:
1. § Identify aircraft rivets by alloy, specification code, symbol, and head marking (Level 3) (App. B.e.17) (GEN-033)
2. § Identify common aircraft bolts by head markings and head shapes (Level 3) (App. B. e.17) (GEN-034)
3. § Sort various types of screws, nuts and washers used in aircraft construction. (Level 3) (App. B. e.17) (GEN-035)
4. § Identify types of pins used in aircraft construction (Level 3) (App. B. e.17) (GEN-036)
5. Demonstrate the use of inserts for repairing threaded and unthreaded holes
6. Demonstrate the use of Dzus, airlock, and Camlock fasteners
7. § Identify aircraft cable and cable terminals (Level 3) (App. B. e.17) (GEN-037)
8. Demonstrate the installation and use of aircraft turnbuckles
9. § Install aircraft bolts using cotter pins. (Level 3) (App. B. e. 17) (GEN-038)
10. § Apply safety-wire aircraft hardware. (Level 3) (App. B. e.17) (GEN-039)

B. Precision Measuring Instruments

Objectives:
1. § Demonstrate proper use of a rule. (Level 3) (App. B. e. 19) (GEN-040)
2. § Demonstrate proper use of an outside, inside and depth micrometer (Level 3) (App. B. e. 19) (GEN-041)
3. § Use a vernier and dial caliper to take inside, outside, and depth measurements (Level 3) (App. B. e.19) (GEN-042)
4. Demonstrate the use of a dial indicator

C. Unit Test

II. BLUEPRINTS AND DRAWINGS

A. Usage and Interpretation

Objectives:
1. § Make orthographic drawings (Level 3) (App. B. b.8) (GEN-043)
2. § Make isometric sketches. (Level 3) (App. B. b.8) (GEN-044)
3. § Make a sketch of an alteration and a repair (Level 3) (App. B. b.8)(GEN-045)
4. § Identify the types of lines and symbols found on blueprints (Level 3)(App.B.b.7,9) (GEN-046)
5. § Interpret notes on aircraft blueprints. (Level 3) (App. B. b.9) (GEN-047)
6. § Determine dimensions and tolerances on aircraft drawings (Level 3) (App. B. b.7,9) (GEN-048)
7. § Interpret an aircraft drawing. (Level 3) (App. B. b. 7,9) (GEN-049)
8. § Interpret information on graphs and charts. (Level 3) (App. B. b.10) (GEN-050)
9. § Troubleshoot a system by using a chart and identifying components within the system schematic (Level 2) (App. B, b.7,10) (GEN-051)
10. Perform basic geometric exercise

B. Unit Test
III. HAND AND POWER TOOLS
A. Basic Hand Tools
   Objectives:
   1. Demonstrate how to verify proper calibration of torque wrenches
   2. § Demonstrate proper set-up and use of a torque wrench (GEN-052)

B. Pneumatic Tools
   Objectives:
   1. § Connect a pneumatic tool to an air supply and actuate (GEN-053)

C. Cutting Tools
   Objectives:
   1. Demonstrate how to use different types of cutting tools
   2. Demonstrate how to use different types of taps and dies

D. Machine tools
   Objectives:
   1. Demonstrate the proper care and safe operation of drill presses, hydraulic presses, band saws, floor shears and assorted power tools
   2. § Demonstrate proper use of power tools and shop equipment (GEN-054)
   3. § Fabricate a hardware block using hand, power and cutting tools (GEN-055)

E. Unit Test

IV. FLUID LINES AND FITTINGS
A. Rigid Fluid Lines
   Objectives:
   1. § Fabricate and install a bent flared and flareless rigid tube assembly (Level 3) (App. B. d.13) (GEN-99)

B. Flexible Fluid Lines
   Objectives:
   1. Match color codes or names to related fluid line code symbols
   2. § Fabricate and install a flexible hose assembly. (Level 3) (App. B. d.13) (GEN-100)

C. Unit Test

V. GENERAL II REMEDIATION, REVIEW, AND TESTING
General Block II Final Exam
## SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1752L</th>
<th>Semester Credit Hours (Credit):</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology General II Lab</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## SECTION 2a (To be completed for General Education courses only.)

### TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

## SECTION 2b

### TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)

- A.A. Elective
- A.S. Required Course
- A.S. Professional Elective
- A.A.S. Required Course
- A.A.S. Professional Elective
- Technical Certificate
- PSAV/Clock Hour/Workforce
- Development Education
- Apprenticeship
- Upper Division/Bachelors
- Other: If selected, use this space to title “other” option.

## SECTION 3

### INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)

- X Reading
- X Speaking
- Critical Analysis
- X Qualitative Skills
- Scientific Method of Inquiry
- X Writing
- X Listening
- Information Literacy
- Ethical Judgement
- Working Collaboratively

## SECTION 4 (To be completed for General Education courses only.)

### GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)

- Communications
- Humanities
- Mathematics
- Social and Behavioral Sciences
- Natural Sciences

## SECTION 5 (To be completed for General Education courses only.)

### GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)

- Communication
- Critical Thinking
- Information Literacy
- Scientific and Quantitative Reasoning
- Global Sociocultural Responsibility

## SECTION 6

### LEARNING OUTCOMES

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select aircraft hardware appropriate for usage</td>
<td>Program</td>
</tr>
<tr>
<td>Practice test based on FAA Practical Test Standards</td>
<td></td>
</tr>
<tr>
<td>Demonstrate proper use of precision measuring instruments</td>
<td>Program</td>
</tr>
<tr>
<td>Practice test based on FAA Practical Test Standards</td>
<td></td>
</tr>
<tr>
<td>Use and interpret aircraft blueprints</td>
<td>Program</td>
</tr>
<tr>
<td>Written test created from FAA Test Bank of Questions</td>
<td></td>
</tr>
<tr>
<td>Demonstrate proper use and care of hand tools</td>
<td>Program</td>
</tr>
<tr>
<td>Written tests, reports and/or use of equipment to demonstrate student competency in field.</td>
<td></td>
</tr>
<tr>
<td>Fabricate fluid lines and fittings</td>
<td>Program</td>
</tr>
<tr>
<td>Practical test based on FAA Practical Test Standards</td>
<td></td>
</tr>
</tbody>
</table>

## SECTION 7

<table>
<thead>
<tr>
<th>Faculty name(s):</th>
<th>Robert Crognale</th>
<th>Date: 4/19/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS20150615</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AMT 1753C 1753
COURSE TITLE: Aviation Maintenance Technology General III
PREREQUISITE(S): None
COREQUISITE(S): None AMT 1753L
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Mechanic (6119) (T.C.) program
CREDIT HOURS: 3 2
CONTACT HOURS/WEEK: 7 4
CONTACT HOUR BREAKDOWN:
  Lecture/Discussion: 4
  Laboratory: 3 0
  Other:
FACULTY WORKLOAD POINTS: 4
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course is designed to introduce basic electricity and DC electrical circuits; aircraft battery service and inspection; AC electrical circuits and solid-state circuits.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>Title</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Aviation Maintenance Technician Workbook</td>
<td>9780977489688</td>
</tr>
<tr>
<td>3. FAR/AMT</td>
<td>9781560279310</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B</td>
<td>9781560277286</td>
</tr>
<tr>
<td>5. Aviation Mechanic Handbook ASA/Dale Crane</td>
<td>9781560278996</td>
</tr>
<tr>
<td>6. Dictionary of Aeronautical Terms</td>
<td>9781560278641</td>
</tr>
<tr>
<td>8. FAA Airframe &amp; Powerplant Mechanic Practical Test Standards</td>
<td>9781560277514</td>
</tr>
<tr>
<td>2. Airframe &amp; Powerplant Mechanic - General Workbook (ATBC 8083-30WB)</td>
<td>9780977489688</td>
</tr>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - General Test Guide (ATBC 8083-30TG)</td>
<td>9781947744480</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>6. AMT Practical Test Standards (ASA 4th Edition)</td>
<td>9781569544949</td>
</tr>
<tr>
<td>7. FAR/AMT (ASA 2019 or most current year)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>8. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>
IMPLEMENTATION DATE: Summer Term, 2006 18(20063)

REVIEW OR MODIFICATION DATE:
- Fall Term, 2008 19 (20091) – Outline Review 2007
- Fall Term, 2012 (20131) Proposal 2012-108
- Fall Term, 2013 (20141) – Proposal 2013-22
- Fall Term, 2018 (2188) – Proposal 2018-27
- Fall Term, 2019 (2198) – Proposal 2019-18
I. BASIC ELECTRICITY AND DC CIRCUITS

A. Safety and Terms
   Objectives:
   1. List and discuss safety precautions related to electrical circuits
   2. Define terms related to basic DC electricity

B. Electron Theory
   Objectives:
   1. Identify and label parts of an atom
   2. Describe electron flow
   3. Identify hazards and methods used to compensate for static electricity
   4. List the five basic units of electrical measurement

C. Electrical Laws and Analysis
   Objectives:
   1. § Use Discuss Ohm's Law to determine the relationship between voltage, current, and resistance (Level 3) (App. B. a.4) (GEN-056)
   2. Discuss the principle of Kirchhoff's voltage law
   3. Discuss the principle of Kirchhoff's current law
   4. List and describe the six sources of electrical energy
   5. Discuss the four physical characteristics that affect conductor resistance
   6. Identify types of resistors
   7. Determine resistor values using color codes

D. Basic Electrical Circuits and Schematics
   Objectives:
   1. List and discuss the three basic elements of a simple circuit.
   2. § Identify Describe basic DC electrical symbols and components (Level 3) (App. B. a.5) (GEN-057)
   3. Discuss the characteristics of series circuits
   4. § A Discuss how to analyze a series circuit diagram and calculate problems using Ohm's and Kirchhoff's laws (Level 3) (App. B. a. 3,4) (GEN-058)
   5. Discuss the characteristics of parallel circuits
   6. § Analyze a parallel circuit diagram and calculate problems using Ohm's and Kirchhoff's laws. (Level 3) (App. B. a. 3,4) (GEN-059)
   7. Identify and discuss simple and complex Series-parallel circuits
   8. § A Discuss how to analyze a complex series-parallel circuit and calculate problems using Ohm’s and Kirchhoff’s laws (Level 3) (App. B. a.3,4) (GEN-060)
   9. Discuss characteristics of bridge circuits
   10. Identify and discuss latching relays
   11. § Construct Discuss the operation of DC circuits from schematic diagrams (Level 3) (App. B. a. 5) (GEN-061)

D. Magnetism
   Objectives:
   1. Define magnetism and describe lines of force
   2. Identify types of magnets
   3. Discuss properties of electromagnets
Note: § Denotes required project

F. Electrical Meters
   Objectives:
   1. Discuss magnetism as it relates to meter movements
   2. Identify types of meter movements
   3. Describe the construction and operation of a multi-meter
   4. § Discuss how to use a multi-meter to perform series, parallel, and complex circuit analysis (Level 3) (App. B. a.3,4) (GEN-062)
   5. Discuss troubleshooting of basic circuits
   6. § Discuss how to troubleshoot a DC circuit using schematic diagrams and a multi-meter (Level 3)(App. B. a. 3,5) (GEN-063)

G. Unit Test

II. AIRCRAFT BATTERY SERVICE AND INSPECTION

A. Safety and Terms
   Objectives:
   1. List and follow safety precautions for working with aircraft batteries
   2. Define terms related to aircraft batteries

B. Battery Classifications
   Objectives:
   1. Discuss battery types and classifications
   2. Explain the construction and electrical characteristics of a primary cell

C. Lead Acid Batteries
   Objectives:
   1. Explain the construction and electrical characteristics of a lead acid battery
   2. Discuss methods used to determine state of charge and cell condition
   3. Describe battery compartment maintenance
   4. § Discuss how to remove and install a battery (Level 3) (App. B. a. 6) (GEN-064)
   5. Compare charging methods
   6. Discuss the relationship between battery state of charge and freezing temperature of electrolyte

D. Inspect and Service a Lead Acid Battery
   Objectives:
   1. Review shop safety practices
   2. Discuss types of chargers
   3. § Discuss how to inspect and service a lead acid battery. (Level 3) (App. B. a. 6) (GEN-065)

E. Nickel-Cadmium Battery
   Objectives:
   1. Explain the construction and electrical characteristics of a nickel-cadmium battery
   2. Discuss methods used to determine state of charge and cell condition
   3. Describe battery compartment maintenance
   4. Discuss proper battery installation
   5. Compare charging methods
   6. List advantages and disadvantages of Ni-CAD versus lead-acid batteries
Note: § Denotes required project

F. Inspect and Service a Nickel-Cadmium Battery
   Objectives:
   1. Review shop safety practices
   2. Discuss types of chargers
   3. Discuss service cycle and deep cycle requirements
   4. § Discuss how to inspect and service a nickel-cadmium battery.
   (Level 3) (App. B. a. 6) (GEN-066)

G. Unit Test

III. AC ELECTRICAL CIRCUITS

A. Safety and Terms
   Objectives:
   1. List and practice safety precautions related to electrical circuits
   2. Define terms related to AC electricity
   3. Discuss the different types of AC circuits
   4. § Discuss how to identify basic AC electrical symbols. (Level 3)
   (App. B. a. 5) (GEN-067)

B. Values
   Objectives:
   1. Discuss the relationship between AC values
   2. Label AC values

C. Oscilloscopes
   Objectives:
   1. Discuss the principles and operation of an oscilloscope
   2. Describe the construction of an oscilloscope
   3. Demonstrate use of an oscilloscope

D. Resistive AC Circuits
   Objectives:
   1. § Discuss how to calculate values in an AC resistive circuit.
   (Level 3) (App. B. a. 4, 5) (GEN-068)
   2. § Discuss how to determine power in an AC resistive circuit.
   (Level 3) (App. B. a. 2, 3, 4, 5) (GEN-069)

E. Transformers
   Objectives:
   1. Discuss mutual inductance
   2. Determine relationships between turns, ratio, voltage ratio, and current ratio
   3. Calculate primary and secondary values
   4. Discuss the three types of power loss

F. Inductive AC Circuits
   Objectives:
   1. § Discuss how to differentiate between inductance, reactance, and inductive reactance in an inductive AC circuit (Level 2) (App. B. a. 1) (GEN-070)
   2. § Discuss how to calculate values in an AC inductive circuit (Level 2) (App. B. a. 1, 2) (GEN-071)
COURSE TOPICS (Continued)

CONTACT HOURS

PER TOPIC

Note: § Denotes required project

3. § A Discuss how to analyze an AC inductive circuit (Level 3)
   (App. B. a. 1,5) (GEN-072)
4. Define phase relationships between voltage and current in an
   AC inductive circuit

G. Capacitive AC Circuits
   Objectives:
   1. § C Discuss how to compare capacitance and capacitive reactance
      in a capacitive circuit (Level 2) (App. B. a.1) (GEN-073)
   2. § C Discuss how to calculate values in an AC capacitive circuit.
      (Level 2) (App. B. a.1,2,5) (GEN-074)
   3. § A Discuss how to analyze an AC capacitive circuit. (Level 2)
      (App. B. a. 1,5) (GEN-075)
   4. Define the phase relationship between voltage and current in
      an AC capacitive circuit

H. Resistive Inductive (RL) Circuits
   Objectives:
   1. Discuss the interrelationship of resistance and inductive reactance
   2. Define impedance
   3. § C Discuss how to calculate all values in an RL circuit (Level 3)
      (App. B. a.1,2,5) (GEN-076)
   4. § A Discuss how to analyze an RL circuit (Level 3) (App. B. a.1,3,5)
      (GEN-077)

I. Resistive Capacitive (RC) Circuits
   Objectives:
   1. Discuss the interrelationship of resistance and capacitive reactance
   2. § C Discuss how to calculate all values in an RC circuit (Level 3)
      (App. B. a.1,2,5) (GEN-078)
   3. § A Discuss how to analyze an RC circuit (Level 2) (App. B. a.1,3,5)
      (GEN-079)

J. Resistive, Inductive, Capacitive (RLC) Circuits
   Objectives:
   1. Discuss the interrelationship of resistance, inductive and
      capacitive reactance
   2. § C Discuss how to calculate all values in an RLC circuit. (Level 3)
      (App. B. a. 1,5) (GEN-080)
   3. § A Discuss how to analyze an RLC circuit (Level 2) (App. B. a. 1)
      (GEN-081)

K. Unit Test

IV. SOLID STATE CIRCUITS

A. Safety and Terms
   Objectives:
   1. List and practice safety precautions related to solid-state
   2. List and practice safety precautions to be used when soldering
   3. Define terms related to solid-state
   4. § Identify Describe solid-state symbols (Level 3) (App. B. a. 5) (GEN-082)
B. Vacuum Tubes
Objectives:
1. Discuss vacuum tube construction
2. Identify types of vacuum tubes

C. Semi-Conductors
Objectives:
1. Discuss semi-conductor construction
2. Identify types of semi-conductors and their operation

D. Digital Logic
Objectives:
1. Discuss digital logic symbols and definitions
2. Discuss digital logic circuits (Level 3) (App. B. a. 5) (GEN-083)
3. Discuss digital logic circuits

E. Magneto Timing Light
Objectives:
1. Inventory magneto timing light component parts
2. Perform operational check
3. Construct Describe the construction of circuits using solid-state components (Level 3) (App. B. a. 5) (GEN-084)

F. Indicating and Arming Circuits
Objectives:
1. Explain latching circuits
2. Discuss proximity switches
3. Explain the use of SCR
4. Discuss Flip-Flop circuits

G. Static Protection
Objectives:
1. Demonstrate precautions required to prevent static damage

H. Unit Test

V. GENERAL III REMEDIATION, REVIEW, AND TESTING
5 3
General Block III Final Exam
## Florida State College at Jacksonville

### Course Learning Outcomes and Assessment

#### SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1753C 1753</th>
<th>Semester Credit Hours (Credit):</th>
<th>3 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology General III</td>
<td>Contact Hours (Workforce):</td>
<td></td>
</tr>
</tbody>
</table>

#### SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

#### SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>A.A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>A.S. Required Course</td>
<td>X</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>A.S. Professional Elective</td>
<td>Technical Certificate</td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Development Education</td>
<td>Apprenticeship</td>
</tr>
</tbody>
</table>

**Other:** If selected, use this space to title “other” option.

#### SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>X</th>
<th>Reading</th>
<th>X</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Writing</td>
<td>X</td>
<td>Listening</td>
<td>Information Literacy</td>
<td>Ethical Judgement</td>
<td>X Working Collaboratively</td>
</tr>
</tbody>
</table>

#### SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

- Communications
- Humanities
- Mathematics
- Social and Behavioral Sciences
- Natural Sciences

#### SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

- Communication
- Critical Thinking
- Information Literacy
- Scientific and Quantitative Reasoning
- Global Sociocultural Responsibility

#### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand the relationship between voltage, current and resistance</td>
<td>Program</td>
</tr>
<tr>
<td>Service Lead-Acid and Nickel-Cadmium batteries</td>
<td>Program</td>
</tr>
<tr>
<td>Demonstrate voltmeter usage in AC/DC circuits</td>
<td>Program</td>
</tr>
<tr>
<td>Construct circuits using solid-state components</td>
<td>Program</td>
</tr>
</tbody>
</table>

#### SECTION 7

<table>
<thead>
<tr>
<th>Faculty name(s):</th>
<th>David Dagenais</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Robert Crognale</td>
</tr>
</tbody>
</table>

**Date:**

- 4/7/2018
- 4/19/2019

**CS20150615**
COURSE NUMBER: AMT 1753L
COURSE TITLE: Aviation Maintenance Technology General III Lab
PREREQUISITE(S): None
COREQUISITE(S): AMT 1753
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Mechanic (6119) (T.C.) program
CREDIT HOURS: 1
CONTACT HOURS/WEEK: 3
Lecture/Discussion: 3
Laboratory: 3
Other:
FACULTY WORKLOAD POINTS: 1.5
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)
COURSE DESCRIPTION: This course complements AMT 1753 to provide practical exercise to introduce basic electricity and DC electrical circuits; aircraft battery service and inspection; AC electrical circuits and solid-state circuits.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Airframe &amp; Powerplant Mechanic - General Workbook (ATBC 8083-30WB)</td>
<td>9780977489688</td>
</tr>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - General Test Guide (ATBC 8083-30TG)</td>
<td>9781947744480</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>6. AMT Practical Test Standards (ASA 4th Edition)</td>
<td>9781569544949</td>
</tr>
<tr>
<td>7. FAR/AMT (ASA 2019 or most current year)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>8. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>

IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18

REVIEW OR MODIFICATION DATE:
I. BASIC ELECTRICITY AND DC CIRCUITS

A. Safety and Terms
   Objectives:
   1. Perform safety precautions related to electrical circuits

B. Electron Theory
   Objectives:
   1. Demonstrate hazards and methods used to compensate for static electricity
   2. Calculate the five basic units of electrical measurement

C. Electrical Laws and Analysis
   Objectives:
   1. § Use Ohm's Law to determine the relationship between voltage, current, and resistance (Level 3) (App. B. a.4) (GEN-056)
   2. Demonstrate the principle of Kirchhoff's voltage law
   3. Demonstrate the principle of Kirchhoff's current law
   4. Determine resistor values using color codes

D. Basic Electrical Circuits and Schematics
   Objectives:
   1. § Identify basic DC electrical symbols and components (Level 3) (App. B. a.5) (GEN-057)
   2. Use a multi-meter
   3. § Analyze a series circuit diagram and calculate problems using Ohm's and Kirchhoff's laws (Level 3) (App. B. a. 3.4) (GEN-058)
   4. § Analyze a parallel circuit diagram and calculate problems using Ohm's and Kirchhoff's laws. (Level 3) (App. B. a. 3.4) (GEN-059)
   5. § Analyze a complex series-parallel circuit and calculate problems using Ohm’s and Kirchhoff's laws (Level 3) (App. B. a.3,4) (GEN-060)
   6. § Construct DC circuits from schematic diagrams (Level 3) (App. B. a. 5) (GEN-061)

D. Magnetism
   Objectives:
   1. Demonstrate the properties of electromagnets

F. Electrical Meters
   Objectives:
   1. § Use a multi-meter to perform series, parallel, and complex circuit analysis (Level 3) (App. B. a.3,4) (GEN-062)
   2. § Troubleshoot a DC circuit using schematic diagrams and a multi-meter (Level 3) (App. B. a. 3,5) (GEN-063)

G. Unit Test
II. AIRCRAFT BATTERY SERVICE AND INSPECTION

A. Safety and Terms
   Objectives:
   1. Demonstrate safety precautions for working with aircraft batteries

B. Battery Classifications
   Objectives:
   1. Identify battery types and classifications

C. Lead Acid Batteries
   Objectives:
   1. Demonstrate methods used to determine state of charge and cell condition
   2. § Remove and install a battery (Level 3) (App. B. a. 6) (GEN-064)

D. Inspect and Service a Lead Acid Battery
   Objectives:
   1. Inspect and service a lead acid battery. (Level 3) (App. B. a. 6) (GEN-065)

E. Nickel-Cadmium Battery
   Objectives:
   1. Demonstrate methods used to determine state of charge and cell condition
   2. Demonstrate proper battery installation

F. Inspect and Service a Nickel-Cadmium Battery
   Objectives:
   1. Demonstrate how to use various types of chargers
   2. Demonstrate how to perform service cycle and deep cycle requirements
   3. § Inspect and service a nickel-cadmium battery. (Level 3) (App. B. a. 6) (GEN-066)

G. Unit Test

III. AC ELECTRICAL CIRCUITS

A. Safety and Terms
   Objectives:
   1. § Identify basic AC electrical symbols. (Level 3) (App. B. a. 5) (GEN-067)

B. Values
   Objectives:
   1. Demonstrate the relationship between AC values

C. Oscilloscopes
   Objectives:
   1. Demonstrate use of an oscilloscope

D. Resistive AC Circuits
   Objectives:
   1. § Calculate values in an AC resistive circuit. (Level 3) (App. B,a,4,5) (GEN-068)
   2. § Determine power in an AC resistive circuit. (Level 3) (App. B. a. 2,3,4,5) (GEN-069)
Note: § Denotes required project

E. Transformers
   Objectives:
   1. Demonstrate mutual inductance
   2. Calculate relationships between turns, ratio, voltage ratio, current ratio, and primary and secondary values

F. Inductive AC Circuits
   Objectives:
   1. § Differentiate between inductance, reactance, and inductive reactance in an inductive AC circuit (Level 2) (App. B. a. 1) (GEN-070)
   2. § Calculate values in an AC inductive circuit (Level 2) (App. B. a. 1,2) (GEN-071)
   3. § Analyze an AC inductive circuit (Level 3) (App. B. a. 1,5) (GEN-072)

G. Capacitive AC Circuits
   Objectives:
   1. § Compare capacitance and capacitive reactance in a capacitive circuit (Level 2) (App. B,a,1) (GEN-073)
   2. § Calculate values in an AC capacitive circuit. (Level 2) App. B. a.1,2,5) (GEN-074)
   3. § Analyze an AC capacitive circuit. (Level 2) (App. B. a. 1,5) (GEN-075)

H. Resistive Inductive (RL) Circuits
   Objectives:
   1. § Calculate all values in an RL circuit (Level 3) (App. B. a. 1,2,5) (GEN-076)
   2. § Analyze an RL circuit (Level 3) (App. B. a. 1,3,5) (GEN-077)

I. Resistive Capacitive (RC) Circuits
   Objectives:
   1. § Calculate all values in an RC circuit (Level 3) (App. B. a. 1,2,5) (GEN-078)
   2. § Analyze an RC circuit (Level 2) (App. B. a. 1,3,5) (GEN-079)

J. Resistive, Inductive, Capacitive (RLC) Circuits
   Objectives:
   1. § Calculate all values in an RLC circuit. (Level 3) (App. B. a. 1,5) (GEN-080)
   2. § Analyze an RLC circuit (Level 2) (App. B. a. 1) (GEN-081)

K. Unit Test

IV. SOLID STATE CIRCUITS
   10
A. Safety and Terms
   Objectives:
   1. Demonstrate and practice safety precautions related to solid-state
   2. Demonstrate and practice safety precautions to be used when soldering
   3. § Identify solid-state symbols (Level 3) (App. B. a. 5) (GEN-082)
Note: § Denotes required project

B. Vacuum Tubes
   Objectives:
   1. Identify and handle various types of vacuum tubes

C. Semi-Conductors
   Objectives:
   1. Identify and handle various types of semi-conductors

D. Digital Logic
   Objectives:
   1. § Identify digital logic circuits (Level 3) (App. B. a. 5) (GEN-083)

E. Magneto Timing Light
   Objectives:
   1. § Construct circuits using solid-state components (Level 3) (App. B. a. 5) (GEN-084)

F. Indicating and Arming Circuits
   Objectives:
   1. Design and demonstrate Flip-Flop circuits

G. Static Protection
   Objectives:
   1. Demonstrate precautions required to prevent static damage

H. Unit Test

V. GENERAL III REMEDIATION, REVIEW, AND TESTING
   General Block III Final Exam
### Florida State College at Jacksonville

#### Course Learning Outcomes and Assessment

| SECTION 1 |
|-----------------|-----------------|-----------------|
| **Course Prefix and Number:** | AMT 1753L | **Semester Credit Hours (Credit):** | 1 |
| **Contact Hours (Workforce):** | | |
| **Course Title:** | Aviation Maintenance Technology General III Lab |

<table>
<thead>
<tr>
<th>SECTION 2a (To be completed for General Education courses only.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE OF COURSE</strong> (Place an “X” in the box next to those that are applicable.)</td>
</tr>
<tr>
<td>General Education Core (If selected, core discipline area will be identified in Section 4.)</td>
</tr>
<tr>
<td>General Education (If selected, you must also complete Section 4, Section 5, and Section 8)</td>
</tr>
</tbody>
</table>

| SECTION 2b |
|-----------------|-----------------|-----------------|
| **TYPE OF COURSE** (Place an “X” in the box next to those that are applicable.) |
| A.A. Elective | X | A.S. Required Course |
| A.S. Required Course | A.A.S. Professional Elective | X |
| PSAV/Clock Hour/Workforce | Development Education |
| Upper Division/Bachelors | Other: If selected, use this space to title “other” option. |

| SECTION 3 |
|-----------------|-----------------|-----------------|
| **INTELLECTUAL COMPETENCIES** (Place an “X” in the box next to those that are applicable.) |
| X | Reading | X | Speaking |
| X | Writing | X | Listening |
| Critical Analysis | Qualitative Skills | Scientific Method of Inquiry |
| Information Literacy | Ethical Judgement | Working Collaboratively |

<table>
<thead>
<tr>
<th>SECTION 4 (To be completed for General Education courses only.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL EDUCATION DISCIPLINE AREA</strong> (Place an “X” in the box next to those that are applicable.)</td>
</tr>
<tr>
<td>Communications</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 5 (To be completed for General Education courses only.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL EDUCATION LEARNING OUTCOME AREA</strong> (Place an “X” in the box next to those that are applicable.)</td>
</tr>
<tr>
<td>Communication</td>
</tr>
<tr>
<td>Scientific and Quantitative Reasoning</td>
</tr>
</tbody>
</table>

| SECTION 6 |
|-----------------|-----------------|-----------------|
| **LEARNING OUTCOMES** | **TYPE OF OUTCOME** (General Education, Course or Program) | **METHOD OF ASSESSMENT** |
| Understand the relationship between voltage, current and resistance | Program | Written test created from FAA Test Bank of Questions |
| Service Lead-Acid and Nickel-Cadmium batteries | Program | Practical test based on FAA Practical Test Standards |
| Demonstrate voltmeter usage in AC/DC circuits | Program | Practical test based on FAA Practical Test Standards |
| Construct circuits using solid-state components | Program | Practical test based on FAA Practical Test Standards |

| SECTION 7 |
|-----------------|-----------------|
| **Faculty name(s):** | Robert Crognale |
| **Date:** | 4/19/2019 |

CS20150615
COURSE NUMBER: AMT 1754C 1754
COURSE TITLE: Aviation Maintenance Technology General IV
PREREQUISITE(S): None
COREQUISITE(S): None AMT 1754L
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Mechanic (6119) (T.C.) program
CREDIT HOURS: 3 2
CONTACT HOURS/WEEK: 7 4
CONTACT HOUR BREAKDOWN:
- Lecture/Discussion: 4
- Laboratory: 3 0
FACULTY WORKLOAD POINTS: 4
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course is designed to introduce structural materials and processes, non-destructive inspection, aircraft cleaning and corrosion control, weight and balance, and aircraft ground operations and servicing.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Aviation Maintenance Technician Workbook</td>
<td>9780977489688</td>
</tr>
<tr>
<td>3. FAR/AMT</td>
<td>9781560279310</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B</td>
<td>9781560277286</td>
</tr>
<tr>
<td>5. Aviation Mechanic Handbook ASA/Dale Crane</td>
<td>9781560278986</td>
</tr>
<tr>
<td>6. Dictionary of Aeronautical Terms</td>
<td>9781560278641</td>
</tr>
<tr>
<td>8. FAA Airframe &amp; Powerplant Mechanic Practical Test Standards</td>
<td>9781560277514</td>
</tr>
<tr>
<td>2. Airframe &amp; Powerplant Mechanic - General Workbook (ATBC 8083-30WB)</td>
<td>9780977489688</td>
</tr>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - General Test Guide (ATBC 8083-30TG)</td>
<td>9781947744480</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>6. AMT Practical Test Standards (ASA 4th Edition)</td>
<td>9781569544949</td>
</tr>
<tr>
<td>7. FAR/AMT (ASA 2019 or most current year)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>8. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>
IMPLEMENTATION DATE: Summer Term, 2006 18(20063)

REVIEW OR MODIFICATION DATE: Fall Term, 2008 19 (20091) – Outline Review 2007
Fall Term, 2012 (20131) Proposal 2012-108
Fall Term, 2013 (20141) – Proposal 2013-22
Fall Term, 2018 (2188) – Proposal 2018-27
Fall Term, 2019 (2198) – Proposal 2019-TBD
COURSE TOPICS

I. Structural Materials and Processes and Nondestructive Inspection
   A. Nonmetallic Structural Materials
      Objectives:
      1. Define terms related to aircraft structural materials
      2. Discuss materials used in aircraft construction and their properties
      3. Discuss various types of wood and how they are used in aircraft construction
      4. Discuss aircraft plastic and composite materials
   B. Metallic Structural Materials
      Objectives:
      1. Discuss properties of ferrous and non-ferrous metals
      2. Discuss, carbon steels, alloy steels, and the S.A.E. classification system used for steel alloys
      3. Discuss aluminum alloys and their classification numbering system
      4. § Discuss how to select aluminum alloys by their alloy and temper designation number (Level 3) (App. B. e.17) (GEN 085)
      5. Discuss magnesium, titanium, nickel, and copper, and their alloys
   C. Treatment Processes
      Objectives:
      1. Discuss treatment processes for steel
      2. Discuss heat treatment of metals (Level 1) (App. B. e.16)
      3. Discuss commonly used systems for measuring the hardness of steel
      4. § Discuss how to perform basic heat-treatment and test for proper temper (Level 2) (App. B. e.16) (GEN 086)
   D. Nondestructive Inspections
      Objectives:
      1. Define terms related to non-destructive testing
      2. Explain inspection methods, including advantages and disadvantages (Level 1) (App. B. e.14)
      3. Discuss dye-penetrant, magnetic particle, eddy current, ultrasonic and radiographic inspection (Level 1) (App. B. e.14)
      4. § Discuss how to perform liquid dye-penetrant, magnetic-particle, eddy current and ultra-sonic inspection (Level 2) (App. B. e.15) (GEN 087)
      5. Discuss visual inspection of welds
      6. § Discuss how to inspect and check welds (Level 3) (App. B. e.18) (GEN 088)

E. Unit Test

II. AIRCRAFT CLEANING AND CORROSION CONTROL
   A. Corrosion
      Objectives:
      1. Define terms related to cleaning and corrosion control
      2. Discuss electro-chemical origins of corrosion
      3. Identify common types of corrosion found in aircraft structures
      4. Discuss origins/causes of corrosion
      5. Discuss the most common corrosive agents
COURSE TOPICS (Continued)

CONTACT HOURS
PER TOPIC

Note: § Denotes required project completed during corequisite lab course

B. Cleaning
Objectives:
1. Discuss cleaning engine parts, metal, fabric, acrylics, and rubber
2. Discuss cleaning agents and their appropriate usage
3. § Discuss how to identify and select proper cleaning materials and perform aircraft cleaning (Level 3) (App. B. g. 22, 23) (GEN-089)
4. Determine the proper sequence for paint removal on aircraft structures

C. Corrosion Control
Objectives:
1. Discuss safety practices used during aircraft cleaning and corrosion control processes
2. Identify common nondestructive methods used to detect corrosion
3. Discuss the most corrosive-prone areas on aircraft and reasons for this corrosion
4. Discuss treatment processes
5. Determine proper corrosion-preventive techniques to be used in various corrosion-prone areas
6. § Discuss how to inspect for and identify forms of corrosion (Level 3) (App. B. g. 23) (GEN-090)
7. § Discuss how to select proper chemical and mechanical materials and perform corrosion removal and treatment (Level 3) (App. B. g. 23) (GEN-091)

D. Unit Test

III. WEIGHT AND BALANCE

A. Preparation of Aircraft for Weight and Balance
Objectives:
1. Discuss safety precautions to follow when weighing an aircraft
2. Define terms associated with aircraft weight and balance
3. Explain principles of weight and balance operations
4. Discuss special limitations related to aircraft jacking and weight and balance
5. State the condition of aircraft certified under FAR Part 23, during the weighing operation relative to ballast, fuel and operation.
6. Discuss documents and references necessary to perform weight and balance calculations
7. § Discuss how to perform a conformity inspection using an equipment list (Level 3) (App. B. c. 12; k. 31, 32) (GEN-092)
8. Discuss the effect weight and center of gravity position has on an aircraft's stall speed and stability

B. Weighing Aircraft
Objectives:
1. § Discuss how to determine the empty weight center of gravity relative to the main wheels of an aircraft. (Level 3) (App. B. c. 12) (GEN-093)
2. § Discuss how to perform empty weight calculation using fuel removal method (Level 3) (App. B. c. 12) (GEN-094)
COURSE TOPICS (Continued)

Note: § Denotes required project completed during corequisite lab course

3. § C Discuss how to calculate the center of gravity in extreme forward and aft loading conditions (Level 3) (App. B. c. 12) (GEN-095)
4. § C Discuss how to calculate weight and balance after removing and replacing equipment (Level 3) (App.B.c.12) (GEN-096)
5. Discuss the requirements for installation of placards or ballast due to CG placement
6. § C Discuss how to calculate aircraft useful load (Level 3) (App. B. c.12) (GEN-097)
7. § W Discuss how to weigh an aircraft and compute and record aircraft weight and balance (Level 3)(App.B.c.11,12) (GEN-098)

C. Unit Test

IV. AIRCRAFT GROUND HANDLING AND SERVICING

A. Servicing and Securing an Aircraft
Objectives:
1. Define terms related to aircraft ground handling and servicing to their correct definitions
2. § I Discuss how to identify and list typical hazards associated with ground handling and servicing of aircraft (Level 2) (App. B. f. 20) (GEN-101)
3. Explain aircraft tie-down procedures
4. § P Discuss how to perform aircraft move and secure the aircraft (Level 2) (App. B. f. 20) (GEN-102)
5. Discuss aircraft jacking and hoisting
6. Explain the usage of ground support equipment
7. Discuss aircraft servicing
8. Discuss aircraft fuels, fueling and de-fueling procedures and safety requirements
9. Describe common aircraft fuel contaminants and prevention of fuel contamination
10. § I Discuss how to identify and select aircraft fuels. (Level 2) (App. B. f. 21) (GEN-103)

B. Ground Operate and Move Aircraft
Objectives:
1. Discuss safety during aircraft ground handling and servicing
2. Describe engine run-up procedures
3. Discuss taxiing an aircraft
4. Identify standard FAA hand signals used for ground handling fixed-wing and rotary-wing aircraft
5. Discuss aircraft ground handling
6. § P Discuss how to perform as a signal person for a taxiing aircraft (Level 2) (App. B. f. 20)(GEN-104)
7. § P Discuss how to perform engine run-up and taxi aircraft (Level 2) App. B. f. 20) (GEN-105)

C. Unit Test

V. GENERAL IV REMEDIATION, REVIEW, AND TESTING

GENERAL BLOCK IV FINAL EXAM
### SECTION 1

**Course Prefix and Number:** AMT 1754C 1754  
**Semester Credit Hours (Credit):** 3  
**Contact Hours (Workforce):** 2  
**Course Title:** Aviation Maintenance Technology General IV

### SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**
- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

### SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td></td>
<td>A.S. Professional Elective</td>
<td>X</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other: If selected, use this space to title “other” option.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

| X Reading | X Speaking | Critical Analysis | X Qualitative Skills | Scientific Method of Inquiry |
| X Writing | X Listening | Information Literacy | Ethical Judgement | X Working Collaboratively |

### SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

| Communications | Humanities | Mathematics |
| Social and Behavioral Sciences | Natural Sciences |

### SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

| Communication | Critical Thinking | Information Literacy |
| Scientific and Quantitative Reasoning | Global Sociocultural Responsibility |

### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perform liquid penetrant, magnetic particle, eddy-current and ultrasonic inspections</td>
<td>Program</td>
</tr>
<tr>
<td>Inspect and identify forms of corrosion</td>
<td>Program</td>
</tr>
<tr>
<td>Calculate weight and balance of aircraft</td>
<td>Program</td>
</tr>
<tr>
<td>Ground operate and move aircraft</td>
<td>Program</td>
</tr>
</tbody>
</table>

### SECTION 7

**Faculty name(s):** David Dagenais  
Robert Crognale  
**Date:** 4/7/2018  
4/19/2019  
**CS20150615**
FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AMT 1754L
COURSE TITLE: Aviation Maintenance Technology General IV Lab
PREREQUISITE(S): None
COREQUISITE(S): AMT 1754
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Mechanic (6119) (T.C.) program
CREDIT HOURS: 1
CONTACT HOURS/WEEK: 3
CONTACT HOUR BREAKDOWN:
  Lecture/Discussion:
  Laboratory: 3
  Other:
FACULTY WORKLOAD POINTS: 1.5
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course complements AMT 1754 to provide practical exercise to introduce structural materials and processes, non-destructive inspection, aircraft cleaning and corrosion control, weight and balance, and aircraft ground operations and servicing.

SUGGESTED TEXT(S):
2. Airframe & Powerplant Mechanic - General Workbook (ATBC 8083-30WB) 9780977489688
3. Airframe & Powerplant Mechanic - General Test Guide (ATBC 8083-30TG) 9781947744480
4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA) 9781619540217
6. AMT Practical Test Standards (ASA 4th Edition) 9781569544949
7. FAR/AMT (ASA 2019 or most current year) 9781619546721
8. Aviation Mechanic Handbook (Dale Crane) 9781619544949

IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18
REVIEW OR MODIFICATION DATE:
COURSE TOPICS

Note: § Denotes required project

I. Structural Materials and Processes and Nondestructive Inspection
   12
   A. Nonmetallic Structural Materials
      Objectives:
      1. Demonstrate selection of materials used in aircraft construction

   B. Metallic Structural Materials
      Objectives:
      1. Demonstrate properties of ferrous and non-ferrous metals
      2. § Select aluminum alloys by their alloy and temper designation number (Level 3) (App. B. e.17) (GEN-085)

   C. Treatment Processes
      Objectives:
      1. Evaluate the heat treatment of metals (Level 1) (App. B. e.16)
      2. Perform material hardness testing
      3. § Perform basic heat-treatment evaluation and test for proper temper (Level 2) (App. B. e.16) (GEN-086)

   D. Nondestructive Inspections
      Objectives:
      1. Identify the appropriate application of inspection methods (Level 1) (App. B. e.14)
      2. Determine the applicable nondestructive test method (Level 1) (App. B. e.14)
      3. § Perform liquid dye-penetrant, magnetic-particle, eddy current and ultra-sonic inspection (Level 2) (App. B. e.15) (GEN-087)
      4. § Inspect and check welds (Level 3) (App. B. e.18) (GEN-088)

   E. Unit Test

II. AIRCRAFT CLEANING AND CORROSION CONTROL
   10
   A. Corrosion
      Objectives:
      1. Identify corrosion types

   B. Cleaning
      Objectives:
      1. Demonstrate cleaning engine parts, metal, fabric, acrylics, and rubber
      2. § Identify and select proper cleaning materials and perform aircraft cleaning (Level 3) (App. B. g. 22,23) (GEN-089)
C. Corrosion Control
   Objectives:
   1. Determine proper corrosion-preventive techniques to be used in various corrosion-prone areas
   2. § Inspect for and identify forms of corrosion (Level 3) App. B. g. 23) (GEN-090)
   3. § Select proper chemical and mechanical materials and perform corrosion removal and treatment (Level 3) (App. B. g. 23) (GEN-091)

D. Unit Test

III. WEIGHT AND BALANCE
   A. Preparation of Aircraft for Weight and Balance
      Objectives:
      1. § Perform a conformity inspection using an equipment list (Level 3) (App.B.c.12; k.31,32) (GEN-092)
      2. Demonstrate the effect weight and center of gravity position has on an aircraft's stall speed and stability

   B. Weighing Aircraft
      Objectives:
      1. § Determine the empty weight center of gravity relative to the main wheels of an aircraft. (Level 3) (App. B. c. 12) (GEN-093)
      2. § Perform empty weight calculation using fuel removal method (Level 3) (App.B.c.12) (GEN-094)
      3. § Calculate the center of gravity in extreme forward and aft loading conditions (Level 3) (App. B. c. 12) (GEN-095)
      4. § Calculate weight and balance after removing and replacing equipment (Level 3) (App.B.c.12) (GEN-096)
      5. Demonstrate the installation of placards or ballast due to CG placement
      6. § Calculate aircraft useful load (Level 3) (App. B. c.12) (GEN-097)
      7. § Weigh an aircraft and compute and record aircraft weight and balance (Level 3)(App.B.c.11,12) (GEN-098)

C. Unit Test

IV. AIRCRAFT GROUND HANDLING AND SERVICING
   A. Servicing and Securing an Aircraft
      Objectives:
      1. § Identify and list typical hazards associated with ground handling and servicing of aircraft (Level 2) (App. B. f. 20) (GEN-101)
      2. § Perform aircraft move and secure the aircraft (Level 2) (App. B. f. 20) (GEN-102)
      3. Demonstrate aircraft servicing procedures
      4. § Identify and select aircraft fuels. (Level 2) (App. B. f. 21) (GEN-103)
Note: § Denotes required project

B. Ground Operate and Move Aircraft
   Objectives:
   1. § Perform as a signal person for a taxiing aircraft (Level 2) (App. B. f. 20) (GEN-104)
   2. § Perform engine run-up and taxi aircraft (Level 2) (App. B. f. 20) (GEN-105)

C. Unit Test

V. GENERAL IV REMEDIATION, REVIEW, AND TESTING 4
   GENERAL BLOCK IV FINAL EXAM
Florida State College at Jacksonville

Course Learning Outcomes and Assessment

SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1754L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Credit Hours (Credit):</td>
<td>1</td>
</tr>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
</tr>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology General IV Lab</td>
</tr>
</tbody>
</table>

SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td></td>
<td>A.S. Professional Elective</td>
<td>X</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>apprenticeship</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other:</td>
<td>If selected, use this space to title “other” option.</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

- X Reading
- X Speaking
- Critical Analysis
- X Qualitative Skills
- Scientific Method of Inquiry
- X Writing
- X Listening
- Information Literacy
- Ethical Judgement
- X Working Collaboratively

SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

- Communications
- Humanities
- Mathematics
- Social and Behavioral Sciences
- Natural Sciences

SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

- Communication
- Critical Thinking
- Information Literacy
- Scientific and Quantitative Reasoning
- Global Sociocultural Responsibility

SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perform liquid penetrant, magnetic particle, eddy-current and ultrasonic inspections</td>
<td>Program</td>
</tr>
<tr>
<td>Inspect and identify forms of corrosion</td>
<td>Program</td>
</tr>
<tr>
<td>Calculate weight and balance of aircraft</td>
<td>Program</td>
</tr>
<tr>
<td>Ground operate and move aircraft</td>
<td>Program</td>
</tr>
</tbody>
</table>

SECTION 7

Faculty name(s): Robert Crognale

Date: 4/19/2019

CS20150615
COURSE NUMBER: AMT 1761C 1761

COURSE TITLE: Aviation Maintenance Technology Airframe I

PREREQUISITE(S): AMT 1751C, AMT 1752C, AMT 1753C, AMT 1754C

COREQUISITE(S): None AMT 1761L

CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Airframe Mechanics (6115) (T.C.) program

CREDIT HOURS: 4

CONTACT HOURS/WEEK: 14 8

CONTACT HOUR BREAKDOWN:
- Lecture/Discussion: 8
- Laboratory: 6
- Other:

FACULTY WORKLOAD POINTS: 8

STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course is designed to introduce skills and the necessary knowledge and understanding of aircraft structural assembly and rigging, Aircraft non-metallics, and aircraft electrical systems.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Airframe &amp; Powerplant Mechanics Airframe Workbook</td>
<td>9780983865841</td>
</tr>
<tr>
<td>3. FAR/AMT</td>
<td>9781560279310</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B</td>
<td>9781560277286</td>
</tr>
<tr>
<td>5. Aviation Mechanic Handbook ASA/Dale Crane</td>
<td>9781560278986</td>
</tr>
<tr>
<td>6. FAA Airframe &amp; Powerplant Mechanic Practical Test Standards</td>
<td>9781560277514</td>
</tr>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - Airframe Workbook (ATBC 8083-31WB)</td>
<td>9780983865841</td>
</tr>
<tr>
<td>5. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>7. Practical Test Standards (ASA 4th Edition)</td>
<td>9781560279761</td>
</tr>
<tr>
<td>8. FAR/AMT (ASA 2019 or most current year)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>9. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>
IMPLEMENTATION DATE: Summer Term, 2006 (20063)

REVIEW OR MODIFICATION DATE: Fall Term, 2008 (20091) – Outline Review 2007
Fall Term, 2013 (20141) – Proposal 2013-22
Fall Term, 2018 (2188) – Proposal 2018-27
Fall Term, 2019 (2198) – Proposal 2019-18
I. AIRCRAFT STRUCTURAL ASSEMBLY AND RIGGING 60

A. Airframes Safety
Objectives:
1. Discuss general safety practices
2. Identify safety precautions related to Airframes
3. Discuss MSDS related to Airframes

B. Fuselage Construction
Objectives:
1. Discuss the evolution of aircraft structures
2. Discuss types of fuselage construction and materials used
3. Compare and contrast monocoque and semi-monocoque fuselage construction and usage.
4. Identify and describe usage of truss type fuselage
5. Identify structural members
6. Discuss types of doors and windows on aircraft
7. Discuss interior furnishings
8. § Inspect, check, service and repair windows, doors and interior furnishings (Level 2) (App. C.I, d.13) (AF1-006)

C. Wing Construction
Objectives:
1. Identify semi-cantilever wing construction
2. Identify cantilever construction
3. Discuss wood and metal construction
4. Identify wing structural members

D. Empennage
Objectives:
1. Identify empennage components
2. Describe stability surfaces
3. Describe control surfaces

E. Introduction to Rotary-Wing Aircraft
Objectives:
1. Discuss the history of rotary wings
2. Explain the fundamentals and configurations of rotary-wing aircraft
3. Differentiate between types of rotorcraft
4. Discuss advantages and disadvantages of an autogiro

F. Engine Mounts
Objectives:
1. Discuss the design and characteristics of piston-style engine mounts
2. Discuss the design and characteristics of jet-style engine mounts
3. Describe the purpose and construction of the firewall

G. Landing Gear
Objectives:
1. Identify types (configurations) of landing gear
2. Discuss landing gear classifications
H. Basic Aerodynamics
   Objectives:
   1. List properties of the atmosphere that affect aircraft control and performance
   2. Discuss principles of physics that apply to flight and aerodynamics

I. High Speed Aerodynamics
   Objectives:
   1. Discuss high-speed subsonic flight
   2. Define transonic flight
   3. Describe supersonic and hypersonic flight

J. Flight Forces
   Objectives:
   1. List and define the four flight forces
   2. Discuss the relationship between lift and gravity (weight)
   3. Discuss the relationship between thrust and drag
   4. Compare types of drag on an aircraft

K. Axes of an Aircraft, Stability and Control
   Objectives:
   1. List the three axes of an aircraft
   2. Describe longitudinal stability and control
   3. Describe lateral stability and control
   4. Describe vertical stability and control

L. Secondary and Auxiliary Controls
   Objectives:
   1. Discuss the design and function of each of the following types of tabs: trim, balance, servo, anti-servo, and spring
   2. Explain the function of various high lift devices on the wing’s trailing edge: plain, split, slotted, Fowler, and slotted-Fowler flaps
   3. Describe the purpose of high lift devices on the wing’s leading edge: slots, slats, leading edge flaps, stall strips, vortex generators, special wing tips, etc.

M. Control Cable Systems and Equipment
   Objectives:
   1. Identify types and usages of aircraft control cables
   2. Describe various means of attachment of aircraft control cables
   3. § Fabricate a control cable using the Nicopress and swaged terminal method (Level 3) (App. C.I, f. 25) (AF1-007)
   4. Discuss the usage of pulleys and problems caused by misuse
   5. Describe the function of fairleads
   6. Discuss the usage of pressure seals
   7. Explain the function of bellcranks
   8. Describe the function of control horns
   9. Discuss the function of push-pull rods
   10. Discuss the usage and importance of a rigging chart
   11. Describe the purpose of a tensiometer
   12. Explain the usage of a protractor and contour plates
   13. § Demonstrate the turnbuckle lockwire technique. (Level 3) (App. C.I, f. 26) (AF1-008)
N. Rigging Specifications
   Objectives:
   1. Discuss the purpose and use of rigging specifications
   2. § Locate rigging specifications for a helicopter and fixed wing aircraft (Level 2) (App. C.I, f. 22, 23) (AF1-009)

O. Assembly and Rigging Procedures
   Objectives:
   1. Explain the purpose and procedure for a symmetry check
   2. § Perform a structural alignment check (Level 2) (App. C.I, f. 24) (AF1-010)
   3. Discuss the purpose for and procedure used to set wing dihedral angles
   4. Explain the purpose for and procedure used to set wing incidence angle
   5. Describe the purpose and procedure for wing trammeling
   6. Discuss the purpose and procedure for checking fin verticality
   7. § Perform a fin verticality check (Level 2) (App. C.I, f. 24) (AF1-011)
   8. § Remove, check balance, reinstall and adjust a primary control surface. (Level 3) (App. C.I, f. 23, 25,26) (AF1-012)
   9. § Determine and list rigging requirements using a maintenance manual (Level 2) (App. C.I, f. 22,23) (AF1-013)
   10. § Rig a control system (Level 3) (App. C.I, f. 23,26) (AF1-014)

P. Helicopter Characteristics and Rigging
   Objectives:
   1. Identify various types of helicopters
   2. Compare and contrast rigid rotor, semi-rigid rotor, and fully articulated rotor design
   3. List and explain aerodynamic characteristics of rotor-wing aircraft
   4. Discuss causes and corrective measures for helicopter vibrations (Level 1) (App. C.I, f. 22)
   5. Discuss procedures for correcting helicopter vibrations (Level 1) (App. C.I, f. 22)

Q. Unit Test

II. AIRCRAFT NON-METALLICS

A. Safety
   Objectives:
   1. Discuss safety precautions in working with non-metallics
   2. Discuss the different chemicals used and their MSDS

B. Types of Non-Metallic Materials
   Objectives:
   1. Discuss the purpose and use of non-metallic materials used in aircraft
   2. List the different non-metallic materials used in aircraft structures
   3. Discuss the different types of wood used in aircraft
   4. Discuss the different types of plastics used
   5. Define composite materials
   6. Discuss the different types of seal materials
C. Wood Inspection and Repairs
Objectives:
1. Discuss inspection and defects of wood structures (Level 1) (App. C.I, a. 2,3)
2. Discuss wood structural repairs
3. Differentiate between types of wood patches and their usage (Level 1) (App. C.I, a. 1)
4. Identify and describe various wood repairs (Level 1) (App. C.I, a. 1)

D. Composite Materials
Objectives:
1. Match terms related to bonded structures to their correct definitions
2. Discuss usages and characteristics of reinforcing fibers
3. Discuss usages and characteristics of matrix materials
4. Discuss usages and characteristics of core materials
5. Select true statements related to types and characteristics of bonded structures

E. Composite Manufacturing
Objectives:
1. Discuss safety practices related to composite manufacturing/repair
2. Discuss composite manufacturing/repair techniques
3. Discuss the various methods of applying pressure during the curing process
4. Discuss methods of, and various equipment used in, the curing process
5. Discuss tools, equipment, and processes used in machining composites
6. § Manufacture a foam core composite structure (Level 3) (App. C.I, d.11) (AF1-025)
7. § Manufacture a honeycomb core composite structure (Level 3) (App. C.I, d.11) (AF1-026)

F. Composite Repairs
Objectives:
1. Discuss classification and types of composite damage
2. Discuss inspection and testing methods of primary and secondary composite structures
3. § Inspect bonded honeycomb structure (Level 2) (App. C.I, d.11) (AF1-027)
4. Discuss general composite repair operations and procedures
5. Discuss causes for composite repair failures
6. Discuss the importance of cleaning prior to repairs
7. Discuss typical composite repair procedures
8. Discuss delamination and their repairs
9. Discuss damage and repairs to laminate structures
10. Discuss damage and repairs to sandwich structures
11. Discuss damage and repairs to honeycomb structures
12. § Remove damage from bonded honeycomb with a router (Level 3) (App. C.I, d. 12) (AF1-028)
Note: § Denotes required project Associated projects are completed during corequisite lab course

13. § Perform core replacement and fiberglass, Kevlar or graphite overlay on bonded honeycomb (Level 3) (App. C.I, b.5, d.12) (AF1-029)
11. Discuss selection, installation, and removal of special fasteners for metallic, bonded, and composite structures
15. § Select, install and remove special fasteners for bonded and composite structures (Level 2) (App. C.I, d.10) (AF1-030)

G. Plastics
Objectives:
1. Discuss characteristics of acrylic and cellulose acetate plastic material
2. Discuss storage and handling of transparent plastics
3. Discuss forming, sawing, drilling, and cementing transparent plastics
4. Discuss repairing transparent plastics
5. Discuss how to protect plastics during handling and repair operations
6. § Repair surface scratches in transparent plastic laminates (Level 2) (App. C.I, d.12) (AF1-031)
7. § Repair a crack in plastic (Level 2) (App. C.I, d.12) (AF1-032)

H. Unit Test

III. AIRCRAFT ELECTRICAL

A. Safety and Terms
Objectives:
1. List and practice safety precautions related to aircraft wiring, motors and generators
2. Define terms related to aircraft wiring, electrical components, motors and generators

B. Aircraft Wiring
Objectives:
1. Discuss types of wire and insulation
2. Discuss wire size selection
3. Interpret and use a wire/cable size chart

C. Wiring Diagrams
Objectives:
1. Discuss block diagrams
2. Discuss pictorial diagrams
3. Interpret schematic diagrams
4. Discuss avionics circuits
5. Describe landing gear circuits
6. Explain the master switch circuit

D. Wiring Installations
Objectives:
1. Identify aircraft wire markings
2. Compare single and double wire installation
3. § Select proper wire for various applications (Level 3) (App. C.II, g. 49) (AF1-038)
3. Determine proper wire grouping, bundles, and routing
5. § Lace and tie wire bundles (Level 3) (App. C.II, g. 49) (AF1-039)
COURSE TOPICS (Continued)

Note: § Denotes required project. Associated projects are completed during corequisite lab course.

1. Differentiate between conduit and shielding

6. § Install terminal ends and splices (Level 3) (App. C.II, g. 48, 49, 50a) (AF1-040)

7. § Prepare and install frame ground (Level 3) (App. C.II, g. 49) (AF1-041)

4. Differentiate between conduit and shielding

9. § Inspect and repair aircraft connector pins and sockets (Level 2) (App. C.II, g. 48) (AF1-042)

E. Circuit Protective Devices
   Objectives:
   1. Identify aircraft fuses
   2. Identify aircraft circuit breakers
   3. § Interpret circuit protector charts (Level 3) (App. C.II, g. 49) (AF1-043)

F. Circuit Controls
   Objectives:
   1. Discuss types and usage of switches
   2. § Interpret switch de-rating chart (Level 3) (App. C.II, g. 49) (AF1-044)
   2. Discuss switch installation
   3. Identify relay and solenoid construction, operation, and applications
   5. § Install and check airframe electrical wiring, controls, switches, indicators, and protective devices (Level 3) (App. C.II, g. 49) (AF1-045)

G. Soldering
   Objectives:
   1. Discuss soldering safety
   2. Describe soldering practices, procedures, and techniques
   3. § Assemble components using approved soldering procedures (Level 3) (C.II, g. 49) (AF1-046)

H. Electrical System Troubleshooting
   Objectives:
   1. Discuss troubleshooting techniques
   2. Describe the installation of various electrical system components
   3. § Determine normal circuit operation using schematic diagrams, and equipment charts (Level 3) (App. C.II, g. 50a) (AF1-047)
   4. § Troubleshoot an airframe AC and DC electrical system for an open wire (Level 3) (App. C.II, g. 50a) (AF1-048)

I. Generator Theory
   Objectives:
   1. Discuss magnetism in relation to electromechanical generation
   2. Identify generator parts and their functions
   3. Discuss the three types of generators and methods of control
   4. Discuss methods of controlling armature reactance
COURSE TOPICS (Continued)

CONTACT HOURS PER TOPIC

Note: § Denotes required project

Associated projects are completed during corequisite lab course

J. Basic Generator Inspection and Testing
   Objectives:
   1. Discuss visual inspections of generator components
   2. Determine inspection procedures for armatures using a growler
   3. Explain inspection and testing procedures for field circuits
   4. Discuss procedures for correcting brush arcing
   5. § Disassemble, inspect, troubleshoot and reassemble a
      generator (Level 2) (App. C.II, g. 50b) (AF1-049)

K. 12-Volt Shunt-Wound Generator System
   Objectives:
   1. Discuss the operation of a three-unit control panel
   2. Explain the installation and removal of an aircraft generator
   3. Discuss parallel DC charging systems

L. 24-Volt Compound-Wound Generator System
   Objectives:
   1. Discuss the operation of a carbon pile voltage regulator
   2. Identify interpoles and series windings and discuss their usage
   3. Troubleshoot, inspect, and adjust a carbon pile voltage regulator
   4. Discuss the operation of differential reverse current relay (DRCR)
   5. Discuss generator paralleling circuits

M. 12/24 Volt Alternators
   Objectives:
   1. Discuss alternator parts and their functions
   2. Compare generators and alternators
   3. Explain alternator controls
   4. Discuss alternator service and maintenance
   5. § Set up and test an alternator (Level 3)
      (App. C.II, g. 50a) (AF1-050)

N. 120/208 VAC Generators
   Objectives:
   1. Discuss brush type AC generators and voltage regulation
   2. Discuss brushless AC generators and voltage regulation
   3. Describe the purpose and operation of constant and integrated
      speed drives (Level 1) (App. C.II, g. 50b)

O. Inverters and Rectifiers
   Objectives:
   1. Explain rotary type inverters
   2. Discuss solid-state inverters
   3. Discuss methods of rectification
   4. Discuss transformer / rectifier units

P. Power Distribution
   Objectives:
   1. Discuss simple power systems
   2. Explain the difference between parallel and split bus systems
   3. Discuss bus tie systems (split bus)
Q. Synchronous Servos
   Objectives:
   1. Discuss stepper motors
   2. Discuss autosyn systems
   3. Explain synchronous systems

R. Unit Test

IV. EMPLOYABILITY SKILLS FOR AIRFRAME MAINTENANCE TECHNICIAN

A. Conducting Job Search
   1. Media and agency information sources
   2. Exploring websites, career development centers, publications, and resource documents
   3. Personal documents required when applying

B. Job Application
   1. Application forms
   2. Résumé writing
   3. Punctuation and spelling

C. Interview Skills
   1. Types of interviews
   2. Etiquette required
   3. Presentation skills

D. On the Job Behaviors
   1. Response to criticism
   2. Work habits
   3. Interpersonal relationships

E. Job Changes
   1. Promotions
   2. Inter-department
   3. New companies

F. Right-to-Know Law
   1. Florida statutes
   2. Exceptions

V. AIRFRAME I REMEDIATION, REVIEW, AND TESTING

Airframe Block I Final Exam
SECTION 1
Course Prefix and Number: AMT 1761C 1761  
Semester Credit Hours (Credit): 6  
Contact Hours (Workforce): 4  
Course Title: Aviation Maintenance Technology Airframe I

SECTION 2a (To be completed for General Education courses only.)
TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)
General Education Core (If selected, core discipline area will be identified in Section 4.)
General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

SECTION 2b
TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)
A.A. Elective  
A.A.S. Required Course  
A.A.S. Professional Elective  
PSAV/Clock Hour/Workforce Development Education  
Technical Certificate  
Upper Division/Bachelors Apprenticeship  
Other: If selected, use this space to title “other” option.

SECTION 3
INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)
Reading  
Speaking  
Critical Analysis  
Qualitative Skills  
Scientific Method of Inquiry  
Writing  
Listening  
Information Literacy  
Ethical Judgement  
Working Collaboratively

SECTION 4 (To be completed for General Education courses only.)
GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)
Communications  
Humanities  
Mathematics  
Social and Behavioral Sciences  
Natural Sciences

SECTION 5 (To be completed for General Education courses only.)
GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)
Communication  
Critical Thinking  
Information Literacy  
Scientific and Quantitative Reasoning  
Global Sociocultural Responsibility

SECTION 6
LEARNING OUTCOMES
<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
</table>
| Rig an aircraft flight control System  
Course  
Practical test based on FAA Practical Test Standards |
| Manufacture a Honeycomb core composite structure  
Course  
Practical test based on FAA Practical Test Standards |
| Determine normal circuit operation using electrical schematics  
Course  
Written test created from FAA Test Bank of Questions |
| Inspect and repair electrical connectors  
Course  
Practical test based on FAA Practical Test Standards |
| Interpret Circuit protector charts  
Course  
Written test created from FAA Test Bank of Questions |

SECTION 7
Faculty name(s): David Dagenais  
Don Coy  
Date: 4/7/2018  
4/19/2019
COURSE NUMBER: AMT 1761L
COURSE TITLE: Aviation Maintenance Technology Airframe I Lab
PREREQUISITE(S): None
COREQUISITE(S): AMT 1761
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Airframe Mechanics (6115) (T.C.) program
CREDIT HOURS: 2
CONTACT HOURS/WEEK: 6
CONTACT HOUR BREAKDOWN:
   Lecture/Discussion: 
   Laboratory: 6
   Other:
FACULTY WORKLOAD POINTS: 3
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course complements AMT 1761 to provide practical exercise to introduce skills of aircraft structural assembly and rigging, Aircraft non-metallics, and aircraft electrical systems.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - Airframe Workbook (ATBC 8083-31WB)</td>
<td>9780983865841</td>
</tr>
<tr>
<td>5. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>7. Practical Test Standards (ASA 4th Edition)</td>
<td>9781560279761</td>
</tr>
<tr>
<td>8. FAR/AMT (ASA 2019 or most current year)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>9. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>

IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18

REVIEW OR MODIFICATION DATE:
I. AIRCRAFT STRUCTURAL ASSEMBLY AND RIGGING

A. Airframes Safety
   Objectives:
   1. Demonstrate general safety practices related to Airframes

B. Fuselage Construction
   Objectives:
   1. § Inspect, check, service and repair windows, doors and interior furnishings (Level 2) (App. C.I, d.13) (AF1-006)

C. Wing Construction
   Objectives:
   1. Identify wing structural members

D. Empennage
   Objectives:
   1. Identify empennage components

E. Introduction to Rotary-Wing Aircraft
   Objectives:
   1. Identify between configurations of rotary-wing aircraft

F. Engine Mounts
   Objectives:
   1. Evaluate the design and characteristics of piston-style engine mounts and jet-style engine mounts

G. Landing Gear
   Objectives:
   1. Identify types (configurations) of landing gear

H. Basic Aerodynamics
   Objectives:
   1. Identify properties of the atmosphere that affect aircraft control and performance

I. High Speed Aerodynamics
   Objectives:
   1. Identify aircraft design components enabling high-speed subsonic flight. Define transonic flight, supersonic flight and hypersonic flight

J. Flight Forces
   Objectives:
   1. Compare types of drag on an aircraft and the relationship between the four forces of flight

K. Axes of an Aircraft, Stability and Control
   Objectives:
   1. Evaluate the three axes of an aircraft affecting longitudinal stability, lateral stability, and vertical stability

Note: § Denotes required project
L. Secondary and Auxiliary Controls
   Objectives:
   1. Identify the high lift devices on the wing's trailing edge: plain, split, slotted, Fowler, and slotted-Fowler flaps
   2. Identify the high lift devices on the wing's leading edge: slots, slats, leading edge flaps, stall strips, vortex generators, special wing tips, etc.

M. Control Cable Systems and Equipment
   Objectives:
   1. § Fabricate a control cable using the Nicopress and swaged terminal method (Level 3) (App. C.I, f. 25) (AF1-007)
   2. § Demonstrate the turnbuckle lockwire technique. (Level 3) (App. C.I, f. 26) (AF1-008)

N. Rigging Specifications
   Objectives:
   1. § Locate rigging specifications for a helicopter and fixed wing aircraft (Level 2) (App. C.I, f. 22, 23) (AF1-009)

O. Assembly and Rigging Procedures
   Objectives:
   1. § Perform a structural alignment check (Level 2) (App. C.I, f. 24) (AF1-010)
   2. § Perform a fin verticality check (Level 2) (App. C.I, f. 24) (AF1-011)
   3. § Remove, check balance, reinstall and adjust a primary control surface. (Level 3) (App. C.I, f. 23, 25,26) (AF1-012)
   4. § Determine and list rigging requirements using a maintenance manual (Level 2) (App. C.I, f. 22,23) (AF1-013)
   5. § Rig a control system (Level 3) (App. C.I, f. 23,26) (AF1-014)

P. Helicopter Characteristics and Rigging
   Objectives:
   1. Compare and contrast rigid rotor, semi-rigid rotor, and fully articulated rotor design
   2. Identify causes and corrective measures for helicopter vibrations (Level 1) (App. C.I, f. 22)
   3. Identify procedures for correcting helicopter vibrations (Level 1) (App. C.I, f. 22)

Q. Unit Test

II. AIRCRAFT NON-METALLICS

A. Safety
   Objectives:
   1. Illustrate safety precautions in working with non-metals

B. Types of Non-Metallic Materials
   Objectives:
   1. Identify non-metallic materials
COURSE TOPICS (Continued)

Note: § Denotes required project

C. Wood Inspection and Repairs
   Objectives:
   1. Inspect and identify defects of wood structures (Level 1) (App. C.I, a. 2,3)
   2. Perform wood structural repairs
   3. Utilize different types of wood patches (Level 1) (App. C.I, a. 1)
   4. Evaluate wood repairs (Level 1) (App. C.I, a. 1)

D. Composite Materials
   Objectives:
   1. Perform a repair using reinforcing fibers, matrix materials, core materials

E. Composite Manufacturing
   Objectives:
   1. § Manufacture a foam core composite structure (Level 3) (App. C.I, d.11) (AF1-025)
   2. § Manufacture a honeycomb core composite structure (Level 3) (App. C.I, d.11) (AF1-026)

F. Composite Repairs
   Objectives:
   1. Demonstrate classification and types of composite damage
   2. Demonstrate inspection and testing methods of primary and secondary composite structures
   3. § Inspect bonded honeycomb structure (Level 2) (App. C.I, d.11) (AF1-027)
   4. § Remove damage from bonded honeycomb with a router (Level 3) (App. C.I, d. 12) (AF1-028)
   5. § Perform core replacement and fiberglass, Kevlar or graphite overlay on bonded honeycomb (Level 3) (App. C.I, b.5, d.12) (AF1-029)
   6. Demonstrate selection, installation, and removal of special fasteners for metallic, bonded, and composite structures
   7. § Select, install and remove special fasteners for bonded and composite structures (Level 2) (App. C.I, d.10) (AF1-030)

G. Plastics
   Objectives:
   1. § Repair surface scratches in transparent plastic laminates (Level 2) (App. C.I, d. 12) (AF1-031)
   2. § Repair a crack in plastic (Level 2) (App. C.I, d. 12) (AF1-032)

H. Unit Test

III. AIRCRAFT ELECTRICAL
A. Safety and Terms
   Objectives:
   1. Identify safety precautions with aircraft wiring, motors and generators
B. Aircraft Wiring
   Objectives:
   1. Interpret and use a wire/cable size chart

C. Wiring Diagrams
   Objectives:
   1. Interpret schematic diagrams
   2. Demonstrate troubleshooting avionics circuits
   3. Demonstrate troubleshooting landing gear circuits

D. Wiring Installations
   Objectives:
   1. Identify aircraft wire markings
   2. Compare single and double wire installation
   2. § Select proper wire for various applications (Level 3) (App. C.II, g. 49) (AF1-038)
   4. Determine proper wire grouping, bundles, and routing
   5. § Lace and tie wire bundles (Level 3) (App. C.II, g. 49) (AF1-039)
   6. § Install terminal ends and splices (Level 3) (App. C.II, g. 48, 49, 50a) (AF1-040)
   7. § Prepare and install frame ground (Level 3) (App. C.II, g.49) (AF1-041)
   8. § Inspect and repair aircraft connector pins and sockets (Level 2)
      (App. C.II, g. 48)(AF1-042)

E. Circuit Protective Devices
   Objectives:
   1. § Interpret circuit protector charts (Level 3) (App. C.II, g. 49) (AF1-043)

F. Circuit Controls
   Objectives:
   1. § Interpret switch de-rating chart (Level 3) (App. C.II, g. 49) (AF1-044)
   2. § Install and check airframe electrical wiring, controls, switches, indicators, and protective
      devices (Level 3) (App. C.II, g. 49) (AF1-045)

G. Soldering
   Objectives:
   1. § Assemble components using approved soldering procedures (Level 3)
      (C.II, g.49)(AF1-046)

H. Electrical System Troubleshooting
   Objectives:
   1. § Determine normal circuit operation using schematic diagrams, and equipment charts
      (Level 3) (App. C.II, g. 50a) (AF1-047)
   2. § Troubleshoot an airframe AC and DC electrical system for an open wire (Level 3)
      (App. C.II, g. 50a) (AF1-048)
I. Generator Theory
   Objectives:
   1. Identify generator parts and their functions

J. Basic Generator Inspection and Testing
   Objectives:
   1. § Disassemble, inspect, troubleshoot and reassemble a generator (Level 2) (App. C.II, g. 50b) (AF1-049)

K. 12-Volt Shunt-Wound Generator System
   Objectives:
   1. Demonstrate the operation of a three-unit control panel

L. 24-Volt Compound-Wound Generator System
   Objectives:
   1. Troubleshoot, inspect, and adjust a carbon pile voltage regulator

M. 12/24 Volt Alternators
   Objectives:
   1. Demonstrate alternator service and maintenance
   2. § Set up and test an alternator (Level 3) (App. C.II, g. 50a) (AF1-050)

N. 120/208 VAC Generators
   Objectives:
   1. Illustrate operation of constant and integrated speed drives (Level 1) (App. C.II, g. 50b)

O. Inverters and Rectifiers
   Objectives:
   1. Demonstrate methods of rectification

P. Power Distribution
   Objectives:
   1. Illustrate bus tie systems (split bus)

Q. Synchronous Servos
   Objectives:
   1. Demonstrate synchronous systems operations

R. Unit Test

V. AIRFRAME I REMEDIATION, REVIEW, AND TESTING
   Airframe Block I Final Exam 6
**Florida State College at Jacksonville  Course Learning Outcomes and Assessment**

**SECTION 1**

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1761L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Credit Hours (Credit):</td>
<td>2</td>
</tr>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
</tr>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology Airframe I Lab</td>
</tr>
</tbody>
</table>

**SECTION 2a (To be completed for General Education courses only.)**

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

**SECTION 2b**

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td></td>
<td>A.A.S. Professional Elective</td>
<td>X</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td></td>
<td></td>
<td>Other: If selected, use this space to title “other” option.</td>
</tr>
</tbody>
</table>

**SECTION 3**

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>X</th>
<th>Reading</th>
<th>X</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Writing</td>
<td>X</td>
<td>Listening</td>
<td>Information Literacy</td>
<td>Ethical Judgement</td>
<td>X Working Collaboratively</td>
</tr>
</tbody>
</table>

**SECTION 4 (To be completed for General Education courses only.)**

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences</td>
<td></td>
<td>Natural Sciences</td>
</tr>
</tbody>
</table>

**SECTION 5 (To be completed for General Education courses only.)**

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Quantitative Reasoning</td>
<td></td>
<td>Global Sociocultural Responsibility</td>
</tr>
</tbody>
</table>

**SECTION 6**

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th><strong>TYPE OF OUTCOME</strong> (General Education, Course or Program)</th>
<th><strong>METHOD OF ASSESSMENT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rig an aircraft flight control System</td>
<td>Course</td>
</tr>
<tr>
<td>Manufacture a Honeycomb core composite structure</td>
<td>Course</td>
</tr>
<tr>
<td>Determine normal circuit operation using electrical schematics</td>
<td>Course</td>
</tr>
<tr>
<td>Inspect and repair electrical connectors</td>
<td>Course</td>
</tr>
<tr>
<td>Interpret Circuit protector charts</td>
<td>Course</td>
</tr>
</tbody>
</table>

**SECTION 7**

Faculty name(s): Don Coy  Date: 4/19/2019

CS20150615
COURSE NUMBER: AMT 1762C 1762

COURSE TITLE: Aviation Maintenance Technology Airframe II

PREREQUISITE(S): AMT 1751C, AMT 1752C, AMT 1753C, AMT 1754C None

COREQUISITE(S): None AMT 1762L

CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Airframe Mechanics (6115) (T.C.) program

CREDIT HOURS: 4

CONTACT HOURS/WEEK: 44 8

CONTACT HOUR BREAKDOWN:
- Lecture/Discussion: 8
- Laboratory: 6 0
- Other:

FACULTY WORKLOAD POINTS: 8

STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course is designed to introduce skills and the necessary knowledge and understanding of aircraft finishes and fabric covering, assembly and repair of sheet metal structures, and introduction to aircraft welding techniques.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Airframe &amp; Powerplant Mechanics Airframe Handbook Vol. 1</td>
<td>978098386581-0</td>
</tr>
<tr>
<td>2. Airframe &amp; Powerplant Mechanics Airframe Workbook</td>
<td>978098386584-1</td>
</tr>
<tr>
<td>3. FAR/AMT</td>
<td>9781560279310</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B</td>
<td>9781560277286</td>
</tr>
<tr>
<td>5. Aviation Mechanic Handbook ASA/Dale Crane</td>
<td>9781560278986</td>
</tr>
<tr>
<td>6. FAA Airframe &amp; Powerplant Mechanic Practical Test Standards</td>
<td>9781560277514</td>
</tr>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - Airframe Workbook (ATBC 8083-31WB)</td>
<td>9780983865841</td>
</tr>
<tr>
<td>5.Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>7. Practical Test Standards (ASA 4th Edition)</td>
<td>9781560279761</td>
</tr>
<tr>
<td>8. FAR/AMT (ASA 2019 or most current year)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>9. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>
IMPLEMENTATION DATE: Summer Term, 2006 (20063)

REVIEW OR MODIFICATION DATE: Fall Term, 2008 (20091) – Outline Review 2007
Fall Term, 2019 (2198) – Proposal 2019-18
I. Aircraft Finishes and Fabric Covering
   A. Introduction to Fabric Covering
      Objectives:
      1. Describe safety practices and procedures related to aircraft finishing and fabric covering
      2. Define terms related to fabric covering
      3. List and describe FAA rules and regulations relating to aircraft fabric covering

   B. Natural Fabrics
      Objectives:
      1. List and discuss types of natural fabrics
      2. Identify characteristics of natural fabrics
      3. Discuss grades of natural fabrics
      4. Explain methods of shrinkage of natural fabrics (Level 1) (App. C.I, b.4)

   C. Synthetic Fabrics
      Objectives:
      1. List types of manmade fabrics
      2. Give advantages of manmade over natural fibers (Level 1) (App. C.I, b.4)
      3. Discuss usage and applications of fiberglass cloth (Level 1) (App. C.I, b.4)

   D. Fabric Airworthiness Testing
      Objectives:
      1. Discuss test procedures involved for FAA certification of fabric (Level 1) (App. C.I, b.5)
      2. Demonstrate a fabric test on sample panel (Level 1) (App. C.I, b.5)

   F. Preparation, Procedures and Limitations of Fabric Covering
      Objectives:
      1. Explain inspection techniques before covering
      2. Observe a fabric covering process using the blanket or envelope method (Level 1) (App. C.I, b.4)
      3. Identify types of seams and their placement (Level 1) (App. C.I, b.4)

   F. Dope and Finish Applications
      Objectives:
      1. List and define terms used in finish or dope applications
      2. Discuss anti tear strips
      3. Describe usages of reinforcing tape
      4. Discuss usages of rib lacing cord
      5. List applications for wire clips and screws

   G. Doped Repairs
      Objectives:
      1. Discuss procedures for a doped on patch repair (Level 1) (App. C.I, b.5)
      2. Discuss procedures for an L-shaped repair (Level 1) (App. C.I, b.5)
      3. Apply fabric and perform a doped on patch repair (Level 2) (App. C.I, b.5) (AF1-001)
Note: § Denotes required project  Associated projects are completed during corequisite lab course

H. Finishes
 Objectives:
 1. Discuss various methods used to rejuvenate old finishes
 2. § Identify and select primers and finishes used on aircraft (Level 2) (App C.I, c. 7) (AF1-002)
 3. Describe types of topcoats
 4. Discuss the application of non-fabric finishes and paints (Level-1) (App. C.I, c.6)
 5. Describe spray equipment applications
 6. Discuss spray gun design and operation
 7. § Disassemble, clean, inspect and overhaul a paint gun (Level 2) (App C.I, c. 7,8) (AF1-003)
 8. Discuss paint stripping
 9. § Finish and inspect a surface (Level 3) (App C.I, c. 7,8,9) (AF1-004)

I. Legal Registration
 Objectives:
 1. Discuss legal aspects of registration lettering as required by FAR part 45
 2. Describe the design and installation of registration letters and numbers (Level 1) (App. C.I, c.6)
 3. § Lay-out, mask-off and apply a registration letter or number (Level 3) (App. C.I, c. 6,7,8,9) (AF1-005)

J. Unit Test

II. SHEET METAL STRUCTURES, ASSEMBLY AND REPAIR

A. Safety
 Objectives:
 1. Discuss safety precautions for working with sheet metal
 2. Discuss protective equipment used

B. Airframe Materials (Metals)
 Objectives:
 1. Discuss types of materials used.
 2. Discuss alloying elements for aluminum
 3. Discuss alloying elements of steel
 4. Discuss advantages and disadvantages of aluminum
 5. Discuss advantages and disadvantages of magnesium
 6. Interpret sheet stock nomenclature
 7. Interpret sheet stock composition
 8. Discuss aluminum strength characteristics, advantages and disadvantages
 9. Discuss heat treatable and non-heat treatable aluminum
 10. Identify the code designations for heat treatable alloys

C. Sheet Metal Structural Loading
 Objectives:
 1. Identify primary and secondary structural parts
 2. Identify non-structural parts
 3. Identify loads and stresses acting on aircraft structures
 4. Explain how to determine condition of stressed skin structure that is known to have been critically loaded
D. Riveting Tools and Techniques
Objectives:
1. Define terms related to sheet metal structures, fasteners, materials and repair equipment
2. Identify parts and sizes of rivet guns
3. Demonstrate care and maintenance of rivet gun
4. Discuss care and maintenance of drill motor
5. Discuss proper drilling techniques and precautions
6. Demonstrate usage of pneumatic rivet guns and drill motors

E. Rivets
Objectives:
1. Dimension solid shank rivets
2. Discuss proper drill bit sizes for specific hole size
3. Discuss hole preparation
4. Discuss countersinking and dimpling procedures
5. Discuss problems encountered in riveting and drilling
6. Discuss removal of rivets
7. Identify head style and part numbers of rivets
8. Explain rivet coding system
9. Discuss rivet composition and materials
10. Explain icebox rivets and describe temperature and time
11. Discuss stresses that rivets are designed to resist
12. Determine shear strength, bearing strength, bearing failure and shear failure
13. § Determine proper rivet length and diameters (Level 3) (App. C.I, d. 15) (AF1-015)
14. § Determine cleco sizes and colors to be used with rivet sizes and diameters (Level 2) (App. C.I, d.10) (AF1-016)
15. Explain precautions concerning rivet fit

F. Rivet Layout
Objectives:
1. Explain edge distance
2. Explain spacing and transverse pitch
3. Explain general repair procedure for elongated rivet holes
4. Discuss corrosion prevention methods for rivets
5. § Prepare and layout sheet metal, install and remove conventional protruding head and flush type solid rivets (Level 3) (App. C.I, d.15) (AF1-017)

G. Sheet metal fabrication and equipment
Objectives:
1. Discuss the specific safety precautions for sheet metal fabrication equipment
2. Identify special tools and equipment used in sheet metal fabrication
3. Discuss proper use of shop equipment used in sheet metal fabrication
4. Demonstrate proper use of shop equipment used in forming sheet metal
5. Discuss hand forming of sheet metal
6. § Fabricate a former and add lightning holes (Level 3) (App. C.I, d.16) (AF1-018)

H. Layout and Bending of Flat Sheet Stock
Objectives:
1. Discuss layout tools and their uses
2. Define bend radius
3. Discuss checking radius sizes
4. Discuss factors determining radius sizes
5. Define parts of a bend
6. Introduce formulas for finding bend allowance
7. Explain set back and its use
8. Explain sight line
9. Explain layout for bends other than 90 degrees
10. Discuss formation of a joggle
11. Explain layout for bends across versus along the grain
12. Explain purpose and location of bend relief holes
13. § Form, lay out, and bend sheet metal (Level 3) (App. C.I, d.16) (AF1-019)
14. § Construct a sheet metal structure using proper layout, bending, forming and riveting techniques (Level 3) (App. C.I, d. 15,16) (AF1-020)
15. § Fabricate a joggle (Level 3) (App. C.I, d.16) (AF1-021)

I. Sheet Metal Repairs
Objectives:
1. Discuss damage classifications
2. Identify the basic requirement for all structural repairs
3. Discuss the process for determining the proper repair
4. Explain the difference between a major and a minor repair
5. Discuss repair by patching and repair by insertion
6. Discuss types of skin patches
7. Discuss crack repairs by stop drilling
8. Discuss stringer repairs
9. § Inspect and repair a damaged skin using a flush and lap type repair (Level 3) (App. C.I, d.14, 15) (AF1-022)

J. Unconventional Fasteners
Objectives:
1. Identify blind rivets
2. Identify rivnuts
3. Discuss huck bolts
4. Discuss Hi-Lok fasteners
5. Discuss Jo-bolts
6. Discuss lock-bolts
7. § Inspect and repair a damaged stringer using conventional and unconventional fasteners (Level 3) (App. C.I, d.14, 15) (AF1-023)
8. § Fabricate a sheet metal box and install rivnuts (Level 3) (App. C.I, d. 10,15,16) (AF1-024)

K. Unit Test
III. INTRODUCTION TO AIRCRAFT WELDING

A. Fundamentals and Introduction
   Objectives:
   1. Describe safety practices and procedures for handling high-pressure welding gasses
   2. Define terms related to welding
   3. List types of welding used on aircraft

B. Material Selection
   Objectives:
   1. List factors that determine the selection of steel to use for welding.
   2. List factors that determine the selection of aluminum (Level 1)
      (App. C.I, e. 21)
   3. List factors that determine the selection of stainless (Level 1)
      (App. C.I, e. 21)

C. Oxyacetylene Welding
   Objectives:
   1. Identify various parts of the welding rig and give the purpose of each
   2. Discuss the design and care of torch tips
   3. Describe the design and construction of the cylinders
   4. Give the function or purpose of regulators, hoses and fittings, rods, and flame adjustments
   5. Discuss safety procedures for oxyacetylene welding
   6. § Set up, turn on, adjust torch to neutral flame, gas weld steel and
      shutdown oxyacetylene welding equipment (Level 2) (App. C.I, e. 20)
      (AF1-033)
   7. § Set up, turn on, adjust torch to neutral flame, silver solder/braze steel
      and shutdown oxyacetylene welding equipment (Level 2)
      (App. C.I, e. 20) (AF1-034)

D. Arc Welding
   Objectives:
   1. Discuss the procedure for shielded metal arc welding (SMAW)
   2. Discuss characteristics and usage of gas tungsten arc welding (GTAW)
   3. Discuss characteristics of gas metal arc welding (GMAW)
   4. Discuss safety procedures for arc welding processes
   5. § Set up, turn on, adjust machine, arc weld low carbon steel, stainless
      steel and aluminum using the appropriate welding techniques
      (Level 2) (App. C.I, e. 20, 21) (AF1-035)

E. Special Joining Techniques
   Objectives:
   1. Discuss procedures used for brazing
   2. Describe characteristics and usage of hard soldering including stainless steel (Level 1) (App. C.I,E,18)
   3. Describe characteristics and usage of soft soldering (Level 1)
      (App. C.I, e.18)
   4. Discuss peculiarities of welding magnesium (Level 1) (App. C.I, e.17)
   5. Discuss peculiarities of welding titanium (Level 1) (App. C.I, e.17)
   6. Discuss peculiarities of welding aluminum (Level 1) (App. C.I, e. 21)
   7. Discuss peculiarities of welding stainless steel (Level 1)
      (App. C.I, e. 21)
COURSE TOPICS (Continued)

Note: § Denotes required project  Associated projects are completed during corequisite lab course

F. Welding Inspection
   Objectives:
   1. Discuss factors that determine fusion weld quality
   2. § Inspect the condition of completed welds (Level 2) (App. C.I, e. 20) (AF1-036)
   3. § Explain procedure and perform visual inspection of tubular welds (Level 2)(App.C.I,e.19) (AF1-037)

G. Repair and Fabrication
   Objectives:
   1. Discuss procedures used to produce a bead on flat plate without rod
   2. Discuss procedures used to produce a bead on flat plate with rod
   3. Discuss procedures used to weld a butt joint on flat plate
   4. Discuss procedures used to weld a lap joint.
   5. Discuss procedures used to weld a tee joint.
   6. Identify tubular repairs: fish mouth, scarf, rosettes, and dented bay (Level 1) (App. C.I, e.19)

H. Unit Test

IV. AIRFRAME II REMEDIATION, REVIEW, AND TESTING  45 10
    Airframe Block II Final Exam
Florida State College at Jacksonville  
Course Learning Outcomes and Assessment

<table>
<thead>
<tr>
<th>SECTION 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix and Number: AMT 1762C 1762</td>
</tr>
<tr>
<td>Semester Credit Hours (Credit): 6</td>
</tr>
<tr>
<td>Contact Hours (Workforce): 4</td>
</tr>
<tr>
<td>Course Title: Aviation Maintenance Technology Airframe II</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 2a (To be completed for General Education courses only.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)</strong></td>
</tr>
<tr>
<td>General Education Core (If selected, core discipline area will be identified in Section 4.)</td>
</tr>
<tr>
<td>General Education (If selected, you must also complete Section 4, Section 5, and Section 8)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 2b</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)</strong></td>
</tr>
<tr>
<td>A.A. Elective</td>
</tr>
<tr>
<td>X A.S. Required Course</td>
</tr>
<tr>
<td>A.S. Professional Elective</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PSAV/Clock Hour/Workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development Education</td>
</tr>
<tr>
<td>Apprenticeship</td>
</tr>
</tbody>
</table>

| A.A.S. Required Course |
| A.A.S. Professional Elective |
| Technical Certificate |

| Upper Division/Bachelors |
| Other: If selected, use this space to title “other” option. |

<table>
<thead>
<tr>
<th>SECTION 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)</strong></td>
</tr>
<tr>
<td>X Reading</td>
</tr>
<tr>
<td>Speaking</td>
</tr>
<tr>
<td>Critical Analysis</td>
</tr>
<tr>
<td>Qualitative Skills</td>
</tr>
<tr>
<td>Scientific Method of Inquiry</td>
</tr>
<tr>
<td>X Writing</td>
</tr>
<tr>
<td>Listening</td>
</tr>
<tr>
<td>Information Literacy</td>
</tr>
<tr>
<td>Ethical Judgement</td>
</tr>
<tr>
<td>X Working Collaboratively</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 4 (To be completed for General Education courses only.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)</strong></td>
</tr>
<tr>
<td>Communications</td>
</tr>
<tr>
<td>Humanities</td>
</tr>
<tr>
<td>Mathematics</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
</tr>
<tr>
<td>Natural Sciences</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 5 (To be completed for General Education courses only.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)</strong></td>
</tr>
<tr>
<td>Communication</td>
</tr>
<tr>
<td>Critical Thinking</td>
</tr>
<tr>
<td>Information Literacy</td>
</tr>
<tr>
<td>Scientific and Quantitative Reasoning</td>
</tr>
<tr>
<td>Global Sociocultural Responsibility</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEARNING OUTCOMES</strong></td>
</tr>
<tr>
<td><strong>TYPE OF OUTCOME (General Education, Course or Program)</strong></td>
</tr>
<tr>
<td><strong>METHOD OF ASSESSMENT</strong></td>
</tr>
<tr>
<td>Apply and repair aircraft fabric</td>
</tr>
<tr>
<td>Course</td>
</tr>
<tr>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Mix and apply aircraft paint finish</td>
</tr>
<tr>
<td>Course</td>
</tr>
<tr>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Select and install aircraft sheet metal fasteners</td>
</tr>
<tr>
<td>Course</td>
</tr>
<tr>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Fabricate and repair sheet metal structures</td>
</tr>
<tr>
<td>Course</td>
</tr>
<tr>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Braze materials using oxygen-acetylene welding equipment</td>
</tr>
<tr>
<td>Course</td>
</tr>
<tr>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty name(s): David Dagenais</td>
</tr>
<tr>
<td>Don Coy</td>
</tr>
<tr>
<td>Date: 4/7/2018</td>
</tr>
<tr>
<td>4/19/2019</td>
</tr>
<tr>
<td>CS20150615</td>
</tr>
</tbody>
</table>
FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AMT 1762L
COURSE TITLE: Aviation Maintenance Technology Airframe II Lab
PREREQUISITE(S): None
COREQUISITE(S): AMT 1762
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Airframe Mechanics (6115) (T.C.) program
CREDIT HOURS: 2
CONTACT HOURS/WEEK: 6
CONTACT HOUR BREAKDOWN:
  Lecture/Discussion:
  Laboratory: 6
  Other:
FACULTY WORKLOAD POINTS: 3
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course complements AMT 1762 to provide practical exercise to introduce skills of aircraft finishes and fabric covering, assembly and repair of sheet metal structures, and introduction to aircraft welding techniques.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - Airframe Workbook (ATBC 8083-31WB)</td>
<td>9780983865841</td>
</tr>
<tr>
<td>5. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>7. Practical Test Standards (ASA 4th Edition)</td>
<td>9781560279761</td>
</tr>
<tr>
<td>8. FAR/AMT (ASA 2019 or most current year)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>9. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>

IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18
REVIEW OR MODIFICATION DATE:
COURSE TOPICS

I. Aircraft Finishes and Fabric Covering
   A. Introduction to Fabric Covering
      Objectives:
      1. Demonstrate safety practices and procedures related to aircraft finishing and fabric covering

   B. Natural Fabrics
      Objectives:
      1. Illustrate shrinkage of natural fabrics (Level 1) (App. C.I, b.4)

   C. Synthetic Fabrics
      Objectives:
      1. Illustrate advantages of manmade over natural fibers (Level 1) (App. C.I, b.4)
      2. Illustrate applications of fiberglass cloth (Level 1) (App. C.I, b.4)

   D. Fabric Airworthiness Testing
      Objectives:
      1. Apply test procedures for FAA certification of fabric (Level 1) (App. C.I, b.5)
      2. Demonstrate a fabric test on sample panel (Level 1) (App. C.I, b.5)

   F. Preparation, Procedures and Limitations of Fabric Covering
      Objectives:
      1. Demonstrate a fabric covering process using the blanket or envelope method (Level 1) (App C.I, b. 4)
      2. Identify types of seams and their placement (Level 1) (App. C.I, b.4)

   F. Dope and Finish Applications
      Objectives:
      1. Show use of anti-tear strips, reinforcing tape, and rib lacing cord

   G. Doped Repairs
      Objectives:
      1. Demonstrate procedures for a doped on patch repair (Level 1) (App. C.I, b. 5)
      2. Demonstrate procedures for an L-shaped repair (Level 1) (App. C.I, b. 5)
      3. § Apply fabric and perform a doped on patch repair (Level 2) (App. C.I, b.5) (AF1-001)
COURSE TOPICS (Continued)

CONTACT HOURS
PER TOPIC

Note: § Denotes required project

H. Finishes
   Objectives:
   1. § Identify and select primers and finishes used on aircraft (Level 2) (App C.I, c. 7) (AF1-002)
   2. Describe the application of non-fabric finishes and paints (Level 1) (App. C.I, c.6)
   3. § Disassemble, clean, inspect and overhaul a paint gun (Level 2) (App C.I, c. 7,8) (AF1-003)
   4. § Finish and inspect a surface (Level 3) (App C.I, c, 7,8,9) (AF1-004)

I. Legal Registration
   Objectives:
   1. Identify legal aspects of registration lettering as required by FAR part 45
   2. Design and install registration letters and numbers (Level 1) (App. C.I, c.6)
   3. § Lay-out, mask-off and apply a registration letter or number (Level 3) (App. C.I, c. 6,7,8,9) (AF1-005)

J. Unit Test

II. SHEET METAL STRUCTURES, ASSEMBLY AND REPAIR

A. Safety
   Objectives:
   1. Demonstrate safety precautions for working with sheet metal
   2. Demonstrate protective equipment use

B. Airframe Materials (Metals)
   Objectives:
   1. Demonstrate Interpretation sheet stock nomenclature
   2. Demonstrate interpretation of sheet stock composition
   3. Identify the code designations for heat treatable alloys

C. Sheet Metal Structural Loading
   Objectives:
   1. Identify loads and stresses acting on aircraft structures

D. Riveting Tools and Techniques
   Objectives:
   1. Identify parts and sizes of rivet guns
   2. Demonstrate care and maintenance of rivet gun
   3. Demonstrate care and maintenance of drill motor
   4. Demonstrate proper drilling techniques and precautions
   5. Demonstrate usage of pneumatic rivet guns and drill motors

E. Rivets
   Objectives:
   1. Demonstrate the proper dimension solid shank rivets
   2. Show proper drill bit sizes for specific hole size
   3. Demonstrate hole preparation
   4. Demonstrate countersinking and dimpling procedures
   5. Identify problems encountered in riveting and drilling
   6. Demonstrate removal of rivets
   7. Identify head style and part numbers of rivets
8. Explain rivet coding system
9. Describe rivet composition and materials
10. Explain icebox rivets and describe temperature and time
11. Describe stresses that rivets are designed to resist
12. Determine shear strength, bearing strength, bearing failure and shear failure
13. § Determine proper rivet length and diameters (Level 3)
   (App. C.I, d. 15) (AF1-015)
14. § Determine cleco sizes and colors to be used with rivet sizes and diameters (Level 2) (App. C.I, d.10) (AF1-016)

F. Rivet Layout
   Objectives:
   1. § Prepare and layout sheet metal, install and remove conventional protruding head and flush type solid rivets (Level 3) (App. C.I, d.15) (AF1-017)

G. Sheet metal fabrication and equipment
   Objectives:
   1. Demonstrate hand forming of sheet metal
   2. § Fabricate a former and add lightning holes (Level 3) (App. C.I, d.16) (AF1-018)

H. Layout and Bending of Flat Sheet Stock
   Objectives:
   1. § Form, lay out, and bend sheet metal (Level 3) (App. C.I, d.16) (AF1-019)
   2. § Construct a sheet metal structure using proper layout, bending, forming and riveting techniques (Level 3) (App. C.I, d. 15,16) (AF1-020)
   3. § Fabricate a joggle (Level 3) (App. C.I, d.16) (AF1-021)

I. Sheet Metal Repairs
   Objectives:
   1. § Inspect and repair a damaged skin using a flush and lap type repair (Level 3) (App. C.I, d.14, 15) (AF1-022)

J. Unconventional Fasteners
   Objectives:
   1. § Inspect and repair a damaged stringer using conventional and unconventional fasteners (Level 3) (App. C.I, d.14, 15) (AF1-023)
   2. § Fabricate a sheet metal box and install rivnuts (Level 3) (App. C.I, d. 10,15,16) (AF1-024)

K. Unit Test

III. INTRODUCTION TO AIRCRAFT WELDING

A. Fundamentals and Introduction
   Objectives:
   1. Demonstrate safety practices and procedures for handling high-pressure welding gasses

B. Material Selection
   Objectives:
   1. Select aluminum for welding (Level 1) (App. C.I, e. 21)
   2. Select stainless steel for welding (Level 1) (App. C.I, e. 21)
C. Oxyacetylene Welding
   Objectives:
   1. § Set up, turn on, adjust torch to neutral flame, gas weld steel and shutdown oxyacetylene welding equipment (Level 2) (App. C.I, e. 20) (AF1-033)
   2. § Set up, turn on, adjust torch to neutral flame, silver-solder/braze steel and shutdown oxyacetylene welding equipment. (Level 2) (App. C.I, e. 20) (AF1-034)

D. Arc Welding
   Objectives:
   1. § Set up, turn on, adjust machine, arc weld low carbon steel, stainless steel and aluminum using the appropriate welding techniques (Level 2) (App. C.I, e. 20, 21) (AF1-035)

E. Special Joining Techniques
   Objectives:
   1. Demonstrate hard soldering for including stainless steel (Level 1) (App. C.I, E, 18)
   2. Demonstrate peculiarities of welding aluminum (Level 1) (App. C.I, e. 21)
   3. Demonstrate peculiarities of welding stainless steel (Level 1) (App. C.I, e. 21)

F. Welding Inspection
   Objectives:
   1. § Inspect the condition of completed welds (Level 2) (App. C.I, e. 20) (AF1-036)
   2. § Explain procedure and perform visual inspection of tubular welds (Level 2) (App. C.I, e. 19) (AF1-037)

G. Repair and Fabrication
   Objectives:
   1. Identify tubular repairs: fish mouth, scarf, rosettes, and dented bay (Level 1) (App. C.I, e. 19)

H. Unit Test

IV. AIRFRAME II REMEDIATION, REVIEW, AND TESTING
    Airframe Block II Final Exam
## SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1762L</th>
<th>Semester Credit Hours (Credit):</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology Airframe II Lab</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**
- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

## SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td></td>
<td>A.S. Professional Elective</td>
<td>X</td>
</tr>
<tr>
<td>PSav/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other: If selected, use this space to title “other” option.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>X</th>
<th>Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Writing</td>
<td>X</td>
<td>Listening</td>
<td>Information Literacy</td>
<td>Ethical Judgement</td>
</tr>
</tbody>
</table>

## SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

- Communications
- Humanities
- Mathematics
- Social and Behavioral Sciences
- Natural Sciences

## SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

- Communication
- Critical Thinking
- Information Literacy
- Scientific and Quantitative Reasoning
- Global Sociocultural Responsibility

## SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply and repair aircraft fabric</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Mix and apply aircraft paint finish</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Select and install aircraft sheet metal fasteners</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Fabricate and repair sheet metal structures</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Braze materials using oxygen-acetylene welding equipment</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
</tbody>
</table>

## SECTION 7

Faculty name(s): Don Coy  
Date: 4/19/2019  
CS20150615
COURSE NUMBER: AMT 1763C 1763
COURSE TITLE: Aviation Maintenance Technology Airframe III
PREREQUISITE(S): AMT 1751C, AMT 1752C, AMT 1753C, AMT 1754C
None
COREQUISITE(S): None AMT 1763L
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Airframe Mechanics (6115) (T.C.) program
CREDIT HOURS: 4
CONTACT HOURS/WEEK: 14 8
CONTACT HOUR BREAKDOWN:

Lecture/Discussion: 8
Laboratory: 6 0
Other:
FACULTY WORKLOAD POINTS: 8
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course is designed to introduce skills and the necessary knowledge and understanding of aircraft hydraulics and pneumatics, landing gear systems, and aircraft atmospheric and climate control systems.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Airframe &amp; Powerplant Mechanics Airframe Workbook</td>
<td>9780983865841</td>
</tr>
<tr>
<td>3. FAR/AMT</td>
<td>9781560279310</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B</td>
<td>9781560277286</td>
</tr>
<tr>
<td>5. Aviation Mechanic Handbook ASA/Dale Crane</td>
<td>9781560278986</td>
</tr>
<tr>
<td>6. FAA Airframe &amp; Powerplant Mechanic Practical Test Standards</td>
<td>9781560277514</td>
</tr>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - Airframe Workbook (ATBC 8083-31WB)</td>
<td>9780983865841</td>
</tr>
<tr>
<td>5. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>7. Practical Test Standards (ASA 4th Edition)</td>
<td>9781560279761</td>
</tr>
<tr>
<td>8. FAR/AMT (ASA 2019 or most current year)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>9. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>
IMPLEMENTATION DATE: Summer Term, 2006 (20063)

REVIEW OR MODIFICATION DATE: Fall Term 2018 (2188) – Proposal 2018-27
Fall Term, 2019 (2198) – Proposal 2019-18
I. HYDRAULICS AND PNEUMATICS

A. Fundamentals of Hydraulics Systems

Objectives:

1. Define general terms related to aircraft hydraulic systems
2. Explain the basic principles of hydraulics
3. Discuss different types of hydraulic systems
4. Compare the construction and operation of open and closed-centered hydraulic systems
5. State methods for the safe handling of hydraulic fluids according to MSDS
6. Discuss FAR's related to hydraulics
7. List advantages of using hydraulic systems
8. § Calculate pressure, force, area, and volume for basic hydraulic systems using appropriate formulas. (Level 2) (App. C.II, b. 32) (AF2-001)
9. Discuss the selection and identification of aircraft hydraulic fluids
10. § Select and identify aircraft hydraulic fluids (Level 3) (App. C.II, b. 31) (AF2-002)
11. Discuss aircraft hydraulic systems' seals and their correct usage
12. § Fabricate “O” ring seal installation and removal tool (Level 2) (App. C.II, b. 30) (AF2-003)
9. List possible causes of hydraulic fluid contamination and preventive measures that may be taken
10. Demonstrate hydraulic fluid analysis
11. Discuss procedures for flushing aircraft hydraulic systems
12. Identify and discuss the purpose and operation of hydraulic system components; hydraulic valves, reservoirs, filters, actuators, accumulators and pumps
13. Discuss the purpose of and differentiate between pressure control and flow control devices

B. Basic Hydraulic System Maintenance and operation

Objectives:

1. Discuss the purpose and operation of hydraulic system components; hydraulic valves, reservoirs, filters, actuators, accumulators and pumps
2. Discuss hydraulic servicing procedures
3. Describe the purpose and operation of an aircraft hydraulic flap system
4. Discuss the purpose and operation of the nose wheel steering system
5. Compare the components and operation of landing gear retraction systems for small and large aircraft
6. § Service a hydraulic reservoir (Level 3) (App. C.II, b. 32) (AF2-004)
7. § Service a hydraulic system accumulator (Level 3) (App. C.II, b. 32) (AF2-005)
8. Discuss proper techniques for component removal, replacement and maintenance
9. § Remove, disassemble, inspect and reinstall hydraulic system filters (Level 3) (App. C.II, b. 32) (AF2-006)
10. § Disassemble, clean, and reassemble hydraulic system components (Level 3) (App. C.II, b. 30, 32) (AF2-007)
COURSE TOPICS (Continued)

Note: § Denotes required project
Associated projects are completed during corequisite lab course

11. § Remove and replace o-rings on a hydraulic system component
   (Level 3) (App. C.II, b. 32) (AF2-008)
12. § Determine system pressure and adjust pressure relief valve
   in hydraulic system (Level 3) (App. C.II, b. 32) (AF2-009)
13. § Operate and check hydraulic selector valves
   (Level 3) (App. C.II, b. 32) (AF2-010)
14. § Operate and check a hydraulically operated system
   (Level 3) (App. C.II, b. 32) (AF2-011)
15. § Troubleshoot, repair, and purge air from a hydraulic system
   (Level 3) (App. C.II, b. 32) (AF2-012)

C. Fundamentals of Pneumatic Systems
Objectives:
1. Define terms related to aircraft pneumatic system components
2. Discuss FAR's related to aircraft pneumatics
3. List components and describe the operation and usages of
   aircraft pneumatic systems
4. § Service a pneumatic system filter (Level 2) (App. C.II, b. 30)
   (AF2-013)
4. Compare high, medium, and low-pressure pneumatic systems
5. Discuss advantages of pneumatic systems over hydraulic or
   electrical systems
6. Identify various types and designs of air compressors, and match
   them with their components
7. Describe the principles of operation for a typical pneumatic
   system and components
8. § Inspect, check, service, troubleshoot, and repair a pneumatic
   power system (Level 3) (App. C.II, b. 32) (AF2-014)

D. Unit Test

II. LANDING GEAR SYSTEMS

A. Landing Gear Basics
Objectives:
1. Discuss safety relating to aircraft landing gear
2. Discuss the evolution of aircraft landing gear
3. Identify various configurations of landing gear and give advantages
4. State the type of landing gear arrangement used on modern aircraft
5. Define terms related to aircraft landing gear

B. Landing Gear Systems
Objectives:
1. List and explain the different components in large and small
   aircraft landing gear systems
2. Compare small and large aircraft landing gear and load
   absorbing components
3. Discuss the attachment of the main landing gear to the aircraft
   structure
4. § Perform a landing gear alignment check (Level 3)
   (App. C.II, a. 29) (AF2-015)
4. Discuss landing gear maintenance and inspection procedures
5. Discuss aircraft steering systems in large and small aircraft  
6. Discuss types, purposes and servicing of shimmy dampers  
8. § Service nose gear shimmy damper. (Level 3)  
   (App. C.II, a. 29) (AF2-016)  
9. § Check and adjust steering linkage (Level 3)  
   (App. C.II, a. 29) (AF2-017)  
10. § Operate and check retractable landing gear, position indicating and warning systems (Level 3)  
   (App. C.I, f. 27; C II, a. 29; h. 52) (AF2-018)  

C. Aircraft Wheels, Tires and Shock Strut Service and Maintenance  
Objectives:  
1. Describe types of aircraft wheels and their construction  
2. List methods of repair and inspection of aircraft wheels  
3. Classify types of tires and their design features  
4. Explain the procedure for removing, balancing, and installing tires and tubes  
5. Discuss repair, re-treading, and storage of aircraft tires  
6. Explain repair and storage of tubes.  
7. § Remove, inspect build-up, install and service aircraft wheel and tire assemblies (Level 3)  
   (App. C.I, f. 27; C.II, a. 29) (AF2-019)  
7. Discuss the oleo shock strut assembly and its operation  
8. Discuss the servicing of the oleo shock strut  
10. § Remove, clean, disassemble, inspect, repair, reassemble, reinstall and service an air-oleo shock strut (Level 3)  
   (App. C.I, f. 27; C.II, a. 29) (AF2-020)  

D. Aircraft Brake Systems and Maintenance  
Objectives:  
1. List types and construction of aircraft brakes  
2. Discuss the operation, inspection and repair of aircraft brakes  
3. List causes for brake malfunction  
4. Describe how to repair and bleed brakes on small and large aircraft  
5. § Remove and install new linings in hydraulically operated single-disc brakes (Level 3)  
   (App. C.II, a. 29) (AF2-021)  
6. § Troubleshoot, repair and service a brake system (Level 3)  
   (App. C.II, a. 29) (AF2-022)  
5. Discuss inspection and adjustment of multi-disk brakes  
6. Discuss the operating principles of hydraulic brake antiskid systems  
9. § Demonstrate the operation of an anti-skid system (Level 2)  
   (App. C.II, h. 51) (AF2-023)  

E. Unit Test  

III. AIRCRAFT ATMOSPHERIC AND CLIMATE CONTROL SYSTEMS  
A. Atmospheric Conditions and Requirements  
Objectives:  
1. Discuss characteristics of the atmosphere  
2. Describe the purpose and requirements of a pressurization system (Level 1)  
   (App. C.II, c. 33,34)
3. List components of a pressurization system (Level 1) (App. C.II, c. 33,34)
4. Discuss the operation and control of a typical pressurization system (Level 1) (App. C.II, c. 33,34)
5. Give aircraft structural requirements for pressurization
6. Discuss Removal and inspection of an outflow valve (Level 1) (App. C.II, c. 33,34)

B. Air Conditioning Systems
Objectives:
1. Describe the construction and operation of an air cycle machine - (AMC); including components (Level 1) (App. C.II, c. 33)
2. Discuss the operation of a cabin temperature control system
3. State the principle of operation of a vapor cycle air conditioning system (Level 1) (App. C.II, C. 33,34)
4. List components of a vapor cycle system and their functions (Level 1) (App. C.II, c. 33,34)
5. Discuss Inspection, checking, troubleshooting, and servicing of a vapor cycle system (Level 1) (App. C.II, c. 33,34)

C. Heating Systems
Objectives:
1. Discuss the operating principles of a surface combustion heater (Level 1) (App. C.II, c. 33,34)
2. List the protective control circuits of combustion heaters (Level 1) (App. C.II, c. 33,34)
3. Describe an exhaust gas heat exchanger (Level 1) (App. C.II, c. 33,34)
4. List inspection requirements of an exhaust gas heat exchanger (Level 1) (App. C.II, c. 33,34)
5. Discuss inspection and operation of a combustion heater (Level 1) (App. C.II, c. 33,34)

D. Oxygen Systems
Objectives:
1. Discuss safety precautions for oxygen systems
2. Discuss the operating principles of an oxygen system
3. Give characteristics of oxygen stored under pressure
4. List components of an oxygen system and their functions
5. Discuss inspection requirements of oxygen systems
6. Describe a liquid oxygen system
7. § Inspect, check, troubleshoot, repair and service and oxygen system (Level 2) (App. C.II, c. 35) (AF2-024)

E. Unit Test

IV. AIRFRAME III REMEDIATION, REVIEW, AND TESTING
Airframe Block III Final Exam
### Florida State College at Jacksonville

#### Course Learning Outcomes and Assessment

**SECTION 1**

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1763C 1763</th>
<th>Semester Credit Hours (Credit):</th>
<th>6 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology Airframe II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 2a** *(To be completed for General Education courses only.)*

**TYPE OF COURSE** *(Place an “X” in the box next to those that are applicable.)*

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

**SECTION 2b** *(To be completed for General Education courses only.)*

**TYPE OF COURSE** *(Place an “X” in the box next to those that are applicable.)*

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A.A.S. Required Course</th>
<th>A.S. Professional Elective</th>
<th>X Technical Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Upper Division/Bachelors</th>
<th>Other:</th>
<th>If selected, use this space to title “other” option.</th>
</tr>
</thead>
</table>

**SECTION 3** *(To be completed for General Education courses only.)*

**INTELLECTUAL COMPETENCIES** *(Place an “X” in the box next to those that are applicable.)*

<table>
<thead>
<tr>
<th>X Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>X Writing</th>
<th>Listening</th>
<th>Information Literacy</th>
<th>Ethical Judgement</th>
<th>X Working Collaboratively</th>
</tr>
</thead>
</table>

**SECTION 4** *(To be completed for General Education courses only.)*

**GENERAL EDUCATION DISCIPLINE AREA** *(Place an “X” in the box next to those that are applicable.)*

<table>
<thead>
<tr>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Natural Sciences</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 5** *(To be completed for General Education courses only.)*

**GENERAL EDUCATION LEARNING OUTCOME AREA** *(Place an “X” in the box next to those that are applicable.)*

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Scientific and Quantitative Reasoning</th>
<th>Global Sociocultural Responsibility</th>
</tr>
</thead>
</table>

**SECTION 6**

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Troubleshoot and repair hydraulic systems</th>
<th>Course</th>
<th>Practical test based on FAA Practical Test Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operate and inspect retractable landing gear systems</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Troubleshoot, repair and service brake systems</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Repair and service an oxygen system</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test standards</td>
</tr>
</tbody>
</table>

**SECTION 7**

<table>
<thead>
<tr>
<th>Faculty name(s):</th>
<th>David Dagenais</th>
<th>John Mayes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>4/7/2018</td>
<td>4/19/2019</td>
</tr>
</tbody>
</table>

CS20150615
FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AMT 1763L
COURSE TITLE: Aviation Maintenance Technology Airframe III Lab
PREREQUISITE(S): None
COREQUISITE(S): AMT 1763
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Airframe Mechanics (6115) (T.C.) program

CREDIT HOURS: 2
CONTACT HOURS/WEEK: 6
Lecture/Discussion: 6
Laboratory: 6
Other:

FACULTY WORKLOAD POINTS: 3
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course complements AMT 1763 to provide practical exercise to introduce skills of aircraft hydraulics and pneumatics, landing gear systems, and aircraft atmospheric and climate control systems.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - Airframe Workbook (ATBC 8083-31WB)</td>
<td>9780983865841</td>
</tr>
<tr>
<td>5. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>7. Practical Test Standards (ASA 4th Edition)</td>
<td>9781560279761</td>
</tr>
<tr>
<td>8. FAR/AMT (ASA 2019 or most current year)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>9. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>

IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18

REVIEW OR MODIFICATION DATE:
I. HYDRAULICS AND PNEUMATICS

A. Fundamentals of Hydraulics Systems

Objectives:
1. § Calculate pressure, force, area, and volume for basic hydraulic systems using appropriate formulas. (Level 2) (App. C.II, b. 32) (AF2-001)
2. § Select and identify aircraft hydraulic fluids (Level 3) (App. C.II, b. 31) (AF2-002)
3. § Fabricate "O" ring seal installation and removal tool (Level 2) (App. C.II, b. 30) (AF2-003)

B. Basic Hydraulic System Maintenance and operation

Objectives:
1. § Service a hydraulic reservoir (Level 3) (App. C.II, b. 32) (AF2-004)
2. § Service a hydraulic system accumulator (Level 3) (App. C.II, b. 32) (AF2-005)
3. Demonstrate proper techniques for component removal, replacement and maintenance
4. § Remove, disassemble, inspect and reinstall hydraulic system filters (Level 3) (App. C.II, b. 32) (AF2-006)
5. § Disassemble, clean, and reassemble hydraulic system components (Level 3) (App. C.II, b. 30, 32) (AF2-007)
6. § Remove and replace o-rings on a hydraulic system component (Level 3) (App. C.II, b. 32) (AF2-008)
7. § Determine system pressure and adjust pressure relief valve in hydraulic system (Level 3) (App. C.II, b. 32) (AF2-009)
8. § Operate and check hydraulic selector valves (Level 3) (App. C.II, b. 32) (AF2-010)
9. § Operate and check a hydraulically operated system (Level 3) (App. C.II, b. 32) (AF2-011)
10. § Troubleshoot, repair, and purge air from a hydraulic system (Level 3) (App. C.II, b. 32) (AF2-012)

C. Fundamentals of Pneumatic Systems

Objectives:
1. § Service a pneumatic system filter (Level 2) (App. C.II, b. 30) (AF2-013)
2. § Inspect, check, service, troubleshoot, and repair a pneumatic power system (Level 3) (App. C.II, b. 32) (AF2-014)

D. Unit Test

II. LANDING GEAR SYSTEMS

A. Landing Gear Basics

Objectives:
1. Demonstrate safety relating to aircraft landing gear

B. Landing Gear Systems

Objectives:
1. § Perform a landing gear alignment check (Level 3) (App. C.II, a. 29) (AF2-015)
2. § Service nose gear shimmy damper. (Level 3) (App. C.II, a. 29) (AF2-016)
3. § Check and adjust steering linkage (Level 3) (App. C.II, a.29) (AF2-017)
4. § Operate and check retractable landing gear, position indicating and warning systems (Level 3) (App. C.I, f. 27; C II, a.29; h. 52) (AF2-018)
C. Aircraft Wheels, Tires and Shock Strut Service and Maintenance
Objectives:
1. § Remove, inspect build-up, install and service aircraft wheel and tire assemblies (Level 3) (App. C.I, f. 27; C.II, a. 29) (AF2-019)
2. § Remove, clean, disassemble, inspect, repair, reassemble, reinstall and service an air-oleo shock strut (Level 3) (App. C.I, f. 27; C.II, a. 29) (AF2-020)

D. Aircraft Brake Systems and Maintenance
Objectives:
1. § Remove and install new linings in hydraulically operated single-disc brakes (Level 3) (App. C.II, a. 29) (AF2-021)
2. § Troubleshoot, repair and service a brake system (Level 3) (App. C.II, a. 29) (AF2-022)
3. § Demonstrate the operation of an anti-skid system (Level 2) (App. C.II, h. 51) (AF2-023)

E. Unit Test

III. AIRCRAFT ATMOSPHERIC AND CLIMATE CONTROL SYSTEMS

A. Atmospheric Conditions and Requirements
Objectives:
1. Inspect a pressurization system (Level 1) (App. C.II, c.33, 34)
2. Identify the component requirements of a pressurization system (Level 1) (App. C.II, c. 33,34)
3. Demonstrate the operation and control of a typical pressurization system (Level 1) (App. C.II, c. 33,34)
4. Demonstrate removal and inspection of an outflow valve (Level 1) (App. C.II, c. 33,34)

B. Air Conditioning Systems
Objectives:
1. Demonstrate the construction and operation of an air cycle machine - (AMC); including components (Level 1) (App. C.II, c. 33)
2. Demonstrate the principle of operation of a vapor cycle air conditioning system (Level 1) (App. C.II, C. 33,34)
3. Demonstrate inspection, checking, troubleshooting, and servicing of a vapor cycle system (Level 1) (App. C.II, c. 33,34)

C. Heating Systems
Objectives:
1. Evaluate a surface combustion heater (Level 1) (App. C.II, c. 33,34)
2. Evaluate the protective control circuits of combustion heaters (Level 1) (App. C.II, c. 33,34)
3. Evaluate an exhaust gas heat exchanger (Level 1) (App. C.II, c. 33,34)
4. Inspect an exhaust gas heat exchanger (Level 1) (App. C.II, c. 33,34)
5. Inspect and operate a combustion heater (Level 1) (App. C.II, c. 33,34)

D. Oxygen Systems
Objectives:
1. § Inspect, check, troubleshoot, repair and service and oxygen system (Level 2) (App. C.II, c. 35) (AF2-024)

E. Unit Test

IV. AIRFRAME III REMEDIATION, REVIEW, AND TESTING

Airframe Block III Final Exam
**Florida State College at Jacksonville**

**Course Learning Outcomes and Assessment**

<table>
<thead>
<tr>
<th>SECTION 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Prefix and Number: AMT 1763L</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Course Title: Aviation Maintenance Technology Airframe III Lab</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 2a (To be completed for General Education courses only.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)</td>
</tr>
<tr>
<td>General Education Core (If selected, core discipline area will be identified in Section 4.)</td>
</tr>
<tr>
<td>General Education (If selected, you must also complete Section 4, Section 5, and Section 8)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 2b</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)</td>
</tr>
<tr>
<td>A.A. Elective</td>
</tr>
<tr>
<td>A.A.S. Required Course</td>
</tr>
<tr>
<td>A.A.S. Professional Elective</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
</tr>
<tr>
<td>Development Education</td>
</tr>
<tr>
<td>Apprenticeship</td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
</tr>
<tr>
<td>Other: If selected, use this space to title “other” option.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)</td>
</tr>
<tr>
<td>X Reading</td>
</tr>
<tr>
<td>Speaking</td>
</tr>
<tr>
<td>Critical Analysis</td>
</tr>
<tr>
<td>Qualitative Skills</td>
</tr>
<tr>
<td>Scientific Method of Inquiry</td>
</tr>
<tr>
<td>X Writing</td>
</tr>
<tr>
<td>Listening</td>
</tr>
<tr>
<td>Information Literacy</td>
</tr>
<tr>
<td>Ethical Judgement</td>
</tr>
<tr>
<td>Working Collaboratively</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 4 (To be completed for General Education courses only.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)</td>
</tr>
<tr>
<td>Communications</td>
</tr>
<tr>
<td>Humanities</td>
</tr>
<tr>
<td>Mathematics</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
</tr>
<tr>
<td>Natural Sciences</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 5 (To be completed for General Education courses only.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)</td>
</tr>
<tr>
<td>Communication</td>
</tr>
<tr>
<td>Critical Thinking</td>
</tr>
<tr>
<td>Information Literacy</td>
</tr>
<tr>
<td>Scientific and Quantitative Reasoning</td>
</tr>
<tr>
<td>Global Sociocultural Responsibility</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEARNING OUTCOMES</td>
</tr>
<tr>
<td>Troubleshoot and repair hydraulic systems</td>
</tr>
<tr>
<td>Operate and inspect retractable landing gear systems</td>
</tr>
<tr>
<td>Troubleshoot, repair and service brake systems</td>
</tr>
<tr>
<td>Repair and service an oxygen system</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECTION 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty name(s): John Mayes</td>
</tr>
<tr>
<td>Date: 4/19/2019</td>
</tr>
<tr>
<td>CS20150615</td>
</tr>
</tbody>
</table>
COURSE NUMBER: AMT 1764C 1764
COURSE TITLE: Aviation Maintenance Technology Airframe IV
PREREQUISITE(S): AMT 1751C, AMT 1752C, AMT 1753C, AMT 1754C
COREQUISITE(S): None
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Airframe Mechanics (6115) (T.C.) program
CREDIT HOURS: 4
CONTACT HOURS/WEEK: 14 8
CONTACT HOUR BREAKDOWN:
  Lecture: 8
  Laboratory: 6 0
FACULTY WORKLOAD POINTS: 8
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course is designed to introduce skills and the necessary knowledge and understanding of aircraft airframe fuel, ice and rain control and fire detection, protection and extinguishing systems; instrument, position and warning, pitot static, and communications and navigation systems; and aircraft inspections.

SUGGESTED TEXT(S):

2. Airframe & Powerplant Mechanics Airframe Workbook 9780983865841
3. FAR/AMT 9781560279310
4. Acceptable Methods, Techniques and Practices AC-43.13-1B 9781560277286
5. Aviation Mechanic Handbook ASA/Dale Crane 9781560278986
6. FAA Airframe & Powerplant Mechanic Practical Test Standards 9781560277514
3. Airframe & Powerplant Mechanic - Airframe Workbook (ATBC 8083-31WB) 9780983865841
5. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA) 9781619540217
7. Practical Test Standards (ASA 4th Edition) 9781560279761
8. FAR/AMT (ASA 2019 or most current year) 9781619546721
9. Aviation Mechanic Handbook (Dale Crane) 9781619544949
COURSE TOPICS

Note: Denotes required project. Associated projects are completed during corequisite lab course.

I. FUEL, ICE AND RAIN CONTROL AND FIRE DETECTION, PROTECTION, AND EXTINGUISHING SYSTEMS

A. Fuel Systems

Objectives:
1. Define terms related to aircraft fuel systems
2. Compare the operations and requirements of gravity feed and pressure feed fuel systems
3. Demonstrate construction and design of aircraft fuel tanks and required markings for fuel filler openings
4. Describe the operation of fuel system components
5. Demonstrate fuel indicating systems and components
6. Describe fuel jettison systems and requirements (Level 1) (App. C.II, f. 41)
7. Explain fuel management using fuel transfer and fuel cross-feed (Level 1) (App. C.II, f. 42)
8. Demonstrate aircraft fueling and defueling procedures (Level 1) (App. C.II, f. 42)
9. Demonstrate troubleshooting, inspection, and repair of aircraft fuel systems
10. Describe pressure fueling systems
11. Demonstrate inspection, checking, and repairing pressure fueling systems (Level 1) (App. C.II, f. 43)
12. Inspect and check fuel tank (Level 2) (App. C.II, f. 44) (AF2-025)
13. Inspect and repair a fluid quantity indicating system (Level 2) (App. C.II, f. 45) (AF2-026)
14. Troubleshoot, service and repair fluid pressure and temperature warning systems (Level 2) (App. C.II, f. 46) (AF2-027)
15. Inspect, check, service, troubleshoot and repair an aircraft fuel system (Level 3) (App. C.II, f. 44, 47) (AF2-028)

B. Ice and Rain Control Systems

Objectives:
1. Demonstrate safety precautions
2. Define terms related to ice and rain control systems
3. Distinguish between types and effects of ice formation
4. Explain the construction, operation, and maintenance of de-icing systems
5. Explain the construction, operation, and maintenance of anti-icing systems
6. Demonstrate removal of snow and ice prior to flight
7. Demonstrate the construction, operation, and maintenance of rain removal systems
8. Perform an operational check of pneumatic de-ice boots (Level 2) (App. C.II, i. 53) (AF2-029)
9. Inspect and service a de-ice and rain control system (Level 2) (App. C.II, i. 53) (AF2-030)
10. Troubleshoot and repair a de-ice and rain control system (Level 2) (C.II, i. 53) (AF2-031)
COURSE TOPICS (Continued)

CONTACT HOURS PER TOPIC

Note: § Denotes required project. Associated projects are completed during corequisite lab course.

C. Fire Detection, Protection, and Extinguishing Systems
   Objectives:
   1. Demonstrate safety precautions
   2. Define terms related to fire protection, detection, and extinguishing systems
   3. Identify fire detection systems and components
   4. Demonstrate smoke detection systems and components (Level 1) (App. C.II, J.54)
   5. Describe carbon monoxide detection systems and components (Level 1) (App. C.II, J.54)
   6. List fire extinguishing agents, systems, and components
   7. § Inspect, troubleshoot and repair a fire detection system (Level 3) (App. C.II, J.55) (AF2-032)
   8. § Check and service a fire extinguishing system (Level 3) (App. C.II, J.55) (AF2-033)

D. Unit Test

II. INSTRUMENT, PITOT STATIC, POSITION AND WARNING, AND COMMUNICATIONS AND NAVIGATION SYSTEMS
   A. Instruments, and Position and Warning Systems
      Objectives:
      1. Define terms related to instrument systems
      2. List the A&P mechanic’s limitations and FAR guidelines for instrument marking, repair, and maintenance (Level 1) (App. C.II, d. 36)
      3. Describe instrument panel construction, layout, and mounting
      4. Demonstrate the operation and construction of the bourdon tube mechanisms (Level 1) (App. D.II, d. 36)
      5. Demonstrate the operation and construction of the bellows-type mechanisms (Level 1) (App. C.II, d. 36)
      6. Explain the operation of temperature and thermal couple systems (Level 1) (App. C.II, d. 36)
      7. Explain the operation of a wheatstone bridge (Level 1) (App. C.II, d. 36)
      8. Demonstrate the operation of ratiometer (Level 1) (App. C.II, d. 36)
      9. Describe the operation of remote position indicating systems (Level 1) (App. C.II, d. 36)
     10. Demonstrate the operation and maintenance of the pitot-static system (Level 1) (App. C.II, d. 36)
     11. Describe the operation of air speed indicators (Level 1) (App. C.II, d. 36)
     12. Explain the operation of altimeters (Level 1) (App. C.II, d. 36)
     13. Demonstrate the operation of vertical speed indicators (Level 1) (App. C.II, d. 36)
     14. § Install instruments and perform a leak check on the pitot-static system (Level 2) (App. C.II, d. 36,37) (AF2-034)
     15. Demonstrate heading instruments (Level 1) (App. C.II, d. 36)
     16. Demonstrate gyroscopic instruments (Level 1) (App. C.II, d.36)
     17. § Inspect and check speed and configuration warning systems (Level 2) (App. C.II, h. 51) (AF2-035)
COURSE TOPICS (Continued)

B. Communication and Navigation Systems
Objectives:
1. Define terms related to communication and navigation systems
2. Identify aircraft communication and navigation system frequencies (Level 1) (App. C.II, e. 39)
3. Demonstrate the propagation of radio waves and how information is transmitted
4. Identify antenna types and the principles of their operation
5. Demonstrate aircraft internal and external communication systems (Level 1) (App. C.II, e. 39)
6. Demonstrate FCC regulations concerning the operation of a two-way radio (Level 1) (App. C.II, e. 39)
7. Describe the procedures for an operational check of communication equipment (Level 1) (App. C.II, e. 39)
8. Explain the operating principles, inspection, servicing, and operational checks of navigational systems including: VHF, static discharge, VOR, ILS, Loran, transponders, flight computers, and GPWS (Level 1) (App. C.II, e. 39)
9. List navigation systems and equipment
10. Demonstrate removal, handling, installation, and approval for return to service of navigation and communication equipment
11. Demonstrate inspecting, checking, and troubleshooting autopilot servos and approach coupling systems (Level 1) (App. C.II, e. 39)
12. § Inspect a radio installation and perform an operational check (Level 2) (App. C.II, e. 39,40) (AF2-036)
13. Describe an emergency locator transmitter test (Level 1) (App. C.II, e. 39)
14. § Determine proper antenna location on an aircraft (Level 2) (App. C.II, e. 40) (AF2-037)
15. § Inspect and repair antenna installations. (Level 2) (App. C.II, e.40) (AF2-038)

C. Unit Test

III. AIRCRAFT INSPECTION

A. Inspection Procedures
Objectives:
1. Define terms related to aircraft inspection
2. Demonstrate applicable FAR's pertaining to aircraft inspection
3. Identify aircraft maintenance publications, maintenance records, and inspection records pertaining to aircraft inspection
4. Explain the purpose of aircraft inspections
5. Demonstrate inspections required by the FAA
6. Demonstrate conformity inspections
7. Describe the scope of a 100-hour or annual inspection performed in accordance with FAR Part 43
8. Explain practices and procedures used in the pre-inspection preparation of a 100-hour or annual inspection
COURSE TOPICS (Continued)

Note: § Denotes required project  Associated projects are completed during corequisite lab course

9. Demonstrate practices and procedures used in performing a 100-hour or annual inspection

10. § Perform an aircraft conformity inspection (Level 3) (App. C.I, d.13, g. 28) (AF2-039)

11. § Perform airframe 100-hour and airworthiness directive compliance inspection (Level 3) (App. C.I, g. 28) (AF2-040)

B. Unit Test

IV. AIRFRAME IV REMEDIATION, REVIEW, AND TESTING  25 11
 Airframe Block IV Final Exam
### SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1764C 1764</th>
<th>Semester Credit Hours (Credit):</th>
<th>6 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology Airframe IV</td>
<td>Contact Hours (Workforce):</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

### SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td></td>
<td>A.A.S. Professional Elective</td>
<td>X</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other:</td>
<td>If selected, use this space to title “other” option.</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>X</th>
<th>Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Writing</td>
<td>X</td>
<td>Listening</td>
<td>Information Literacy</td>
<td>Ethical Judgement</td>
</tr>
</tbody>
</table>

### SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Natural Sciences</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Quantitative Reasoning</td>
<td>Global Sociocultural Responsibility</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>LEARNING OUTCOMES</th>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect and repair fluid quantity indicating system</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Inspect and repair fire detection system</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Inspect and repair deice systems</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Perform a pitot-static system leak check</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Perform an operational check of a radio system</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Perform a 100-hour inspection</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
</tbody>
</table>

### SECTION 7

**Faculty name(s):**

- David Dagenais
- John Mayes

**Date:**

- 4/7/2018
- 4/19/2019

CS20150615
COURSE NUMBER: AMT 1764L
COURSE TITLE: Aviation Maintenance Technology Airframe IV Lab
PREREQUISITE(S): None
COREQUISITE(S): AMT 1764
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Airframe Mechanics (6115) (T.C.) program
CREDIT HOURS: 2
CONTACT HOURS/WEEK: 6
CONTACT HOURS/WEEK:
Lecture: 6
Laboratory: 6
Other:
FACULTY WORKLOAD POINTS: 3
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)
COURSE DESCRIPTION:
This course complements AMT 1764 to provide practical exercise to introduce skills of aircraft airframe fuel, ice and rain control and fire detection, protection and extinguishing systems; instrument, position and warning, pitot static, and communications and navigation systems; and aircraft inspections.

SUGGESTED TEXT(S):
3. Airframe & Powerplant Mechanic - Airframe Workbook (ATBC 8083-31WB) 9780983865841
5. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA) 9781619540217
7. Practical Test Standards (ASA 4th Edition) 9781560279761
8. FAR/AMT (ASA 2019 or most current year) 9781619546721
9. Aviation Mechanic Handbook (Dale Crane) 9781619544949

IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18
REVIEW OR MODIFICATION DATE:
COURSE TOPICS

 Note: § Denotes required project

I. FUEL, ICE AND RAIN CONTROL AND FIRE DETECTION, PROTECTION, AND EXTINGUISHING SYSTEMS

A. Fuel Systems

Objectives:
1. Describe fuel jettison systems and requirements (Level 1) (App. C.II, f.41)
2. Explain fuel management using fuel transfer and fuel cross-feed (Level 1) (App. C.II, f. 42)
3. Demonstrate aircraft fueling and defueling procedures (Level 1) (App. C.II, f. 42)
4. Demonstrate inspection, checking, and repairing pressure fueling systems (Level 1) (App. C.II, f. 43)
5. § Inspect and check fuel tank (Level 2) (App. C.II, f. 44) (AF2-025)
6. § Inspect and repair a fluid quantity indicating system (Level 2) (App. C.II, f. 45) (AF2-026)
7. § Troubleshoot, service and repair fluid pressure and temperature warning systems (Level 2) (App. C.II, f. 46) (AF2-027)
8. § Inspect, check, service, troubleshoot and repair an aircraft fuel system (Level 3) (App. C.II, f. 44,47) (AF2-028)

B. Ice and Rain Control Systems

Objectives:
1. § Perform an operational check of pneumatic de-ice boots (Level 2) (App. C.II, i. 53) (AF2-029)
2. § Inspect and service a de-ice and rain control system (Level 2) (App. C.II, i. 53) (AF2-030)
3. § Troubleshoot and repair a de-ice and rain control system (Level 2) (C.II, i. 53) (AF2-031)

C. Fire Detection, Protection, and Extinguishing Systems

Objectives:
1. Demonstrate smoke detection systems and components (Level 1) (App. C.II,J,54)
2. Describe carbon monoxide detection systems and components (Level 1) (App. C.II,J,54)
3. § Inspect, troubleshoot and repair a fire detection system (Level 3) (App. C.II, j. 55) (AF2-032)
4. § Check and service a fire extinguishing system (Level 3) (App. C.II, J. 55) (AF2-033)

D. Unit Test

II. INSTRUMENT, PITOT STATIC, POSITION AND WARNING, AND COMMUNICATIONS AND NAVIGATION SYSTEMS

A. Instruments, and Position and Warning Systems

Objectives:
1. Demonstrate the FAR guidelines for instrument marking, repair, and maintenance (Level 1) (App. C.II, d. 36)
2. Evaluate bourdon tube mechanisms (Level 1) (App. D.II, d. 36)
3. Evaluate bellows-type mechanisms (Level 1) (App. C.II, d. 36)
4. Evaluate thermal couple systems (Level 1) (App. C.II, d. 36)
5. Demonstrate the operation of a wheatstone bridge (Level 1) (App. C.II, d. 36)
6. Demonstrate the operation of ratiometer (Level 1) (App. C.II, d. 36)
7. Operate remote position indicating systems (Level 1) (App. C.II, d. 36)
8. Demonstrate the pitot-static system (Level 1)(App. C.II, d. 36)
COURSE TOPICS (Continued)

CONTACT HOURS
PER TOPIC

Note: § Denotes required project

9. Operate air speed indicators (Level 1) (App. C.II, d. 36)
10. Identify altimeters (Level 1) (App. C.II, d. 36)
11. Demonstrate vertical speed indicators (Level 1) (App. C.II, d. 36)
12. § Install instruments and perform a leak check on the pitot-static system (Level 2) (App. C.II, d. 36, 37) (AF2-034)
13. Operate heading instruments (Level 1) (App. C.II, d. 36)
14. Operate gyroscopic instruments (Level 1) (App. C.II, d. 36)
15. § Inspect and check speed and configuration warning systems (Level 2) (App. C.II, h. 51) (AF2-035)

B. Communication and Navigation Systems

Objectives:
1. Select aircraft communication and navigation system frequencies (Level 1) (App. C.II, e. 39)
2. Use aircraft internal and external communication systems (Level 1) (App. C.II, e. 39)
3. Use FCC regulations concerning the operation of a two-way radio (Level 1) (App. C.II, e. 39)
4. Perform an operational check of communication equipment (Level 1) (App. C.II, e. 39)
5. Perform operational checks of navigational systems including: VHF, static discharge, VOR, ILS, Loran, transponders, flight computers, and GPWS (Level 1) (App. C.II, e. 39)
6. Demonstrate inspecting, checking, and troubleshooting autopilot servos and approach coupling systems (Level 1) (App. C.II, e. 38)
7. § Inspect a radio installation and perform an operational check (Level 2) (App. C.II, e. 39, 40) (AF2-036)
8. Perform an emergency locator transmitter test (Level 1) (App. C.II, e. 39)
9. § Determine proper antenna location on an aircraft (Level 2) (App. C.II, e. 40) (AF2-037)
10. § Inspect and repair antenna installations. (Level 2) (App. C.II, e. 40) (AF2-038)

C. Unit Test

III. AIRCRAFT INSPECTION

A. Inspection Procedures

Objectives:
1. § Perform an aircraft conformity inspection (Level 3) (App. C.I, d.13, g. 28) (AF2-039)
2. § Perform airframe 100-hour and airworthiness directive compliance inspection (Level 3) (App. C.I, g. 28) (AF2-040)

B. Unit Test

IV. AIRFRAME IV REMEDIATION, REVIEW, AND TESTING

Airframe Block IV Final Exam
**Florida State College at Jacksonville**  
**Course Learning Outcomes and Assessment**

| SECTION 1 |
|-----------------|-----------------|
| **Course Prefix and Number:** AMT 1764L | **Semester Credit Hours (Credit):** 2 |
| **Contact Hours (Workforce):** | |
| **Course Title:** Aviation Maintenance Technology Airframe IV Lab | |

| SECTION 2a (To be completed for General Education courses only.) |
|-----------------|-----------------|
| **TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)** | |
| General Education Core (If selected, core discipline area will be identified in Section 4.) | |
| General Education (If selected, you must also complete Section 4, Section 5, and Section 8) | |

| SECTION 2b |
|-----------------|-----------------|
| **TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)** | |
| A.A. Elective | X | A.S. Required Course | A.S. Professional Elective |
| A.A.S. Required Course | | A.A.S. Professional Elective | X | Technical Certificate |
| PSAV/Clock Hour/Workforce | | Development Education | Apprenticeship |
| Upper Division/Bachelors | | Other: | If selected, use this space to title “other” option. |

| SECTION 3 |
|-----------------|-----------------|
| **INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)** | |
| X | Reading | Speaking | Critical Analysis | Qualitative Skills | Scientific Method of Inquiry |
| X | Writing | X | Listening | Information Literacy | Ethical Judgement | X | Working Collaboratively |

| SECTION 4 (To be completed for General Education courses only.) |
|-----------------|-----------------|
| **GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)** | |
| Communications | Humanities | Mathematics |
| Social and Behavioral Sciences | | Natural Sciences |

| SECTION 5 (To be completed for General Education courses only.) |
|-----------------|-----------------|
| **GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)** | |
| Communication | Critical Thinking | Information Literacy |
| Scientific and Quantitative Reasoning | | Global Sociocultural Responsibility |

| SECTION 6 |
|-----------------|-----------------|
| **LEARNING OUTCOMES** | **TYPE OF OUTCOME (General Education, Course or Program)** | **METHOD OF ASSESSMENT** |
| Inspect and repair fluid quantity indicating system | Course | Practical test based on FAA Practical Test Standards |
| Inspect and repair fire detection system | Course | Practical test based on FAA Practical Test Standards |
| Inspect and repair deice systems | Course | Practical test based on FAA Practical Test Standards |
| Perform a pitot-static system leak check | Course | Practical test based on FAA Practical Test Standards |
| Perform an operational check of a radio system | Course | Practical test based on FAA Practical Test Standards |
| Perform a 100-hour inspection | Course | Practical test based on FAA Practical Test Standards |

| SECTION 7 |
|-----------------|-----------------|
| **Faculty name(s):** John Mayes | **Date:** 4/19/2019 |
| CS20150615 | |
COURSE NUMBER: AMT 1771

COURSE TITLE: Aviation Maintenance Technology Powerplant I

PREREQUISITE(S): AMT 1751C, AMT 1752C, AMT 1753C, AMT 1754C

COREQUISITE(S): None AMT 1771L

CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Powerplant Mechanics (6117) (T.C.) program

CREDIT HOURS: 4

CONTACT HOURS/WEEK: 44 8

CONTACT HOUR BREAKDOWN:
Lecture: 8
Laboratory: 6
Other: 0

FACULTY WORKLOAD POINTS: 8

STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course is designed to introduce skills and the necessary knowledge and understanding of aircraft reciprocating engine fundamentals, reciprocating engine ignition systems, reciprocating engine fuel, fuel metering and induction systems, reciprocating engine exhaust, cooling and lubrication; and propellers and propeller governing systems.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airframe &amp; Powerplant Mechanics Powerplant Workbook</td>
<td>9780983865858</td>
</tr>
<tr>
<td>A&amp;P Technician Powerplant Test Guide</td>
<td>9781560279259</td>
</tr>
<tr>
<td>Acceptable Methods, Techniques and Practices AC-43.13-1B</td>
<td>9781560277286</td>
</tr>
<tr>
<td>FAR/AMT</td>
<td>9781560279310</td>
</tr>
<tr>
<td>FAA Airframe &amp; Powerplant Mechanic Practical Test Standards</td>
<td>9781560277514</td>
</tr>
<tr>
<td>Airframe &amp; Powerplant Mechanic - Powerplant Workbook (ATBC 8083-32WB)</td>
<td>9780983865841</td>
</tr>
<tr>
<td>Airframe &amp; Powerplant Mechanic - Powerplant Test Guide (ATBC 8083-32TG)</td>
<td>9781941144664</td>
</tr>
<tr>
<td>Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>Dictionary of Aeronautical Terms (ASA 6th Edition)</td>
<td>9781619545779</td>
</tr>
<tr>
<td>Practical Test Standards (ASA 4th Edition)</td>
<td>9781560279761</td>
</tr>
<tr>
<td>FAR/AMT (ASA 2019 or most current edition)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>
Note: § Denotes required project Associated projects are completed during corequisite lab course

I. FUNDAMENTALS OF RECIPROCATING ENGINES
   A. Safety
      Objectives:
      1. List safety precautions relating to reciprocating engines
      2. Demonstrate MSDS related to Reciprocating engines
   B. Basic Design and Construction of a reciprocating engine
      Objectives:
      1. Demonstrate the basic terminologies used with reciprocating engines and systems
      2. Demonstrate the different designs of reciprocating engines
         (Level 1) (App. D.I, a. 1)
      3. List the basic components of a reciprocating engine
   C. Engine Theory and Operating Principles
      Objectives:
      1. Demonstrate Operating Cycles
      2. Demonstrate the various formulas regarding engine operation
   D. Unit Test

II. RECIPROCATING ENGINE IGNITION SYSTEMS
    A. Magneto Basic Theory and Test Equipment
       Objectives:
       1. Define terms pertaining to reciprocating engine ignition systems
       2. Demonstrate the electrical operation of magneto and battery ignition systems
       3. Describe types of induction associated with basic magneto operation
       4. Identify and Demonstrate safe and proper operation of test equipment used in the shop
       5. Demonstrate safe and proper operation of test equipment used in the shop
       6. § Disassemble a magneto (Level 2) (App. D.II, e. 17,18) (PP1-001)
       7. § Inspect and repair a magneto (Level 2) (App. D.II, e. 17,18) (PP1-002)
       8. § Reassemble and test a magneto (Level 2)
          (App. D.II, e. 17,18) (PP1-003)
       6. Demonstrate the construction and operation of an ignition harness
       7. Demonstrate inspection service and operation of spark plugs
       11. § Remove, inspect, service, clean and reinstall spark plugs
           (Level 2) (App. D.II, e. 18) (PP1-004)
COURSE TOPICS (Continued)

Note: $\text{ Denotes required project Associated projects are completed during corequisite lab course}$

8. Describe installation techniques for ignition harnesses
9. Demonstrate various troubleshooting techniques or practices used on ignition harnesses
14. § Test and service/repair an ignition harness (Level 2) (App. D.II, e.17, 18; c, 12, 13; e.19a.) (PP1-005)
15. List procedures for installing a magneto
16. § Identify and perform service procedures on magnetos (Level 2) (App. D.II, e.18) (PP1-006)
10. Demonstrate various troubleshooting techniques or practices to be used on magnetos
18. § Install and time a magneto (Level 2) (App. D.II, e.18) (PP1-007)

C. Unit Test

III. RECIPROCATING ENGINE FUEL, FUEL METERING, AND INDUCTION SYSTEMS

A. Terms and Safety
Objectives:
1. Define terms and definitions related to fuel and fuel metering systems
2. List safety hazards associated with fuel systems and fueling operations
3. Identify and practice fuel safety precautions

B. Aviation Fuels
Objectives:
1. Demonstrate types and grades of aviation fuel
2. Explain the purpose of a Reid Vapor pressure bomb
3. Define octane number and performance number
4. Demonstrate types, detection, and prevention of fuel contamination
5. Demonstrate the combustion process

C. Fuel Systems
Objectives:
1. List requirements of a fuel system
2. Compare and contrast gravity-feed and pressure fuel systems
3. Define vapor lock
4. List fuel system components and their locations
5. Identify and Demonstrate the purpose and operation of fuel system components
6. Demonstrate troubleshooting and maintenance of fuel system components
7. § Inspect, check, service, troubleshoot, and repair as needed an engine fuel system filter, sump, or strainer. (Level 3) (App. D.II, g. 24,25) (PP1-008)
8. § Disassemble, clean, inspect, and reassemble an engine-driven fuel pump (Level 2) (App. D.II, g. 24) (PP1-009)
9. § Adjust the output pressure on an engine driven fuel pump (Level 3) (App. D.II, g. 25) (PP1-010)
10. Demonstrate types of fuel system icing
D. Reciprocating Engine Fuel Metering Devices
Objectives:
1. Demonstrate air/fuel mixture ratios
2. Demonstrate principles of carburetion
3. Demonstrate the purpose, construction, and operation of float-type carburetors
4. Demonstrate troubleshooting and maintenance of float-type carburetors
5. § Disassemble, clean, inspect, reassemble, and adjust a float-type carburetor (Level 2) (App. D.II, f. 21, 22; g. 24) (PP1-011)
6. Demonstrate the purpose and operation of pressure injection carburetor systems
7. Demonstrate troubleshooting and maintenance of pressure injection carburetors
8. Demonstrate the operating principles of the Bendix RSA fuel injection system
9. Demonstrate the operating principles of the Teledyne Continental fuel injection system
10. Demonstrate fuel injection systems maintenance practices

E. Reciprocating Engine Induction Systems
Objectives:
1. Identify induction system components
2. Demonstrate types of air filters
3. Demonstrate the types and prevention of carburetor icing
4. Demonstrate manifold pressure
5. Demonstrate the purpose and operation of internal superchargers (Level 1) (App. D.II, h. 27)
6. Describe supercharging limitations and altitude effects on engine power (Level 1) (App. D.II, h. 27)
7. Demonstrate inspecting, checking, troubleshooting, and repairing of internal superchargers (Level 1) (App. D.I, a.1; D.II, h. 27)
8. Demonstrate the purpose and operation of external turbochargers (Level 1) (App. D.II, h. 27)
9. Demonstrate the purpose and operation of turbocharger control systems (Level 1) (App. D.II, h. 27)
10. Demonstrate turbocharger construction
11. Demonstrate inspecting, servicing, troubleshooting, and repairing of turbochargers and turbocharger control systems (Level 1) (App. D.II, h. 27)
12. § Inspect, check, service and repair carburetor intake and induction manifold (Level 3) (App. D.II, h. 28) (PP1-012)

F. Unit Test
COURSE TOPICS (Continued)

Note: § Denotes required project
Associated projects are completed during corequisite lab course

IV. RECIPROCATING ENGINE EXHAUST, COOLING AND LUBRICATING

A. Terms and Safety
Objectives:
1. Define terms and definitions related to reciprocating engines
2. Demonstrate general safety precautions
3. Identify reciprocating engine safety precautions

B. Types of Reciprocating Engines
Objectives:
1. Demonstrate methods of classifying reciprocating engines
2. Demonstrate and identify characteristics of radial engine inspection
   and repair. (Level 1) (App. D.I, a.1)
3. Demonstrate and identify characteristics of inline engines
4. Demonstrate and identify characteristics of V-type engines
5. Demonstrate and identify characteristics of opposed engines

C. Reciprocating Engine Design and Construction
Objectives:
1. Demonstrate requirements of aviation engines
2. Identify specific sections of engine crankcases (Level 1)
   (App. D.I, a. 1)
3. Identify and Demonstrate types of crankshafts (Level 1) (App. D.I, a.1)
4. Identify and Demonstrate types of connecting rods (Level 1) (App. D.I, a.1)
5. Identify and Demonstrate types of pistons (Level 1) (App. D.I, a.1)
6. Identify and Demonstrate types of cylinders (Level 1) (App. D.I, a.1)
7. Identify and Demonstrate types of valves (Level 1) (App. D.I, a.1)
8. Identify and Demonstrate types of valve operating mechanisms (Level 1)
   (App. D.I, a.1)
9. Identify and Demonstrate types of pushrods (Level 1) (App. D.I, a.1)
10. Identify and Demonstrate types of rocker arms (Level 1) (App. D.I, a.1)
11. Identify and Demonstrate types of bearings (Level 1) (App. D.I, a.1)
12. Demonstrate the purpose and operation of propeller reduction gearing
    (Level 1) (App. D.I, a.1)
13. § Remove, inspect and reinstall an aircraft engine cylinder
    (Level 2) (App. D.I, a. 2) (PP1-013)

D. Principles of Energy Transformation
Objectives:
1. Demonstrate the energy transformation cycles of two stroke engines
2. Demonstrate the energy transformation cycles of four stroke engines
3. Demonstrate work/power considerations of aviation engines
4. § Perform calculations to determine horsepower (Level 2)
   (App. D. I. a. 3) (PP1-014)
5. Demonstrate factors affecting engine power
6. Demonstrate the distribution of power in an aviation engine

E. Reciprocating Engine Exhaust Systems
Objectives:
1. Identify the characteristics of exhaust gases.
2. Demonstrate the types and operation of reciprocating engine exhaust systems
Note: § Denotes required project. Associated projects are completed during corequisite lab course.

3. Demonstrate the purpose and operation of mufflers and heat exchangers
4. Demonstrate the purpose and operation of exhaust augmenters
5. Demonstrate reciprocating engine exhaust system maintenance practices
6. Demonstrate the purpose and operation of power recovery turbines

F. Reciprocating Engine Cooling Systems
Objectives:
1. Explain the purpose of a reciprocating engine cooling system (Level 1) (App. D.II, h. 27)
2. Demonstrate types and operation of various engine cooling systems (Level 1) (App. D.II, h. 27)
3. Identify and demonstrate cooling system components. (Level 1) (App. D.II, h. 27)
4. Demonstrate cooling system inspection and maintenance (Level 1) (App. D.II, h. 27)
5. § Inspect, check, and repair as necessary an engine cooling system (Level 3) (App. D.II, i. 30) (PP1-015)
6. § Inspect and re-profile a cylinder cooling fin (Level 2) (App. D.II, i. 29) (PP1-016)

G. Introduction to the Lubrication System
Objectives:
1. Define terms related to reciprocating engine lubrication systems
2. List classifications of lubricants
3. Demonstrate properties of lubricants
4. Demonstrate types and compatibility of reciprocating engine lubricants
5. Demonstrate reciprocating engine oil ratings
6. List functions of the lubrication system

H. Types of Lubricating Systems
Objectives:
1. Demonstrate methods of lubricant application
2. Explain characteristics and operating principles of wet-sump lubricating systems
3. Explain characteristics and operating principles of dry-sump lubricating systems
4. Use schematic to trace oil flow in wet and dry-sump systems

I. Operations and Components of the Lubricating System
Objectives:
1. Identify the components of a reciprocating-engine lubricating system and their functions
2. Demonstrate the importance of line size requirements and plumbing
3. Describe the operation of a reciprocating-engine lubrication system

J. Maintaining and Troubleshooting the Lubrication System
Objectives:
1. Describe cleaning, inspecting and testing of oil coolers
2. Demonstrate inspection and cleaning of a reciprocating engine filter or strainer assembly
3. § Identify and select engine lubricants (Level 2) (App. D.II, d. 14) (PP1-017)

K. Unit Test
Note: § Denotes required project. Associated projects are completed during corequisite lab course.

V. PROPELLERS AND PROPELLER GOVERNING SYSTEMS  60 32
A. Introduction to Propellers and Propeller Control Systems
   Objectives:
   1. Define terms related to propellers and propeller control systems
   2. Demonstrate and practice prop safety
   3. Demonstrate basic FAR's related to propellers
B. Basic Propeller Theory
   Objectives:
   1. Demonstrate propeller aerodynamics
   2. Describe basic propeller design and construction
   3. Compare and contrast operations of various types of propellers
C. Auxiliary Systems
   Objectives:
   1. List basic propeller auxiliary systems
   2. Demonstrate the operation of the governor control system, including the accumulator
   3. Differentiate between, and Demonstrate inspection, service, operational checks, and repair of synchronizing and synchro-phasing systems (Level 1) (App. D.II, k. 33)
   4. Demonstrate inspection, service, operational checks, and repair of anti-icing and deicing systems (Level 1) (App. D.II, k. 33)
   5. Name the instruments involved in propeller control
   6. Describe the relationship of the instruments to propeller condition
D. Inspection, Service, Maintenance and Repair of Propeller Control Systems
   Objectives:
   1. Demonstrate procedures for safe and proper use of a propeller balancing fixture and an arbor press
   2. Demonstrate safe and proper use of a propeller balancing fixture and an arbor press
   3. Demonstrate propeller balancing, installation and adjustment
   4. § Balance a propeller (Level 2) (App. D.II, k. 35) (PP1-041)
   5. List basic inspection procedures for propeller control systems
   6. Demonstrate propeller servicing procedures
   7. § Identify and select propeller lubricants (Level 2) (App. D.II, k. 34) (PP1-042)
   7. Describe general propeller maintenance and repair procedures
   9. § Repair an aluminum propeller (Level 3) (App. D.II, k. 37,39) (PP1-043)
   10. § Remove a propeller (Level 3) (App. D.II, k. 38) (PP1-044)
   11. § Disassemble, inspect, and reassemble a constant speed, feathering propeller (Level 3) (App. D.II, k. 36,37) (PP1-045)
   12. § Install and troubleshoot a propeller. (Level 3) (App. D.II, k. 38) (PP1-046)
   13. § Use manufacturer's data to inspect, check, service and adjust, as required, a propeller governing system (Level 3) (App. D.II, k. 36, 37) (PP1-047)
E. Unit Test

VI. POWERPLANT I REMEDIATION, REVIEW, AND TESTING  20 10
Powerplant Block I Final Exam
### Course Learning Outcomes and Assessment

#### SECTION 1

**Course Prefix and Number:** AMT 1771C 1771  
**Semester Credit Hours (Credit):** 6  
**Contact Hours (Workforce):** 4  
**Course Title:** Aviation Maintenance Technology Powerplant I

#### TYPE OF COURSE

- **General Education Core**: (If selected, core discipline area will be identified in Section 4.)
- **General Education**: (If selected, you must also complete Section 4, Section 5, and Section 8)

#### SECTION 3

**INTELLECTUAL COMPETENCIES**

<table>
<thead>
<tr>
<th></th>
<th>Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Quality Skills</th>
<th>Scientific Method of Inquiry</th>
<th>Working Collaboratively</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### SECTION 4

**GENERAL EDUCATION DISCIPLINE AREA**

<table>
<thead>
<tr>
<th></th>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
<th>Social and Behavioral Sciences</th>
<th>Natural Sciences</th>
</tr>
</thead>
</table>

#### SECTION 5

**GENERAL EDUCATION LEARNING OUTCOME AREA**

<table>
<thead>
<tr>
<th></th>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
<th>Scientific and Quantitative Reasoning</th>
<th>Global Sociocultural Responsibility</th>
</tr>
</thead>
</table>

#### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Type of Outcome</th>
<th>Method of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect and repair a magneto</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Inspect and repair a carburetor</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Perform calculations to determine horsepower</td>
<td>Course</td>
<td>Written test</td>
</tr>
<tr>
<td>Identify and select engine lubricants</td>
<td>Course</td>
<td>Written test</td>
</tr>
<tr>
<td>Inspect and repair a propeller</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
</tbody>
</table>

#### SECTION 7

**Faculty name(s):**  
David Dagenais  
Gary Davidson  
**Date:** 4/8/2018 4/19/2019  
**CS20150615**
COURSE NUMBER: AMT 1771L

COURSE TITLE: Aviation Maintenance Technology Powerplant I Lab

PREREQUISITE(S): None

COREQUISITE(S): AMT 1771

CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Powerplant Mechanics (6117) (T.C.) program

CREDIT HOURS: 2

CONTACT HOURS/WEEK:
Lecture: 6
Laboratory: 6
Other: 0

FACULTY WORKLOAD POINTS: 3

STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course complements AMT 1771 to provide practical exercise to introduce skills of aircraft reciprocating engine fundamentals, reciprocating engine ignition systems, reciprocating engine fuel, fuel metering and induction systems, reciprocating engine exhaust, cooling and lubrication; and propellers and propeller governing systems.

SUGGESTED TEXT(S):
2. Airframe & Powerplant Mechanic - Powerplant Workbook (ATBC 8083-32WB) 9780983865841
3. Airframe & Powerplant Mechanic - Powerplant Test Guide (ATBC 8083-32TG) 9781941144664
4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA) 9781619540217
7. FAR/AMT (ASA 2019 or most current edition) 9781619546721
8. Aviation Mechanic Handbook (Dale Crane) 9781619544949

IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18

REVIEW OR MODIFICATION DATE:
I. FUNDAMENTALS OF RECIPROCATING ENGINES
   A. Safety
      Objectives:
      1. Demonstrate safety precautions relating to reciprocating engines
   B. Basic Design and Construction of a reciprocating engine
      Objectives:
      1. Evaluate the different designs of reciprocating engines (Level 1) (App. D. I, a. 1)
   C. Engine Theory and Operating Principles
      Objectives:
      1. Illustrate operating cycles
   D. Unit Test

II. RECIPROCATING ENGINE IGNITION SYSTEMS
   A. Magneto Basic Theory and Test Equipment
      Objectives:
      1. Identify and show safe and proper operation of test equipment used in the shop
      2. Demonstrate safe and proper operation of test equipment used in the shop
   B. Aircraft Reciprocating Engine Ignition Systems
      Objectives:
      1. Identify the components of the battery ignition system and their functions
      2. Identify components of a magneto system
      3. § Disassemble a magneto (Level 2) (App. D.II, e. 17,18) (PP1-001)
      4. § Inspect and repair a magneto (Level 2) (App. D.II, e. 17,18) (PP1-002)
      5. § Reassemble and test a magneto (Level 2) (App. D.II, e. 17,18) (PP1-003)
      6. § Remove, inspect, service, clean and re-install spark plugs (Level 2) (App. D.II, e. 18) (PP1-004)
      7. Demonstrate installation techniques for ignition harnesses
      8. § Test and service/repair an ignition harness (Level 2) (App. D.II, e.17, 18; c, 12, 13; e.19a,) (PP1-005)
      9. § Identify and perform service procedures on magnetos (Level 2) (App. D.II, e.18) (PP1-006)
      10. § Install and time a magneto (Level 2) (App. D.II, e.18) (PP1-007)
   C. Unit Test

III. RECIPROCATING ENGINE FUEL, FUEL METERING, AND INDUCTION SYSTEMS
   A. Terms and Safety
      Objectives:
      1. Demonstrate fuel safety precautions
   B. Aviation Fuels
      Objectives:
      1. Describe types and grades of aviation fuel
C. Fuel Systems
Objectives:
1. § Inspect, check, service, troubleshoot, and repair as needed an engine fuel system filter, sump, or strainer. (Level 3) (App. D.II, g. 24,25) (PP1-008)
2. § Disassemble, clean, inspect, and reassemble an engine-driven fuel pump (Level 2) (App. D.II, g. 24) (PP1-009)
3. § Adjust the output pressure on an engine driven fuel pump (Level 3) (App. D.II, g. 25) (PP1-010)

D. Reciprocating Engine Fuel Metering Devices
Objectives:
1. § Disassemble, clean, inspect, reassemble, and adjust a float-type carburetor (Level 2) (App. D.II, f. 21,22; g. 24) (PP1-011)

E. Reciprocating Engine Induction Systems
Objectives:
1. Demonstrate the purpose and operation of internal superchargers (Level 1) (App. D.II, h. 27)
2. Demonstrate supercharging limitations and altitude effects on engine power (Level 1) (App. D.II, h. 27)
3. Demonstrate repairing of internal superchargers (Level 1) (App. D.I, a.1; D.II, h. 27)
4. Operate an external turbocharger (Level 1) (App. D.II, h. 27)
5. Evaluate a turbocharger control system (Level 1) (App. D.II, h. 27)
6. Describe inspecting, servicing, troubleshooting, and repairing of turbochargers and turbocharger control systems (Level 1) (App. D.II,h.27)
7. Repair a carburetor intake and induction manifold (Level 3) (App. D.II, h. 28) (PP1-012)

F. Unit Test

IV. RECIPROCATING ENGINE EXHAUST, COOLING AND LUBRICATING

A. Terms and Safety
Objectives:
1. Demonstrate general safety precautions

B. Types of Reciprocating Engines
Objectives:
1. Demonstrate engine inspection and repair. (Level 1) (App. D.I, a.1)

C. Reciprocating Engine Design and Construction
Objectives:
1. Identify specific sections of engine crankcases (Level 1) (App. D.I, a. 1)
2. § Remove, inspect and reinstall an aircraft engine cylinder (Level 2) (App. D.I, a. 2) (PP1-013)

D. Principles of Energy Transformation
Objectives:
1. § Perform calculations to determine horsepower (Level 2) (App. D. I. a. 3) (PP1-014)
E. Reciprocating Engine Exhaust Systems
   Objectives:
   1. Demonstrate the operation of mufflers, heat exchangers, exhaust augmenters, and power recovery turbines

F. Reciprocating Engine Cooling Systems
   Objectives:
   1. Demonstrate the operation of various engine of cooling systems (Level 1) (App. D.II, h. 27)
   2. § Inspect, check, and repair as necessary an engine cooling system (Level 3) (App. D.II, i. 30) (PP1-015)
   3. § Inspect and re-profile a cylinder cooling fin (Level 2) (App. D.II, i. 29) (PP1-016)

G. Introduction to the Lubrication System
   Objectives:
   1. List functions of the lubrication system

H. Types of Lubricating Systems
   Objectives:
   1. Use a schematic to trace oil flow in wet and dry-sump systems

I. Operations and Components of the Lubricating System
   Objectives:
   1. Illustrate the operation of a reciprocating-engine lubrication system

J. Maintaining and Troubleshooting the Lubrication System
   Objectives:
   1. § Identify and select engine lubricants (Level 2) (App. D.II, d. 14) (PP1-017)

K. Unit Test

V. PROPELLERS AND PROPELLER GOVERNING SYSTEMS
   A. Introduction to Propellers and Propeller Control Systems
      Objectives:
      1. Demonstrate and practice proper shop safety when handling propellers

   B. Basic Propeller Theory
      Objectives:
      1. Describe operations of various types of propellers

   C. Auxiliary Systems
      Objectives:
      1. Differentiate between, and Demonstrate inspection, service, operational checks, and repair of synchronizing and synchro-phasing systems (Level 1) (App. D.II, k. 33)
      2. Demonstrate inspection, service, operational checks, and repair of anti-icing and deicing systems (Level 1) (App. D.II, k. 33)
      3. Describe the relationship of the instruments to propeller condition

Note: § Denotes required project
COURSE TOPICS (Continued)

Note: § Denotes required project

D. Inspection, Service, Maintenance and Repair of Propeller Control Systems
   Objectives:
   1. Demonstrate safe and proper use of a propeller balancing fixture and an arbor press
   2. § Balance a propeller (Level 2) (App. D.II, k. 35) (PP1-041)
   3. § Identify and select propeller lubricants (Level 2) (App. D.II, k. 34) (PP1-042)
   4. § Repair an aluminum propeller (Level 3) (App. D.II, k. 37,39) (PP1-043)
   5. § Remove a propeller (Level 3) (App. D.II, k. 38) (PP1-044)
   6. § Disassemble, inspect, and reassemble a constant-speed, feathering propeller (Level 3) (App. D.II, k. 36,37) (PP1-045)
   7. § Install and troubleshoot a propeller. (Level 3) (App. D.II, k. 38) (PP1-046)
   8. § Use manufacturer's data to inspect, check, service and adjust, as required, a propeller governing system (Level 3) (App. D.II, k. 36, 37) (PP1-047)

E. Unit Test

VI. POWERPLANT I REMEDIATION, REVIEW, AND TESTING
Powerplant Block I Final Exam 7
## SECTION 1
Course Prefix and Number: AMT 1771L
Semester Credit Hours (Credit): 2
Contact Hours (Workforce): 2
Course Title: Aviation Maintenance Technology Powerplant I Lab

## SECTION 2a (To be completed for General Education courses only.)
**TYPE OF COURSE** (Place an “X” in the box next to those that are applicable.)
- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

## SECTION 2b
**TYPE OF COURSE** (Place an “X” in the box next to those that are applicable.)

<table>
<thead>
<tr>
<th>Type</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A. Elective</td>
<td></td>
</tr>
<tr>
<td>A.A.S. Required</td>
<td>X A.S. Required Course</td>
</tr>
<tr>
<td></td>
<td>A.S. Professional Elective</td>
</tr>
<tr>
<td>PSAV/Clock Hour/</td>
<td>X A.A.S. Professional Elective</td>
</tr>
<tr>
<td>Workforce</td>
<td>Technical Certificate</td>
</tr>
<tr>
<td>Upper Division/B</td>
<td>Other: If selected, use this space to title “other” option.</td>
</tr>
<tr>
<td>Bachelors</td>
<td></td>
</tr>
</tbody>
</table>

## SECTION 3
**INTELLECTUAL COMPETENCIES** (Place an “X” in the box next to those that are applicable.)

<table>
<thead>
<tr>
<th>Competency</th>
<th>Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Information Literacy</th>
<th>Ethical Judgement</th>
<th>Working Collaboratively</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## SECTION 4 (To be completed for General Education courses only.)
**GENERAL EDUCATION DISCIPLINE AREA** (Place an “X” in the box next to those that are applicable.)

<table>
<thead>
<tr>
<th>Discipline Area</th>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
<th>Social and Behavioral Sciences</th>
<th>Natural Sciences</th>
</tr>
</thead>
</table>

## SECTION 5 (To be completed for General Education courses only.)
**GENERAL EDUCATION LEARNING OUTCOME AREA** (Place an “X” in the box next to those that are applicable.)

<table>
<thead>
<tr>
<th>Learning Outcome Area</th>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
<th>Scientific and Quantitative Reasoning</th>
<th>Global Sociocultural Responsibility</th>
</tr>
</thead>
</table>

## SECTION 6
**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>Learning Outcome Description</th>
<th>Type of Outcome</th>
<th>Method of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect and repair a magneto</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Inspect and repair a carburetor</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Perform calculations to determine horsepower</td>
<td>Course</td>
<td>Written test</td>
</tr>
<tr>
<td>Identify and select engine lubricants</td>
<td>Course</td>
<td>Written test</td>
</tr>
<tr>
<td>Inspect and repair a propeller</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
</tbody>
</table>

## SECTION 7
Faculty name(s): Gary Davidson
Date: 4/19/2019

CS20150615
COURSE NUMBER: AMT 1772C 1772

COURSE TITLE: Aviation Maintenance Technology Powerplant II

PREREQUISITE(S): AMT 1751C, AMT 1752C, AMT 1753C, AMT 1754C

COREQUISITE(S): None AMT 1772L

CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Powerplant Mechanics (6117) (T.C.) program

CREDIT HOURS: 4

CONTACT HOURS/WEEK: 44 8

CONTACT HOUR BREAKDOWN:
- Lecture: 8
- Laboratory: 6 0
- Other:

FACULTY WORKLOAD POINTS: 8

STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course is designed to introduce skills and the necessary knowledge and understanding of aircraft reciprocating engine overhaul; reciprocating engine removal, installation and operation; and reciprocating engine inspection, troubleshooting and maintenance.

SUGGESTED TEXT(S):

   TITLE 1978098386583-4
2. Airframe & Powerplant Mechanics Powerplant Workbook
   978098386585-8
3. A&P Technician Powerplant Test Guide
   9781560279259
4. Acceptable Methods, Techniques and Practices AC-43.13-1B
   9781560277286
5. FAR/AMT
   9781560279310
6. FAA Airframe & Powerplant Mechanic Practical Test Standards
   9781560277514
   9781619548367
8. Airframe & Powerplant Mechanic - Powerplant Workbook (ATBC 8083-32WB)
   9780983865841
   9781941144664
10. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)
    9781619540217
    9781619545779
    9781560279761
13. FAR/AMT (ASA 2019 or most current edition)
    9781619546721
    9781619544949

IMPLEMENTATION DATE: Summer Term 2006 (20063)
Fall Term, 2008 (20091) – Outline Review 2007
Fall Term, 2013 (20141) – Proposal 2013-22
Fall Term, 2015 (20161) – Outline Review 14-15
Fall Term, 2018 (2188) – Proposal 2018-27
Fall Term, 2019 (2198) – Proposal 2019-18
I. Reciprocating Engine Removal, Overhaul, Installation, and Operation
   
   A. Preliminaries for Engine Removal
      Objectives:
      1. Define terms related to reciprocating engine removal
      2. Demonstrate conditions that necessitate an engine removal
      3. State the difference between a built-up (QECA) engine and a bare engine
      4. Demonstrate the major reasons to have QECA engines and/or bare engines
      5. Describe operations related to reciprocating engine removal
      6. Demonstrate safety procedures related to the removal and installation of engines in aircraft
      7. Remove a reciprocating engine (Level 3) (App. D.I, a. 4) (PP1-018)

   B. Introduction to Reciprocating Engine Overhaul
      Objectives:
      1. Define terms related to reciprocating engine overhaul
      2. Demonstrate conditions that can necessitate an engine overhaul
      3. Explain how recommended overhaul time is determined
      4. Differentiate between a complete overhaul and a top overhaul
      5. State the difference between an overhauled engine and a rebuilt engine
      6. Demonstrate how major repairs differ from a major overhaul

   C. Overhaul Preliminaries
      Objectives:
      1. Arrange, in order, the basic steps of the engine overhaul process
      2. Demonstrate usage of engine overhaul tools and equipment
      3. Explain the importance of following procedures listed in manufacturer’s overhaul manuals
      4. Demonstrate what is meant by a certificated repair station
      5. Demonstrate shop safety procedures utilized when preparing for an overhaul

   D. Pre-overhaul Procedures
      Objectives:
      1. Receive and inspect general condition of engine and accessories (Level 2) (App. D.I, a. 2) (PP1-019)
      2. Record status, make, model, and serial numbers of engine and components (Level 2) (App. D.I, a. 2) (PP1-020)
      3. Explain the importance of organizing engine records
      4. Use manufacturers’ manuals, service instructions and bulletins to identify and mark all parts (Level 2) (App. D.I, a. 2) (PP1-021)
      5. Perform a preliminary visual inspection and tag defective parts (Level 2) (App. D.I, a. 2) (PP1-022)
      6. List defective parts for ordering purposes (Level 2) (App. D.I, a. 2) (PP1-023)
E. Cleaning Procedures
Objectives:
1. List and describe cleaning procedures
2. Demonstrate safe and proper use of parts washing machine
3. Demonstrate safe and proper use of parts washing machine
4. Demonstrate why dissimilar metals should not be placed in the solution tank at the same time
5. Select proper types of blasting materials for various engine parts
6. Demonstrate safe and proper use of grit blast machine
7. Demonstrate safe and proper use of grit blast machine. Disassemble and clean a reciprocating engine (Level 2) (App. D.I, a. 2, 3) (PP1-024)

F. Structural Inspection
Objectives:
1. Explain the need for a structural inspection and Demonstrate safe use of NDT equipment.
2. Demonstrate basic nondestructive methods of structural inspections
3. Perform nondestructive methods of structural inspection as required by instructor (Level 2) (App. D.I, a. 3) (PP1-025)

G. Dimensional Inspections
Objectives:
1. Demonstrate dimensional inspections and wear characteristics of engine components
2. Use precision measuring instruments to check tolerances (Level 2) (App. D.I, a. 2) (PP1-026)
3. Perform dimensional inspection to check for wear (Level 2) (App. D.I, a. 2) (PP1-027)

H. Repair and Replacement
Objectives:
1. Describe how to recondition cylinder assemblies
2. Demonstrate reassembly of pistons and rings
3. Demonstrate safe and proper use of valve spring compressor
4. Demonstrate safe and proper use of valve spring compressor
5. Explain safe and proper procedures for grinding valves and valve seats
6. Demonstrate the use of valve and valve-seat-grinding equipment.
7. Demonstrate safe and proper usage of a cylinder heat stand
8. Inspect, service, repair and reassemble a cylinder (Level 3) (App. D.I, a. 2,3) (PP1-029)
9. Demonstrate reassembly of crankshaft and connecting rods
10. Explain procedures to be used in reassembling a powerease
11. Reassemble a powercase (Level 2) (App. D.I, a. 2,3) (PP1-029)
12. Demonstrate final assembly and inspection of a complete engine
13. Perform reciprocating engine final assembly after overhaul (Level 3) (App. D.I, a. 2,3) (PP1-030)
14. Perform an Induction system leak test (Level 3) (App. D.II, h. 28) (PP1-031)
15. Perform an exhaust systems leak test, troubleshoot and repair as needed (Level 3) (App. D.II, j.31,32a) (PP1-032)
Note: § Denotes required project Associated projects are completed during the corequisite lab course

I. Reciprocating Engine Installation and Operation
   Objectives:
   1. Demonstrate de-preservation of an engine
   2. Describe inspection and de-preservation of accessories
   3. Explain the procedure for reciprocating engine installation
   4. § Install a reciprocating engine (Level 3) (App. D.I, a. 3, 4) (PP1-033)
   5. Demonstrate inspection and replacement of powerplant external units and systems
   6. § Install external accessories and/or systems (Level 3) (App. D.I, a. 4) (PP1-034)
   7. § Set idle speed and mixture control (Level 3) (App. D.II, f. 23) (PP1-035)
   8. § Inspect, service, and adjust a fuel metering system (Level 3) (App. D.II, f. 23) (PP1-036)
   9. Demonstrate preparation of engine for ground and flight testing
   10. § Perform engine run-up and systems check (Level 3) (App. D.I, a. 3, 4) (PP1-036)
   11. § Demonstrate and perform checks and adjustments of engine control systems (Level 3) (App. D.I, a. 3, 4; D.II, f. 23) (PP1-038)
   12. § Perform oil pressure adjustment and troubleshoot engine (Level 3) (App. D.I, a. 3, 4; D.II, d. 16) (PP1-039)
   13. § Inspect, check, troubleshoot, and repair engine ice and rain control systems (Level 2) (App. D.II, h. 26) (PP1-049)

J. Unit Test

II. Reciprocating Engine Inspection, Troubleshooting and Maintenance
   40 18
   A. Engine Airworthiness Inspection
      Objectives:
      1. Demonstrate terms and definitions related to an engine inspection
      2. Explain the purpose of an engine inspection and the procedures used
      3. Demonstrate requirements for a preflight inspection
      4. § Perform pre-flight inspection of a reciprocating engine (Level 3) (App. D.I, a. 3) (PP1-048)
      4. Demonstrate opening and cleaning for 100-hour/annual inspections
      5. Explain servicing of oil screens and filters
      6. Demonstrate inspection of oil system lines
      7. State the purpose of a compression test and describe the two basic types of compression testers
      8. Demonstrate magneto inspection
      9. Demonstrate inspection and cleaning of spark plugs
     10. Explain ignition harness inspection, testing and proper installation
     11. Demonstrate inspection and maintenance of the induction system air filters and ducting
     12. Demonstrate an inspection of the engine fuel system and fuel-metering system
     13. Explain the inspection and maintenance of engine controls
COURSE TOPICS (Continued)

Note: § Denotes required project. Associated projects are completed during the corequisite lab course.

15. Demonstrate the importance of proper inspection and maintenance of exhaust systems
16. Describe engine mount types and inspection procedures
17. Explain the importance of fire-wall seals
18. Demonstrate the inspection of superchargers and turbochargers
19. Demonstrate the inspection of engine instruments
20. Explain an engine configuration inspection
21. § Perform a configuration inspection on a reciprocating engine (Level 3) (App. D.I, a. 3; c. 8) (PP1-049)
22. Explain Airworthiness Directive research
23. § Perform AD research on engine and equipment, and record findings on AD compliance form (Level 3) (App. D.I, a. 3; c. 8) (PP1-050)
24. § Complete 100-hour/annual inspection and make log book entries (Level 3) (App. D.I, a. 3; c. 8) (PP1-051)

B. Troubleshooting
Objectives:
1. Define troubleshooting
2. List and Demonstrate the six steps in the troubleshooting procedure
3. § Perform troubleshooting on engine, as assigned (Level 3) (App. D.I, a. 4) (PP1-052)

C. Engine Electrical Inspection and Maintenance
Objectives:
1. Demonstrate the differences between a generator circuit and an alternator circuit
2. § Connect a voltmeter into a circuit (Level 3) (App. D.II, c. 13) (PP1-053)
3. § Connect an ammeter into a circuit (Level 3) (App. D.II, c. 13) (PP1-054)
4. § Check for opens and shorts using an ohmmeter. (Level 3) (App. D.II, c. 13) (PP1-055)

D. Maintenance
Objectives:
1. Define maintenance
2. Demonstrate types of maintenance
3. Demonstrate the importance of using only approved data and exact specifications when performing maintenance
4. Explain the need for proper log book entries
5. § Write engine logbook entries to indicate compliance with an AD, and completion of 100-hour/annual inspection (Level 3) (App. D.I, c. 8) (PP1-056)
6. Demonstrate FAA Form 337
7. § Complete FAA form 337, as required, for overhauled reciprocating engine with gear reduction and/or supercharger (Level 3) (App. D.I, c. 8) (PP1-057)

E. Unit Test

III. Powerplant Ii Remediation, Review, and Testing
Powerplant Block II Final Exam
**SECTION 1**

Course Prefix and Number: AMT 1772C 1772  
Semester Credit Hours (Credit): 6  
Contact Hours (Workforce):

Course Title: Aviation Maintenance Technology Powerplant II

**SECTION 2a (To be completed for General Education courses only.)**

TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

**SECTION 2b**

TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td></td>
<td>A.A.S. Professional Elective</td>
<td>X</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other:</td>
<td>If selected, use this space to title “other” option.</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 3**

INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)

| X | Reading | Speaking | Critical Analysis | Qualitative Skills | Scientific Method of Inquiry |
| X | Writing | X | Listening | Information Literacy | Ethical Judgement | X | Working Collaboratively |

**SECTION 4 (To be completed for General Education courses only.)**

GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)

| Communications | Humanities | Mathematics |
| Social and Behavioral Sciences | Natural Sciences |

**SECTION 5 (To be completed for General Education courses only.)**

GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)

| Communication | Critical Thinking | Information Literacy |
| Scientific and Quantitative Reasoning | Global Sociocultural Responsibility |

**SECTION 6**

<table>
<thead>
<tr>
<th>LEARNING OUTCOMES</th>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove, overhaul and install a reciprocating engine</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Perform non-destructive methods of engine inspection</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Complete a 100-hour engine inspection</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Write engine logbook entries to include Airworthiness Directives</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
</tbody>
</table>

**SECTION 7**

Faculty name(s): David Dagenais  
Gary Davidson  
Date: 4/8/2018  
4/19/2019  
CS20150615
NEW COURSE

FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AMT 1772L
COURSE TITLE: Aviation Maintenance Technology Powerplant II Lab
PREREQUISITE(S): None
COREQUISITE(S): AMT 1772
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Powerplant Mechanics (6117) (T.C.) program
CREDIT HOURS: 2
CONTACT HOURS/WEEK: 6
CONTACT HOURS/WEEK BREAKDOWN:
  Lecture:
  Laboratory: 6
  Other:

FACULTY WORKLOAD POINTS: 3
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course complements AMT 1772 to provide practical exercise to introduce skills of aircraft reciprocating engine overhaul; reciprocating engine removal, installation and operation; and reciprocating engine inspection, troubleshooting and maintenance.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Airframe &amp; Powerplant Mechanic - Powerplant Workbook (ATBC 8083-32WB)</td>
<td>9780983865841</td>
</tr>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - Powerplant Test Guide (ATBC 8083-32TG)</td>
<td>9781941144664</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>7. FAR/AMT (ASA 2019 or most current edition)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>8. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>

IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18
REVIEW OR MODIFICATION DATE:
Note: § Denotes required project

I. Reciprocating Engine Removal, Overhaul, Installation, and Operation
   53
      A. Preliminaries for Engine Removal
         Objectives:
         1. § Remove a reciprocating engine (Level 3) (App. D.I, a. 4) (PP1-018)

      B. Introduction to Reciprocating Engine Overhaul
         Objectives:
         1. Calculate how recommended overhaul time is determined

      C. Overhaul Preliminaries
         Objectives:
         1. Demonstrate shop safety procedures utilized when preparing for an overhaul

      D. Pre-overhaul Procedures
         Objectives:
         1. § Receive and inspect general condition of engine and accessories (Level 2) (App.D.I,a.2) (PP1-019)
         2. § Record status, make, model, and serial numbers of engine and components (Level 2) (App. D.I, a. 2) (PP1-020)
         3. § Use manufacturers’ manuals, service instructions and bulletins to identify and mark all parts. (Level 2) (App. D.I, a. 2) (PP1-021)
         4. § Perform a preliminary visual inspection and tag defective parts (Level 2) (App. D.I, a. 2) (PP1-022)
         5. § List defective parts for ordering purposes (Level 2) (App. D.I, a. 2) (PP1-023)

      E. Cleaning Procedures
         Objectives:
         1. §Demonstrate safe and proper use of grit blast machine Disassemble and clean a reciprocating engine (Level 2) (App. D.I, a. 2, 3) (PP1-024)

      F. Structural Inspection
         Objectives:
         1. § Perform nondestructive methods of structural inspection as required by instructor (Level 2) (App. D.I, a. 3) (PP1-025)

      G. Dimensional Inspections
         Objectives:
         1. § Use precision measuring instruments to check tolerances (Level 2) (App. D.I, a. 2) (PP1-026)
         2. § Perform dimensional inspection to check for wear (Level 2) (App. D.I, a. 2) (PP1-027)

      H. Repair and Replacement
         Objectives:
         1. Demonstrate safe and proper use of valve spring compressor
         2. § Inspect, service, repair and reassemble a cylinder (Level 3) (App. D.I, a. 2,3) (PP1-028)
         3. § Reassemble a powercase (Level 2) (App. D.I, a. 2,3) (PP1-029)
         4. § Perform reciprocating engine final assembly after overhaul (Level 3) (App. D.I, a,2,3) (PP1-030)
Note: § Denotes required project

5. § Perform an Induction system leak test (Level 3) (App. D.II, h. 28) (PP1-031)
6. § Perform an exhaust systems leak test, troubleshoot and repair as needed (Level 3) (App. D.II, j.31,32a) (PP1-032)

I. Reciprocating Engine Installation and Operation

Objectives:
1. § Install a reciprocating engine (Level 3) (App. D.I, a. 3,4) (PP1-033)
2. § Install external accessories and/or systems (Level 3) (App. D.I, a. 4) (PP1-034)
3. § Set idle speed and mixture control (Level 3) (App. D.II, f. 23) (PP1-035)
4. § Inspect, service, and adjust a fuel-metering system (Level 3) (App. D.II, f. 23) (PP1-036)
5. Demonstrate preparation of engine for ground and flight testing
6. § Perform engine run-up and systems check (Level 3) (App. D.I, a. 3,4) (PP1-036)
7. § Demonstrate and perform checks and adjustments of engine control systems (Level 3) (App. D.I, a. 3,4; D.II, f. 23) (PP1-038)
8. § Perform oil-pressure adjustment and troubleshoot engine (Level 3) (App. D.I, a. 3,4; D.II, d. 16) (PP1-039)
9. § Inspect, check, troubleshoot, and repair engine ice and rain control systems (Level 2) (App. D.II, h. 26) (PP1-049)

J. Unit Test

II. Reciprocating Engine Inspection, Troubleshooting and Maintenance

A. Engine Airworthiness Inspection

Objectives:
1. § Perform pre-flight inspection of a reciprocating engine (Level 3) (App. D.I, a. 3) (PP1-048)
2. § Perform a configuration inspection on a reciprocating engine (Level 3) (App. D.I, a. 3; c. 8) (PP1-049)
3. § Perform AD research on engine and equipment, and record findings on AD compliance form (Level 3) (App. D.I, a. 3; c. 8) (PP1-050)
4. § Complete 100-hour/annual inspection and make log book entries (Level 3) (App. D.I, a. 3; c. 8) (PP1-051)

B. Troubleshooting

Objectives:
1. § Perform troubleshooting on engine, as assigned (Level 3) (App. D.I, a. 4) (PP1-052)

C. Engine Electrical Inspection and Maintenance

Objectives:
1. § Connect a voltmeter into a circuit (Level 3) (App. D. II, c. 13) (PP1-053)
2. § Connect an ammeter into a circuit (Level 3) (App. D. II, c. 13) (PP1-054)
3. § Check for opens and shorts using an ohmmeter. (Level 3) App. D. II, c. 13) (PP1-055)

D. Maintenance

Objectives:
1. § Write engine logbook entries to indicate compliance with an AD, and completion of 100-hour/annual inspection (Level 3) (App. D.I, c. 8) (PP1-056)
2. Use FAA Form 337
3. § Complete FAA form 337, as required, for overhauled reciprocating engine with gear reduction and/or supercharger (Level 3) (App. D.I, c. 8) (PP1-057)
Note: § Denotes required project

E. Unit Test

III. Powerplant II Remediation, Review, and Testing
Powerplant Block II Final Exam 15
## Course Learning Outcomes and Assessment

### SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1772L</th>
<th>Semester Credit Hours (Credit):</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology Powerplant II Lab</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

### SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td></td>
<td>A.A.S. Professional Elective</td>
<td>X</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other: If selected, use this space to title “other” option.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>X</th>
<th>Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Writing</td>
<td>X Listening</td>
<td>Information Literacy</td>
<td>Ethical Judgement</td>
<td>Working Collaboratively</td>
</tr>
</tbody>
</table>

### SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences</td>
<td></td>
<td>Natural Sciences</td>
</tr>
</tbody>
</table>

### SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Quantitative Reasoning</td>
<td></td>
<td>Global Sociocultural Responsibility</td>
</tr>
</tbody>
</table>

### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove, overhaul and install a reciprocating engine</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Perform non-destructive methods of engine inspection</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Complete a 100-hour engine inspection</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Write engine logbook entries to include Airworthiness Directives</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
</tbody>
</table>

### SECTION 7

**Faculty name(s):** Gary Davidson  
**Date:** 4/19/2019  
**CS20150615**
FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AMT 1773C

COURSE TITLE: Aviation Maintenance Technology Powerplant III

PREREQUISITE(S): AMT 1751C, AMT 1752C, AMT 1753C, AMT 1754C

CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Powerplant Mechanics (6117) (T.C.) program

CREDIT HOURS: 4

CONTACT HOURS/WEEK: 44 8

CONTACT HOUR BREAKDOWN:

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Laboratory</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>6 0</td>
<td></td>
</tr>
</tbody>
</table>

FACULTY WORKLOAD POINTS: 8

STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course is designed to introduce skills and the necessary knowledge and understanding of aircraft turbine engine fundamentals; engine fire protection and engine instrument systems; and powerplant electrical systems.

SUGGESTED TEXT(S):

2. Airframe & Powerplant Mechanics Powerplant Workbook
3. A&P Technician Powerplant Test Guide
4. Acceptable Methods, Techniques and Practices AC-43.13-1B
5. FAR/AMT
6. FAA Airframe & Powerplant Mechanic Practical Test Standards

IMPLEMENTATION DATE: Summer Term, 2006 (20063)
I. Fundamentals of Turbine Engines
   A. Terms and Safety
      Objectives:
      1. List safety precautions relating to turbine engines
      2. Define terms and definitions related to turbine engines
      3. Identify and practice turbine-engine safety precautions
      4. Demonstrate MSDS related to turbine engines
   B. Turbine Engine Development
      Objectives:
      1. Demonstrate the history of jet propulsion
      2. Identify and Demonstrate torque producing turbine engines
      3. Identify and Demonstrate thrust producing turbine engines
      4. Demonstrate turbine engine energy transformation cycles
      5. Demonstrate inspection, checking and troubleshooting of turbine driven auxiliary power units (Level 1) (App. D.II, m. 41)
      6. Identify and Demonstrate factors affecting engine thrust
      7. Perform calculations to determine engine thrust
   C. Turbine Engine Design and Construction
      Objectives:
      1. Demonstrate the purpose, construction, and operation of the compressor section
      2. Explain the causes and prevention of compressor stall
      3. Demonstrate the purpose and operation of compressor bleed valves
      4. Demonstrate the purpose, construction, and operation of the diffuser section
      5. Demonstrate the purpose, construction, and operation of the combustion section
      6. Demonstrate the purpose, construction, and operation of the turbine section
      7. Demonstrate the purpose, construction, and operation of the exhaust section
      8. Demonstrate the components of the accessory section and their purposes
   D. Turbine Engine Inlet Systems
      Objectives:
      1. Demonstrate the purpose and operation of subsonic engine inlets
      2. Demonstrate the purpose and operation of supersonic engine inlets
      3. Demonstrate ram pressure recovery
      4. Demonstrate the purpose and operation of inlet anti-ice systems
      5. Demonstrate inspection and troubleshooting of unducted fan systems and components (Level 1) (App. D.I, l. 40)
   E. Turbine Engine Exhaust Systems
      Objectives:
      1. Demonstrate the purpose, construction, and operation of subsonic exhaust systems
      2. Demonstrate the purpose, construction, and operation of supersonic exhaust systems
      3. Demonstrate the purpose and operation of afterburners
      4. Demonstrate the purpose, construction, and operation of thrust reversers
      5. Demonstrate maintenance, troubleshooting, and repair of engine thrust reverser systems and related components (Level 1) (App. D.II, j. 32b)
      6. Demonstrate the purpose, construction, and operation of noise suppressors
   F. Unit Test
II. Engine Fire Protection and Engine Instrument Systems

A. Fire Protection Systems
Objectives:
1. Define terms related to fire protection and detection systems
2. Demonstrate fire classifications and zones

B. Operation, Maintenance, Repair and Troubleshooting of Fire Detection and Protection Systems
Objectives:
1. Demonstrate types and operation of fire detection and protection systems
2. Describe the routing of fire warning sensors
3. Demonstrate installation procedures of fire warning sensors
4. Demonstrate troubleshooting, maintenance and repair of fire detection systems
5. § Inspect, check, service, troubleshoot, and repair as required a fire detection and extinguishing system (Level 3) (App. D.II, b. 11) (PP2-009)

C. Aircraft Engine Instruments and Warning Systems
Objectives:
1. Identify and demonstrate engine pressure instruments
2. Demonstrate temperature indicating systems
3. Explain types and operation of tachometer systems
4. Describe usage of fluid flow meters
5. Demonstrate torque meter usage and operation
6. Identify vibration monitoring system
7. Describe purpose and operation of fault indicating and isolating systems
8. § Troubleshoot a fluid flow rate indicating system (Level 2) (App. D.II, a. 9) (PP2-010)
9. § Inspect, check, service, troubleshoot, and repair a temperature indicating system (Level 3) (App. D.II, a. 10) (PP2-011)
10. § Inspect, check, service, troubleshoot, and repair an engine pressure indicating system (Level 3) (App. D.II, a. 10) (PP2-012)
11. § Inspect, check, service, troubleshoot, and repair an engine RPM indicating system (Level 3) (App. D.II, a. 10) (PP2-013)

D. Unit Test

III. Turbine Engine Lubrication. Cooling, Ignition and Fuel Metering Systems

A. Introduction to the Lubrication System
Objectives:
1. Define terms related to turbine engine lubrication systems
2. List functions of the lubrication system

B. Types of Lubricating Systems
Objectives:
1. Demonstrate methods of lubricant application
2. Explain characteristics and operating principles of wet-sump lubricating systems
3. Explain characteristics and operating principles of dry-sump lubricating systems
4. Use schematic to trace oil flow in wet and dry-sump systems
COURSE TOPICS (Continued)

CONTACT HOURS PER TOPIC

Note:  § Denotes required project  Associated projects are completed during corequisite lab course

C. Operations and Components of the Lubricating System
   Objectives:
   1. Describe the operation of a turbine-engine lubrication system
   2. Identify the components of a turbine-engine lubricating system and their functions

D. Maintaining and Troubleshooting the Lubrication System
   Objectives:
   1. Describe cleaning, inspecting and testing of oil coolers
   2. Demonstrate inspection and cleaning procedures for turbine engine oil strainer and screen assembly
   3. § Check and inspect a turbine engine oil strainer screen (Level 3) (App. D.II, d. 15,16) (PP2-014)
   4. § Adjust oil pressure (Level 3) (App. D.II, d. 15,16) (PP2-015)

E. Turbine Engine Cooling Systems
   Objectives:
   1. Demonstrate turbine engine cooling requirements
   2. Demonstrate the types and operation of turbine section cooling
   3. Demonstrate the purpose and construction of engine insulating blankets
   4. Identify the need and Demonstrate the operation of engine nacelle cooling

F. Aircraft Turbine Engine Ignition Systems
   Objectives:
   1. Distinguish between the operations of D.C. and A.C. input systems
   2. § Identify types of igniter plugs (Level 2) (App. D.II. e. 18) (PP2-016)
   3. Demonstrate techniques for cleaning and inspecting igniter plugs
   4. Demonstrate basic troubleshooting and maintenance procedures used on turbine engines

G. Turbine Engine Fuel Metering Systems
   Objectives:
   1. Demonstrate the types and operation of turbine engine fuel system components (Level 1) (App. D.II, f. 20)
   2. Demonstrate the types and operation of turbine engine fuel spray nozzles (Level 1) (App. D.II. F. 20)
   3. Demonstrate the types and operation of turbine engine fuel controls (Level 1) (App. D.II, f. 20)
   4. Demonstrate the purpose and operation of turbine engine water injection systems (Level 1) (App. D.II. F.20)
   5. Describe the use of, and methods of, inspecting and servicing turbine engine water injection systems (Level 1) (App. D.II, F.20)

H. Unit Test

IV. POWERPLANT ELECTRICAL

A. Safety and Terms
   Objectives:
   1. List and practice safety precautions related to powerplant wiring, aircraft motors and generators
   2. Define terms related to powerplant wiring, electrical components, aircraft motors and generators
COURSE TOPICS (Continued)

CONTACT HOURS PER TOPIC

Note: § Denotes required project. Associated projects are completed during corequisite lab course.

B. Wiring Diagrams
   Objectives:
   1. Demonstrate block diagrams
   2. Demonstrate pictorial diagrams
   3. Interpret schematic diagrams

C. Powerplant Wiring
   Objectives:
   1. Demonstrate types of wire and insulation
   2. Demonstrate wire size selection
   3. Interpret and use a wire/cable size chart
   4. Select proper wire for various applications
     (Level 3) (App. D.II, c.13) (PP2-001)

D. Wiring Installations
   Objectives:
   1. Compare single and double wire installation
   2. Determine proper wire grouping, bundles, and routing
   3. Identify aircraft wire markings
   4. Differentiate between conduit and shielding
   5. Lace and tie wire bundles (Level 3) (App. D.II, c. 3) (PP2-002)

E. Circuit Protective Devices
   Objectives:
   1. Identify aircraft fuses
   2. Identify aircraft circuit breakers
   3. Interpret circuit protector charts (Level 3) (App. D. II, c. 13)
     (PP2-003)

F. Circuit Controls
   Objectives:
   1. Demonstrate types and usage of switches
   2. Interpret switch de rating chart (Level 3) (App. D.II, c. 13) (PP2-004)
   3. Demonstrate switch installation
   4. Identify relay and solenoid construction, operation, and applications

G. Electrical System Troubleshooting
   Objectives:
   1. Demonstrate troubleshooting techniques
   2. Describe the installation of various electrical system components
   3. Install, check, and service engine electrical wiring, controls, switches,
      indicators, and protective devices (Level 3) (App. D.II, c.13) (PP2-005)

H. Aircraft Motor Theory
   Objectives:
   1. Identify components of aircraft motors
   2. Demonstrate magnetic reaction in an aircraft motor
   3. Identify types of aircraft electric motors
   4. Demonstrate methods of controlling aircraft motor speed and direction

I. Aircraft DC Motors
   Objectives:
   1. Demonstrate the construction and operation of aircraft DC motors
   2. Describe methods of controlling aircraft DC motors
J. Aircraft Starter Motors
   Objectives:
   1. List and Demonstrate types of starter motors
   2. Identify components of a starter motor
   3. Describe methods of starter engagement
   4. § Disassemble, inspect, and reassemble a starter motor
      (Level 3) (App. D.II, c.12; D.II, e.19a) (PP2-006)

K. Aircraft AC Motors
   Objectives:
   1. Describe the construction and operation of aircraft AC motors
   2. Demonstrate methods of controlling aircraft AC motors

L. Motor Brakes and Clutches
   Objectives:
   1. Demonstrate types and the construction of motor brakes
   2. Demonstrate types and the construction of motor clutches

M. Starter Generators
   Objectives:
   1. Demonstrate the construction and operation of starter generators
   2. Identify starter generator applications

N. 12-Volt Shunt-Wound Generator System
   Objectives:
   1. Explain the installation and removal of an aircraft generator
   2. § Troubleshoot, disassemble, inspect, reassemble, and test a
      generator (Level 3) (App. D.II, c.12) (PP2-007)

O. 24-Volt Compound-Wound Generator System
   Objectives:
   1. Demonstrate the operation of a carbon pile voltage regulator
   2. Identify interpoles and series windings and Demonstrate their usage
   3. Troubleshoot, inspect, and adjust a carbon pile voltage regulator

P. 12/24 Volt Alternators
   Objectives:
   1. Demonstrate alternator parts and their functions
   2. Compare generators and alternators
   3. Explain alternator controls
   4. Demonstrate alternator service and maintenance
   5. § Troubleshoot, disassemble, inspect, repair, reassemble, and
      test an alternator (Level 3) (App. D.II, c.12) (PP2-008)

Q. Unit Test.

V. Powerplant III Remediation, Review, and Testing
   Powerplant Block III Final Exam
### SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1773C 1773</th>
<th>Semester Credit Hours (Credit):</th>
<th>6 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology Powerplant III</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

### SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td>X</td>
<td>A.A.S. Professional Elective</td>
<td>Technical Certificate</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other: If selected, use this space to title “other” option.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>X Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Writing</td>
<td>X Listening</td>
<td>Information Literacy</td>
<td>Ethical Judgement</td>
<td>X Working Collaboratively</td>
</tr>
</tbody>
</table>

### SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

- Communications
- Humanities
- Mathematics
- Social and Behavioral Sciences
- Natural Sciences

### SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

- Communication
- Critical Thinking
- Information Literacy
- Scientific and Quantitative Reasoning
- Global Sociocultural Responsibility

### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand theory of operation of turbine engines</td>
<td>Course Written test</td>
</tr>
<tr>
<td>Inspect, check, service a fire extinguishing system</td>
<td>Course Practical test based on FAA Test Standards</td>
</tr>
<tr>
<td>Disassemble, inspect and reassemble a starter motor</td>
<td>Course Practical test based on FAA Test Standards</td>
</tr>
<tr>
<td>Inspect, repair and test an alternator</td>
<td>Course Practical test based on FAA Test Standards</td>
</tr>
</tbody>
</table>

### SECTION 7

<table>
<thead>
<tr>
<th>Faculty name(s):</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Dagenais</td>
<td>4/8/2018</td>
</tr>
<tr>
<td>John Mayes</td>
<td>4/19/2019</td>
</tr>
</tbody>
</table>

CS20150615
FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AMT 1773L
COURSE TITLE: Aviation Maintenance Technology Powerplant III Lab
PREREQUISITE(S): None
COREQUISITE(S): AMT 1773
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Powerplant Mechanics (6117) (T.C.) program
CREDIT HOURS: 2
CONTACT HOURS/WEEK: 6
CONTACT HOURS/WEEK BREAKDOWN:
  Lecture:
  Laboratory: 6
  Other:
FACULTY WORKLOAD POINTS: 3
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION: This course complements AMT 1773 to provide practical exercise to introduce skills of aircraft turbine engine fundamentals; engine fire protection and engine instrument systems; and powerplant electrical systems.

SUGGESTED TEXT(S):

2. Airframe & Powerplant Mechanic - Powerplant Workbook (ATBC 8083-32WB) 9780983865841
3. Airframe & Powerplant Mechanic - Powerplant Test Guide (ATBC 8083-32TG) 9781941144664
4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA) 9781619540217
7. FAR/AMT (ASA 2019 or most current edition) 9781619546721
8. Aviation Mechanic Handbook (Dale Crane) 9781619544949

IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18

REVIEW OR MODIFICATION DATE:
COURSE TOPICS

Note: § Denotes required project

I. Fundamentals of Turbine Engines
   A. Terms and Safety
      Objectives:
      1. Demonstrate and practice turbine-engine safety precautions
   
   B. Turbine Engine Development
      Objectives:
      1. Demonstrate the inspection, checking and troubleshooting of turbine driven auxiliary power units (Level 1) (App. D.II, m. 41)
      2. Perform calculations to determine engine thrust
   
   C. Turbine Engine Design and Construction
      Objectives:
      1. Explain the causes and prevention of compressor stall
   
   D. Turbine Engine Inlet Systems
      Objectives:
      1. Describe the inspection and troubleshooting of unducted fan systems and components (Level 1) (App. D.I, l. 40)
   
   E. Turbine Engine Exhaust Systems
      Objectives:
      1. Describe the purpose and operation of afterburners
      2. Describe the purpose, construction, and operation of thrust reversers
      3. Describe maintenance, troubleshooting, and repair of engine thrust reverser systems and related components. (Level 1) (App. D.II, j. 32b)
   
F. Unit Test
COURSE TOPICS (Continued)

II. Engine Fire Protection and Engine Instrument Systems
   A. Fire Protection Systems
      Objectives:
      1. Identify fire classifications and zones
   
   B. Operation, Maintenance, Repair and Troubleshooting of Fire Detection and Protection Systems
      Objectives:
      1. Demonstrate troubleshooting, maintenance and repair of fire detection systems
      2. § Inspect, check, service, troubleshoot, and repair as required a fire detection and extinguishing system (Level 3) (App. D.II, b. 11) (PP2-009)

   C. Aircraft Engine Instruments and Warning Systems
      Objectives:
      1. § Troubleshoot a fluid flow rate indicating system (Level 2) (App. D.II, a. 9) (PP2-010)
      2. § Inspect, check, service, troubleshoot, and repair a temperature indicating system (Level 3) (App. D.II, a. 10) (PP2-011)
      3. § Inspect, check, service, troubleshoot, and repair an engine pressure indicating system (Level 3) (App. D.II, a. 10) (PP2-012)
      4. § Inspect, check, service, troubleshoot, and repair an engine RPM indicating system (Level 3) (App. D.II, a. 10) (PP2-013)

   D. Unit Test

III. Turbine Engine Lubrication. Cooling, Ignition and Fuel Metering Systems
   A. Introduction to the Lubrication System
      Objectives:
      1. Examine a lubrication system

   B. Types of Lubricating Systems
      Objectives:
      1. Demonstrate operating principles of lubricating systems
      2. Use schematic to trace oil flow in wet and dry-sump systems

   C. Operations and Components of the Lubricating System
      Objectives:
      1. Identify the components of a turbine-engine lubricating system and their functions

   D. Maintaining and Troubleshooting the Lubrication System
      Objectives:
      1. § Check and inspect a turbine engine oil strainer screen (Level 3) (App. D.II, d. 15,16) (PP2-014)
      2. § Adjust oil pressure (Level 3) (App. D.II, d. 15,16) (PP2-015)

   E. Turbine Engine Cooling Systems
      Objectives:
      1. Inspect the condition of an engine nacelle
F. Aircraft Turbine Engine Ignition Systems
   Objectives:
   1. § Identify types of igniter plugs (Level 2) (App. D.II, e. 18) (PP2-016)

G. Turbine Engine Fuel Metering Systems
   Objectives:
   1. Identify turbine engine fuel system components (Level 1) (App. D.II, f. 20)
   2. Examine turbine engine fuel spray nozzles (Level 1) (App. D.II, F. 20)
   (Level 1) (App. D.II, f. 20)
   3. Demonstrate the inspection and servicing of turbine engine water injection systems (Level 1)
      (App. D.II, F.20)

H. Unit Test

IV. POWERPLANT ELECTRICAL
20
A. Safety and Terms
   Objectives:
   1. Demonstrate safety precautions related to powerplant wiring, aircraft motors and generators

B. Wiring Diagrams
   Objectives:
   1. Interpret schematic diagrams

C. Powerplant Wiring
   Objectives:
   1. Interpret and use a wire/cable size chart
   2. § Select proper wire for various applications (Level 3) (App. D.II, c.13) (PP2-001)

D. Wiring Installations
   Objectives:
   1. Determine proper wire grouping, bundles, and routing
   2. Identify aircraft wire markings
   3. § Lace and tie wire bundles (Level 3) (App. D.II, c. 3) (PP2-002)

E. Circuit Protective Devices
   Objectives:
   1. § Interpret circuit protector charts (Level 3) (App. D. II, c. 13) (PP2-003)

F. Circuit Controls
   Objectives:
   1. § Interpret switch de-rating chart (Level 3) (App. D.II, c. 13) (PP2-004)

G. Electrical System Troubleshooting
   Objectives:
   1. § Install, check, and service engine electrical wiring, controls, switches, indicators, and protective devices (Level 3) (App. D.II, c 13) (PP2-005)
COURSE TOPICS (Continued)

Note: § Denotes required project

H. Aircraft Motor Theory
   Objectives:
   1. Identify types of aircraft electric motors

I. Aircraft DC Motors
   Objectives:
   1. Demonstrate methods of controlling aircraft DC motors

J. Aircraft Starter Motors
   Objectives:
   1. § Disassemble, inspect, and reassemble a starter motor (Level 3) (App. D.II, c.12; D.II, e.19a) (PP2-006)

K. Aircraft AC Motors
   Objectives:
   1. Illustrate the construction and operation of aircraft AC motors

L. Motor Brakes and Clutches
   Objectives:
   1. Examine the construction of motor brakes and motor clutches

M. Starter Generators
   Objectives:
   1. Demonstrate the operation of starter generators

N. 12-Volt Shunt-Wound Generator System
   Objectives:
   1. § Troubleshoot, disassemble, inspect, reassemble, and test a generator (Level 3) (App. D.II, c. 12) (PP2-007)

O. 24-Volt Compound-Wound Generator System
   Objectives:
   1. Troubleshoot, inspect, and adjust a carbon pile voltage regulator

P. 12/24 Volt Alternators
   Objectives:
   1. § Troubleshoot, disassemble, inspect, repair, reassemble, and test an alternator (Level 3) (App. D.II, c.12) (PP2-008)

Q. Unit Test.

V. Powerplant III Remediation, Review, and Testing
   Powerplant Block III Final Exam
Florida State College at Jacksonville  
Course Learning Outcomes and Assessment

**SECTION 1**

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1773L</th>
<th>Semester Credit Hours (Credit):</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology Powerplant III Lab</td>
<td>Contact Hours (Workforce):</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 2a (To be completed for General Education courses only.)**

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

**SECTION 2b**

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td></td>
<td>A.A.S. Professional Elective</td>
<td>X</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Technical Certificate</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other:</td>
<td>If selected, use this space to title “other” option.</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 3**

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

- X Reading
- Speaking
- Critical Analysis
- Qualitative Skills
- Scientific Method of Inquiry
- X Writing
- Listening
- Information Literacy
- Ethical Judgement
- X Working Collaboratively

**SECTION 4 (To be completed for General Education courses only.)**

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences</td>
<td></td>
<td>Natural Sciences</td>
</tr>
</tbody>
</table>

**SECTION 5 (To be completed for General Education courses only.)**

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Quantitative Reasoning</td>
<td></td>
<td>Global Sociocultural Responsibility</td>
</tr>
</tbody>
</table>

**SECTION 6**

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand theory of operation of turbine engines</td>
<td>Course</td>
</tr>
<tr>
<td>Inspect, check, service a fire extinguishing system</td>
<td>Course</td>
</tr>
<tr>
<td>Disassemble, inspect and reassemble a starter motor</td>
<td>Course</td>
</tr>
<tr>
<td>Inspect, repair and test an alternator</td>
<td>Course</td>
</tr>
</tbody>
</table>

**SECTION 7**

<table>
<thead>
<tr>
<th>Faculty name(s):</th>
<th>John Mayes</th>
<th>Date:</th>
<th>4/19/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS20150615</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AMT 4774C 1774
COURSE TITLE: Aviation Maintenance Technology Powerplant IV
PREREQUISITE(S): AMT 1751C, AMT 1752C, AMT 1753C, AMT 1754C
None
COREQUISITE(S): None AMT 1774L
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Powerplant Mechanics (6117) (T.C.) program
CREDIT HOURS: 4
CONTACT HOURS/WEEK: 14 8
CONTACT HOUR BREAKDOWN:
  Lecture: 8
  Laboratory: 6 0
  Other:
FACULTY WORKLOAD POINTS: 8
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)

COURSE DESCRIPTION:
This course is designed to introduce skills and the necessary knowledge and understanding of aircraft turbine engine overhaul; turbine engine removal, installation and operation; turbine engine inspection, troubleshooting and maintenance.

SUGGESTED TEXT(S):

<table>
<thead>
<tr>
<th>TITLE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Airframe &amp; Powerplant Mechanics Powerplant Workbook</td>
<td>978098386585-8</td>
</tr>
<tr>
<td>3. A&amp;P Technician Powerplant Test Guide</td>
<td>9781560279259</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B</td>
<td>9781560277286</td>
</tr>
<tr>
<td>5. FAR/AMT</td>
<td>9781560279310</td>
</tr>
<tr>
<td>6. FAA Airframe &amp; Powerplant Mechanics Practical Test Standards</td>
<td>9781560277514</td>
</tr>
<tr>
<td>2. Airframe &amp; Powerplant Mechanic - Powerplant Workbook (ATBC 8083-32WB)</td>
<td>9780983865841</td>
</tr>
<tr>
<td>3. Airframe &amp; Powerplant Mechanic - Powerplant Test Guide (ATBC 8083-32TG)</td>
<td>9781941144664</td>
</tr>
<tr>
<td>4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA)</td>
<td>9781619540217</td>
</tr>
<tr>
<td>7. FAR/AMT (ASA 2019 or most current edition)</td>
<td>9781619546721</td>
</tr>
<tr>
<td>8. Aviation Mechanic Handbook (Dale Crane)</td>
<td>9781619544949</td>
</tr>
</tbody>
</table>
IMPLEMENTATION DATE: Summer Term, 2006 (20063)

REVIEW OR MODIFICATION DATE: Fall Term, 2008 (20091) – Outline Review 2007
Fall Term, 2013 (20141) – Proposal 2013-22
Fall Term, 2018 (2188) – Proposal 2018-27
Fall Term, 2019 (2198) – Proposal 2019-18
I. Turbine Engine Removal, Overhaul, Installation and Operation

A. Turbine Engine Removal
   Objectives:
   1. Select terms and definitions associated with turbine engine removal
   2. Demonstrate safety practices associated with turbine engine removal
   3. Demonstrate specific aircraft procedures related to engine removal
   4. § Remove engine from aircraft using technical manual for the aircraft (Level 3) (App. D.I, b. 7) (PP2-017)

B. Introduction to Turbine Engine Overhaul
   Objectives:
   1. Define terms related to turbine engine overhaul
   2. Demonstrate turbine engine construction and nomenclature
   3. List types of turbine maintenance and maintenance programs
   4. Identify appropriate fluids used in the various turbine engines
   5. Demonstrate safety precautions related to servicing turbine fluids
   6. List and describe cleaning procedures for turbine engine components
   7. Demonstrate the purpose and operation of an oil cooler
   8. Demonstrate inspection, servicing, and troubleshooting turbine engine pneumatic starting systems (Level 1) (App. D.II, e.19b)

C. Disassembly of Sections
   Objectives:
   1. Explain the procedure used to disassemble the accessory section
   2. Demonstrate disassembly of the compressor section
   3. § Use manufacturer's overhaul manual to disassemble the compressor section (Level 2) (App. D.I, b.5) (PP2-018)
   4. Describe disassembly procedure for combustor section
   5. § Use manufacturer's overhaul manual to disassemble the combustion section (Level 2) (App. D.I, b. 5) (PP2-019)
   6. Demonstrate disassembly of the turbine section
   7. § Use manufacturer's overhaul manual to disassemble turbine section (Level 2) (App. D.I, b. 5) (PP2-020)
   8. Explain the procedure used to disassemble an exhaust section
   9. § Use manufacturer's overhaul manual to disassemble an exhaust section (Level 2) (App. D.I, b. 5) (PP2-021)

D. Inspection and Repair
   Objectives:
   1. Demonstrate the inspection of bearings and seals
   2. § Visually inspect bearings and seals (Level 3) (App. D.I, b. 5,6) (PP2-022)
   3. § Clean and inspect all section components for wear or defects, and enter defective parts on a materials list (Level 3) (App. D.I, b. 5,6) (PP2-023)
   4. § Perform necessary repairs to all section components in accordance with manufacturer's overhaul manuals (Level 3) (App. D.I, b. 5,6) (App. D.II, j. 31,32a) (PP2-024)
   5. § Perform dye penetrant inspection (Level 3) (App. D. I, b. 5,6) (PP2-025)
   6. § Check and inspect lube oil filter element (Level-3) (App. D.I, d. 15, 16) (PP2-026)
E. Reassembly
Objectives:
1. § Use manufacturer's overhaul manuals to reassemble combustor, turbine, and exhaust sections (Level 2) (App. D.I, b.5) (PP2-027)
2. § Use manufacturer's overhaul manuals to reassemble compressor, and accessory sections (Level 2) (App. D.I, b.5) (PP2-028)
3. § Perform final assembly of engine -- including exterior lines, components and attaching hardware (Level 2) (App. D.I, b.5) (PP2-029)

F. Engine Preparation for Installation
Objectives:
1. Demonstrate procedures used to prepare engine for installation
2. § Install and rig engine (Level 3) (App. D.I, b.7) (PP2-030)

G. Engine Operation
Objectives:
1. Demonstrate terms and practices associated with turbine engine operation
2. Demonstrate safety terms and practices associated with turbine engine operation
3. § Perform turbine engine run-up and systems check (Level 3) (App. D.I, b.6,7) (App. D.II, e.19a) (PP2-031)

H. Unit Test

II. Turbine Engine Inspection, Troubleshooting and Maintenance

A. Introduction to Turbine Engine Inspection
Objectives:
1. Demonstrate terms and definitions related to turbine engine inspection
2. Demonstrate engine conformity and Airworthiness Directive compliance inspections
3. § Perform conformity and Airworthiness Directive compliance inspections (Level 3) (App. D.I., c.8) (PP2-032)
4. § Write logbook entry to indicate A.D. compliance Level 3 (App. D.I, c.8) (PP2-033)
5. Demonstrate inspection and troubleshooting unducted fan systems and components (Level 1) (App. D.II, l.4)

B. Introduction to Turbine Engine Maintenance
Objectives:
1. Demonstrate terms and practices related to turbine engine maintenance
2. Describe terms, methods, practices and types of maintenance programs
3. § Test an ignition lead (Level 3) (App. D.II, e.18) (PP2-034)
4. § Remove, clean, inspect and install igniter plug (Level 3) (App. D.II, e.18) (PP2-035)
5. § Adjust output pressure of engine fuel pump (Level 3) (App. D.I, b.6; D.II, b.20; g.25) (PP2-036)
6. § Adjust output pressure of oil relief valve (Level 3) (App. D.I, b.6; D.II, d.16) (PP2-037)
3. Demonstrate inspection, checks, servicing, and troubleshooting turbine driven auxiliary power units (Level 1) (App. D.II, m.41)
COURSE TOPICS (Continued)

Note: § Denotes required project Associated projects are completed during corequisite lab course

CONTACT HOURS
PER TOPIC

C. Terms and Procedures Used in Troubleshooting

Objectives:

1. § Troubleshoot turbine engine system malfunctions (Level 3) (App. D.I, b.7) (PP2-038)
2. § Check for electrical malfunctions using a multimeter (Level 3) (App. D.II, c.13) (PP2-039)

   1. List possible source or cause of metallic particles in the lubricating oil
   2. Demonstrate causes of fuel pressure fluctuation
   3. Describe sources of fuel system contamination

D. Unit Test

III. Powerplant IV. Remediation, Review and Testing

Powerplant Block IV Final Exam

25 10
### SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1774C 1774</th>
<th>Semester Credit Hours (Credit):</th>
<th>6 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology Powerplant IV</td>
<td>Contact Hours (Workforce):</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**
- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

### SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**
- A.A. Elective
- A.A.S. Required Course
- A.S. Required Course
- A.S. Professional Elective
- A.A.S. Professional Elective
- Technical Certificate
- PSAV/Clock Hour/Workforce
- Development Education
- Apprenticeship
- Upper Division/Bachelors
- Other: If selected, use this space to title “other” option.

### SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**
- X Reading
- Speaking
- Critical Analysis
- Qualitative Skills
- Scientific Method of Inquiry
- X Writing
- X Listening
- Information Literacy
- Ethical Judgement
- X Working Collaboratively

### SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**
- Communications
- Humanities
- Mathematics
- Social and Behavioral Sciences
- Natural Sciences

### SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**
- Communication
- Critical Thinking
- Information Literacy
- Scientific and Quantitative Reasoning
- Global Sociocultural Responsibility

### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Type of Outcome (General Education, Course or Program)</th>
<th>Method of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use manufacturer’s manuals to overhaul, inspect and repair turbine engine.</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Perform engine conformity inspection</td>
<td>Course</td>
<td>Practical test based on FAA Practical Test Standards</td>
</tr>
<tr>
<td>Troubleshoot turbine engine systems</td>
<td>Course</td>
<td>Written test</td>
</tr>
</tbody>
</table>

### SECTION 7

<table>
<thead>
<tr>
<th>Faculty name(s):</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Dagenais</td>
<td>4/8/2018</td>
</tr>
<tr>
<td>John Mayes</td>
<td>4/19/2019</td>
</tr>
</tbody>
</table>

CS20150615
COURSE NUMBER: AMT 1774L
COURSE TITLE: Aviation Maintenance Technology Powerplant IV Lab
PREREQUISITE(S): None
COREQUISITE(S): AMT 1774
CONDITION(S): Must be admitted to Aviation Maintenance Management (2150) (A.S.) program or Aviation Powerplant Mechanics (6117) (T.C.) program
CREDIT HOURS: 2
CONTACT HOURS/WEEK: 6
CONTACT HOURS/WEEK:
Lecture: 6
Laboratory: Other:
FACULTY WORKLOAD POINTS: 3
STANDARDIZED CLASS SIZE ALLOCATION: 25 (FAA Limited)
COURSE DESCRIPTION:
This course complements AMT 1774 to provide practical exercise to introduce skills of aircraft turbine engine overhaul; turbine engine removal, installation and operation; turbine engine inspection, troubleshooting and maintenance.
SUGGESTED TEXT(S):
2. Airframe & Powerplant Mechanic - Powerplant Workbook (ATBC 8083-32WB) 9780983865841
3. Airframe & Powerplant Mechanic - Powerplant Test Guide (ATBC 8083-32TG) 9781941144664
4. Acceptable Methods, Techniques and Practices AC-43.13-1B CH-1 (ASA) 9781619540217
7. FAR/AMT (ASA 2019 or most current edition) 9781619546721
8. Aviation Mechanic Handbook (Dale Crane) 9781619544949
IMPLEMENTATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18
REVIEW OR MODIFICATION DATE:
I. Turbine Engine Removal, Overhaul, Installation and Operation
   A. Turbine Engine Removal
      Objectives:
      1. § Remove engine from aircraft using technical manual for the aircraft
         (Level 3) (App. D.I, b. 7) (PP2-017)
   B. Introduction to Turbine Engine Overhaul
      Objectives:
      1. Demonstrate the inspection, servicing, and troubleshooting turbine engine
         pneumatic starting systems (Level 1) (App. D.II, e.19b)
   C. Disassembly of Sections
      Objectives:
      1. § Use manufacturer's overhaul manual to disassemble the compressor section (Level 2)
         (App. D.I, b.5) (PP2-018)
      2. § Use manufacturer's overhaul manual to disassemble the combustion section (Level 2)
         (App. D.I, b. 5) (PP2-019)
      3. § Use manufacturer's overhaul manual to disassemble turbine section (Level 2) (App. D.I, b.
         5) (PP2-020)
      4. § Use manufacturer's overhaul manual to disassemble an exhaust section (Level 2) (App.
         D.I, b. 5) (PP2-021)
   D. Inspection and Repair
      Objectives:
      1. § Visually inspect bearings and seals (Level 3) (App. D.I, b. 5,6) (PP2-022)
      2. § Clean and inspect all section components for wear or defects, and enter defective parts
         on a materials list (Level 3) (App. D.I, b. 5,6) (PP2-023)
      3. § Perform necessary repairs to all section components in accordance with manufacturer's
         overhaul manuals (Level 3) (App. D.I, b. 5,6) (App. D.II, j. 31,32a) (PP2-024)
      4. § Perform dye penetrant inspection (Level 3) (App. D. I, b. 5,6) (PP2-025)
      5. § Check and inspect lube oil filter element (Level 3) (App. D.I, d. 15, 16) (PP2-026)
   E. Reassembly
      Objectives:
      1. § Use manufacturer's overhaul manuals to reassemble combustor, turbine, and exhaust
         sections (Level 2) (App. D.I, b,5) (PP2-027)
      2. § Use manufacturer's overhaul manuals to reassemble compressor, and accessory
         sections (Level 2) (App. D.I, b. 5) (PP2-028)
      3. § Perform final assembly of engine -- including exterior lines, components and attaching
         hardware (Level 2) (App. D.I, b. 5) (PP2-029)
   F. Engine Preparation for Installation
      Objectives:
      1. § Install and rig engine (Level 3) (App. D.I, b. 7) (PP2-030)
COURSE TOPICS (Continued)

Note: § Denotes required project

G. Engine Operation
   Objectives:
   1. § Perform turbine engine run-up and systems check (Level 3) (App. D.I, b. 6,7)(App. D.II, e. 19a) (PP2-031)

H. Unit Test

II. Turbine Engine Inspection, Troubleshooting and Maintenance 22
   A. Introduction to Turbine Engine Inspection
      Objectives:
      1. § Perform conformity and Airworthiness Directive compliance inspections (Level 3) (App. D.I., c 8) (PP2-032)
      2. § Write logbook entry to indicate A.D. compliance Level 3) (App. D. I. c 8) (PP2-033)
      3. Demonstrate the inspection and troubleshooting process of unducted fan systems and components (Level 1) (App. D.II, l. 40)

   B. Introduction to Turbine Engine Maintenance
      Objectives:
      1. § Test an ignition lead (Level 3) (App. D.II, e. 18) (PP2-034)
      2. § Remove, clean, inspect and install igniter plug (Level 3) (App. D.II, e.18) (PP2-035)
      3. § Adjust output pressure of engine fuel pump (Level 3) (App. D.I, b.6; D.II, f 20; g. 25) (PP2-036)
      4. § Adjust output pressure of oil relief valve (Level 3) (App. D.I, b. 6; D.II, d. 16) (PP2-037)
      5. Demonstrate the inspection, checks, servicing, and troubleshooting turbine driven auxiliary power units (Level 1) (App. D.II, m. 41)

   C. Terms and Procedures Used in Troubleshooting
      Objectives:
      1. § Troubleshoot turbine engine system malfunctions (Level 3) (App. D.I, b.7) (PP2-038)
      2. § Check for electrical malfunctions using a multimeter (Level 3) (App. D.II, c.13) (PP2-039)
      3. 

   D. Unit Test

III. Powerplant IV. Remediation, Review and Testing 15
    Powerplant Block IV Final Exam
### SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1774L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Credit Hours (Credit):</td>
<td>2</td>
</tr>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
</tr>
<tr>
<td>Course Title:</td>
<td>Aviation Maintenance Technology Powerplant IV Lab</td>
</tr>
</tbody>
</table>

### SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

### SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td>A.A.S. Professional Elective</td>
<td>X</td>
<td>Technical Certificate</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other: If selected, use this space to title “other” option.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>X</th>
<th>Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Writing</td>
<td>X</td>
<td>Listening</td>
<td>Information Literacy</td>
<td>Ethical Judgement</td>
</tr>
</tbody>
</table>

### SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences</td>
<td></td>
<td>Natural Sciences</td>
</tr>
</tbody>
</table>

### SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Quantitative Reasoning</td>
<td></td>
<td>Global Sociocultural Responsibility</td>
</tr>
</tbody>
</table>

### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use manufacturer’s manuals to inspect and repair turbine engine.</td>
<td>Course</td>
</tr>
<tr>
<td>Perform engine conformity inspection</td>
<td>Course</td>
</tr>
<tr>
<td>Troubleshoot turbine engine systems</td>
<td>Course</td>
</tr>
</tbody>
</table>

### SECTION 7

<table>
<thead>
<tr>
<th>Faculty name(s):</th>
<th>John Mayes</th>
<th>Date:</th>
<th>4/19/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS20150615</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
COURSE NUMBER: AMT 1231
COURSE TITLE: Avionics Installation and Troubleshooting
PREREQUISITE(S): FAA Airframe certificate or previous electronics experience or training
COREQUISITE(S): AMT 1231L
CREDIT HOURS: 3
CONTACT HOURS/WEEK: 6
CONTACT HOUR BREAKDOWN:
  Lecture: 3
  Laboratory: 3
  Other: 0
FACULTY WORKLOAD POINTS: 3
STANDARDIZED CLASS SIZE ALLOCATION: 10
COURSE DESCRIPTION:
This course is designed as a study of the installation processes of modern avionics systems, such as VHF communications, VHF navigation, ADF, radar, autopilots and others. Students will receive hands-on experience in the installation of avionics systems, fabrication of electrical harnesses, and testing of systems after installation. Students will begin preparation for Element 3 of the FCC General Radiotelephone Operator's License (GRPL) examination.

SUGGESTED TEXT(S):


IMPLEMENTATION DATE: Fall Term 2012 (20131)
REVIEW OR MODIFICATION DATE:
Fall Term 2013 (20141)
Fall Term 2012 (20131) Proposal 2012-108
Fall Term 2015 (20161) – Outline Review 14-15
Fall Term, 2019 (2198) – Proposal 2019-18
# COURSE TOPICS

## CONTACT HOURS PER TOPIC

<table>
<thead>
<tr>
<th>I. System Installations</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Instrument Systems.</strong></td>
<td>18</td>
</tr>
<tr>
<td>1. Define terms related to instrument systems</td>
<td></td>
</tr>
<tr>
<td>2. List the A&amp;P mechanic's limitations and FAR guidelines for instrument marking, repair, and maintenance</td>
<td></td>
</tr>
<tr>
<td>3. Describe instrument panel construction, layout, and mounting</td>
<td></td>
</tr>
<tr>
<td>4. Demonstrate the operation and maintenance of the pitot-static system</td>
<td></td>
</tr>
<tr>
<td><strong>B. Communication and Navigation Systems</strong></td>
<td>9</td>
</tr>
<tr>
<td>1. Define terms related to communication and navigation systems</td>
<td></td>
</tr>
<tr>
<td>2. Identify antenna types and the principles of their operation</td>
<td></td>
</tr>
<tr>
<td>3. Demonstrate aircraft internal and external communication systems</td>
<td></td>
</tr>
<tr>
<td>4. Demonstrate FCC regulations concerning the operation of a two-way radio</td>
<td></td>
</tr>
<tr>
<td>5. § Perform an operational check of communication equipment.</td>
<td></td>
</tr>
<tr>
<td>6. § Using a ramp tester, perform an operational check of VOR/ILS/Marker Beacon.</td>
<td></td>
</tr>
<tr>
<td>7. § Using a ramp tester, perform an operational check of transponder.</td>
<td></td>
</tr>
<tr>
<td>8. Demonstrate installation and removal of navigation and communication equipment</td>
<td></td>
</tr>
<tr>
<td>9. Demonstrate the operation of an Emergency Locator Transmitter and the method of activation.</td>
<td></td>
</tr>
<tr>
<td>10. Interpret FAA rules governing the installation of Emergency Locator Transmitters</td>
<td></td>
</tr>
<tr>
<td>11. § Demonstrate the techniques used in inspection and functional testing of Emergency Locator Transmitters.</td>
<td></td>
</tr>
<tr>
<td>12. § Identify, install, troubleshoot, and operate VHF navigation system.</td>
<td></td>
</tr>
<tr>
<td>13. § Functionally test glideslope equipment.</td>
<td></td>
</tr>
<tr>
<td>14. § Check for proper installation of radio equipment, including bonding, shock mounts, and static discharge wicks.</td>
<td></td>
</tr>
</tbody>
</table>

## II. AVIONICS INSTALLATION DOCUMENTATION

<table>
<thead>
<tr>
<th></th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Major Alterations</strong></td>
<td>9</td>
</tr>
<tr>
<td>1. § Demonstrate ability to read, comprehend and apply data in the FAR as related to major alterations.</td>
<td></td>
</tr>
<tr>
<td>2. § Perform an electrical load analysis.</td>
<td></td>
</tr>
<tr>
<td>3. § Compute the weight and balance change for an avionic installation.</td>
<td></td>
</tr>
<tr>
<td>4. § Properly prepare an FAA Form 337.</td>
<td></td>
</tr>
<tr>
<td>5. Demonstrate FAR 145 Repair Station requirements</td>
<td></td>
</tr>
<tr>
<td><strong>B. Maintenance Publications and Technical Data</strong></td>
<td></td>
</tr>
<tr>
<td>1. Select, read, interpret an avionics manufacturer's system Installation manual</td>
<td></td>
</tr>
<tr>
<td>2. Demonstrate the use and purpose of Supplemental Type Certificates (STC)</td>
<td></td>
</tr>
<tr>
<td>3. Demonstrate HBAW 98-18 Checklist for instructions for continued airworthiness for major alternations approved under the field approval process</td>
<td></td>
</tr>
<tr>
<td>4. § Complete a maintenance record entry for Emergency Locator Transmitter.</td>
<td></td>
</tr>
<tr>
<td>5. § Describe the Emergency Locator Transmitter battery requirements.</td>
<td></td>
</tr>
</tbody>
</table>
COURSE TOPICS (Continued)

III. FCC LICENSE PREPARATION - FCC License Preparation (Element 3, Parts A 5 through D.)
   A. Define Federal Communication Commission operating procedures
   B. Demonstrate Radio Wave Propagation.
   C. Demonstrate Radio Practice.
   D. Understand electrical principles.

IV. TESTING AND TROUBLESHOOTING PROCEDURES
   A. ADF
   B. Antennas
   C. Autopilots
   D. Com Transceivers
   E. DME
   F. ELT - Emergency Locator Transmitter
   G. Glideslope Receiver
   H. Lightning Strikes
   I. Software Loading
   J. Transponder
   K. VOR
   L. Wiring and Connectors
   M. Fault Detection Device
   N. Precipitation Static

CONTACT HOURS PER TOPIC

10 18
### SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1231</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Credit Hours (Credit):</td>
<td>3</td>
</tr>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
</tr>
<tr>
<td>Course Title:</td>
<td>Avionics Installation and Troubleshooting</td>
</tr>
</tbody>
</table>

### SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

### SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>A.S. Required Course</th>
<th>X</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.A.S. Required Course</td>
<td>A.A.S. Professional Elective</td>
<td>Technical Certificate</td>
<td></td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other: If selected, use this space to title “other” option.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>X</th>
<th>Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing</td>
<td>X</td>
<td>Listening</td>
<td>Information Literacy</td>
<td>Ethical Judgement</td>
<td>Working Collaboratively</td>
</tr>
</tbody>
</table>

### SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences</td>
<td></td>
<td>Natural Sciences</td>
</tr>
</tbody>
</table>

### SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Quantitative Reasoning</td>
<td></td>
<td>Global Sociocultural Responsibility</td>
</tr>
</tbody>
</table>

### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpret Schematic Diagrams</td>
<td>Course Practical and/or Written test</td>
</tr>
<tr>
<td>Demonstrate the ability to perform an electrical load analysis</td>
<td>Course Practical and/or Written test</td>
</tr>
<tr>
<td>Demonstrate proper use of radio navigation test equipment</td>
<td>Course Practical test</td>
</tr>
<tr>
<td>Demonstrate proper assembly of electrical wiring and connectors</td>
<td>Course Practical test</td>
</tr>
</tbody>
</table>

### SECTION 7

**Faculty name(s):**

- David W. Dagenais
- John Mayes

**Date:**

- 4/30/2012
- 11/08/2018

CS20150615
COURSE NUMBER: AMT 1231L
COURSE TITLE: Avionics Installation and Troubleshooting Lab
PREREQUISITE(S): FAA Airframe certificate or previous electronics experience or training
COREQUISITE(S): AMT 1231
CREDIT HOURS: 1
CONTACT HOURS/WEEK: 1
CONTACT HOUR BREAKDOWN:
Lecture/Demonstration: 
Laboratory: 1
Other: 
FACULTY WORKLOAD POINTS: 0.5
STANDARDIZED CLASS SIZE ALLOCATION: 10

COURSE DESCRIPTION:
This course is designed as a study of the installation processes of modern avionics systems, such as VHF communications, VHF navigation, ADF, radar, autopilots and others. During this lab course students will receive hands-on experience in the installation of avionics systems, fabrication of electrical harnesses, and testing of systems after installation.

SUGGESTED TEXT(S):


FAA AC 43.13-1B/2A Acceptable Methods, Techniques & Practices ISBN #0-89100-306-1


IMPLEMENTATION DATE: Fall Term 2017 (20181) – Proposal 2015-68, Proposal 2016-68 Amend 01 and Proposal 2015-68 Amend 02

REVIEW OR MODIFICATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18
I. System Installations
   A. Communication and Navigation Systems
      1. Perform an operational check of communication equipment
      2. § Using a ramp tester, perform an operational check of VOR/ILS/Marker Beacon.
      3. § Using a ramp tester, perform an operational check of transponder
      4. § Demonstrate the techniques used in inspection and functional testing of Emergency Locator Transmitters
      5. § Identify, install, troubleshoot, and operate VHF navigation system
      6. § Functionally test glideslope equipment
      7. § Check for proper installation of radio equipment, including bonding, shock mounts, and static discharge wicks

II. Avionics Installation Documentation
    A. Major Alterations
       1. § Demonstrate ability to read, comprehend and apply data in the FAR as related to major alterations
       2. § Perform an electrical load analysis
       3. § Compute the weight and balance change for an avionic installation
       4. § Properly prepare an FAA Form 337
    B. Maintenance Publications and Technical Data
       1. § Complete a maintenance record entry for Emergency Locator Transmitter

III. Testing and Troubleshooting Procedures
     A. ADF
     B. Antennas
     C. Autopilots
     D. Com Transceivers
     E. DME
     F. ELT-Emergency Locator Transmitter
     G. Glideslope Receiver
     H. Lightning Strikes
     I. Software Loading
     J. Transponder
     K. VOR
     L. Wiring and Connectors
     M. Fault Detection Device
     N. Precipitation Static
### Florida State College at Jacksonville Course Learning Outcomes and Assessment

#### SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1231L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Credit Hours (Credit):</td>
<td>1</td>
</tr>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
</tr>
<tr>
<td>Course Title:</td>
<td>Avionics Installation and Troubleshooting</td>
</tr>
</tbody>
</table>

#### SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

#### SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>X</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td></td>
<td>A.A.S. Professional Elective</td>
<td></td>
<td>Technical Certificate</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other:</td>
<td>If selected, use this space to title “other” option.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>X</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Writing</td>
<td>X</td>
<td>Listening</td>
<td>Information Literacy</td>
<td>Ethical Judgement</td>
</tr>
</tbody>
</table>

#### SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

- Communications
- Social and Behavioral Sciences
- Mathematics
- Humanities
- Natural Sciences

#### SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

- Communication
- Scientific and Quantitative Reasoning
- Critical Thinking
- Information Literacy
- Global Sociocultural Responsibility

#### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of Assessment</td>
</tr>
</tbody>
</table>

- Interpret Schematic Diagrams: Course, Practical and/or Written test
- Demonstrate the ability to perform an electrical load analysis: Course, Practical and/or Written test
- Demonstrate proper use of radio navigation test equipment: Course, Practical test
- Demonstrate proper assembly of electrical wiring and connectors: Course, Practical test

#### SECTION 7

<table>
<thead>
<tr>
<th>Faculty name(s):</th>
<th>John Mayes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>02/16/2016</td>
</tr>
<tr>
<td></td>
<td>11/06/2018</td>
</tr>
</tbody>
</table>

CS20150615
COURSE NUMBER: AMT 1261
COURSE TITLE: Avionics Line Maintenance Fundamentals
PREREQUISITE(S): FAA Airframe Certificate or previous electronics experience or training
COREQUISITE(S): AMT 1261L
CREDIT HOURS: 3
CONTACT HOURS/WEEK: 6
CONTACT HOUR BREAKDOWN:
Lecture: 3
Laboratory: 3
Other: 0
FACULTY WORKLOAD POINTS: 3
STANDARDIZED CLASS SIZE ALLOCATION: 10

COURSE DESCRIPTION:
This course provides an introduction to the installation and repair of Avionics systems and components. Students will learn to terminate wires and fabricate simple harness assemblies. Examples of lab projects demonstrated will include assembly of an intercom harness and a VHF communication radio harness. Students will study mathematics and physics in relation to avionics design and operation. FAA and Federal Communications Commission (FCC) regulations will be demonstrated. Students will prepare for Element 1 of the FCC General Radiotelephone Operators License (GROL) exam, and the National Center for Aerospace & Transportation Technologies (NCATT) Aviation Electronics Technician (AET) certification examination.

SUGGESTED TEXT(S):

IMPLEMENTATION DATE: Fall Term 2017 (20181) – Proposal 2015-68, Proposal 2016-68 Amend 01 and Proposal 2015-68 Amend 02

REVIEW OR MODIFICATION DATE: Fall Term, 2019 (2198) – Proposal 2019-18
COURSE TOPICS

I. Avionics Fundamentals
   A. Introduction to Terms and Concepts
   B. History of Aviation, Electronics and Avionics

II. Electrical Schematics and Load Analysis
   1. Demonstrate Block Diagrams.
   2. Interpret Schematic Diagrams.
   3. Demonstrate Avionics Circuits.
   4. Demonstrate Electrical Load Analysis.

III. Fundamentals of Line Maintenance
   A. Use Common Tools
   B. Handling of Electrostatic Devices
   C. Identify and Perform Corrosion Control
   D. Use Safety Devices
      1. Safety Wire
      2. Shear Wire

IV. Aircraft Wiring
   A. Multi-conductor
   B. Coaxial
   C. Twisted Pair
   D. Single Conductor

V. Perform Wire Maintenance
   A. Continuity Checks

VI. Use Test Equipment/Special Tools
   A. Analog Multimeter
   B. Digital Multimeter
   C. Oscilloscope

VII. Elt (Emergency Locator Transmitter)
   A. Search & Rescue
   B. Elt Components
   C. 406 Mhz
   D. 406 Elt System
   E. Fleet Operation
   F. Cospas-Sarsat

VIII. Vor (Vhf Omnidirectional Range)

IX. Transponder
   A. Control Display
   B. Transponder Interrogator
   C. Atcrbs and Mode S
   D. Airline Control Display
   E. Line Replaceable Unit
   F. Mode S Interrogation and Replies
X. Radar Altimeter
   A. Antennas
   B. Operation

XI. Fcc Test Prep
    A. Review Element I General Radiotelephone Operators License
    B. Understand Radio Law and Operating Practice

XII. Ncatt Aet Test Prep — Review Concepts and Elements For The
     Ncatt Aet Certification Exam
### SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AMT 1261</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Credit Hours (Credit):</td>
<td>3</td>
</tr>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
</tr>
<tr>
<td>Course Title:</td>
<td>Avionics Line Maintenance Fundamentals</td>
</tr>
</tbody>
</table>

### SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

### SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>X</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td>A.A.S. Professional Elective</td>
<td>Technical Certificate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other:</td>
<td>If selected, use this space to title “other” option.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>X</th>
<th>Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>X</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Writing</td>
<td>X</td>
<td>Listening</td>
<td>Information Literacy</td>
<td>Ethical Judgement</td>
<td>X</td>
</tr>
</tbody>
</table>

### SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Natural Sciences</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Quantitative Reasoning</td>
<td>Global Sociocultural Responsibility</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate proper use of ELT test equipment</td>
<td>Course</td>
</tr>
<tr>
<td>Demonstrate proper use of an electrical multimeter</td>
<td>Course</td>
</tr>
<tr>
<td>Demonstrate proper use of transponder receiver test equipment</td>
<td>Course</td>
</tr>
</tbody>
</table>

### SECTION 7

<table>
<thead>
<tr>
<th>Faculty name(s):</th>
<th>John Mayes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>02/16/2016 11/08/2018</td>
</tr>
</tbody>
</table>

CS20150615
COURSE NUMBER: AMT 1261L

COURSE TITLE: Avionics Line Maintenance Fundamentals Lab

PREREQUISITE(S): FAA Airframe certificate or previous electronics experience or training

COREQUISITE(S): AMT 1261

CREDIT HOURS: 1

CONTACT HOURS/WEEK: 1

CONTACT HOUR BREAKDOWN:
Lecture/Demonstration:
Laboratory: 1
Other:

FACULTY WORKLOAD POINTS: 0.5

STANDARDIZED CLASS SIZE ALLOCATION: 10

COURSE DESCRIPTION:
This course is the lab to Avionics Line Maintenance Fundamentals. The associated lab course projects will provide experience with the skills that are related to the normal functions of avionics line maintenance.

SUGGESTED TEXT(S):

FAA AC 43.13-1B/2A Acceptable Methods, Techniques & practices. ISBN #0-89100-306-1


IMPLEMENTATION DATE:
Fall Term 2017 (20181) – Proposal 2015-68, Proposal 2016-68 Amend 01 and Proposal 2015-68 Amend 02

REVIEW OR MODIFICATION DATE:
Fall Term, 2019 (2198) – Proposal 2019-18
COURSE TOPICS

<table>
<thead>
<tr>
<th>II. Electrical Schematics and Load Analysis</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Demonstrate block diagrams</td>
<td></td>
</tr>
<tr>
<td>B. Interpret schematic diagrams</td>
<td></td>
</tr>
<tr>
<td>C. Demonstrate avionics circuits</td>
<td></td>
</tr>
<tr>
<td>D. Demonstrate electrical load analysis</td>
<td></td>
</tr>
</tbody>
</table>

III. Fundamentals of Line Maintenance | 2 |
A. Use Common Tools                     |   |
B. Handling of Electrostatic Devices    |   |
C. Identify and Perform Corrosion Control|   |
D. Use Safetying Devices                |   |
   a. Safety Wire                        |   |
   b. Shear Wire                         |   |

IV. Aircraft Wiring                      | 2 |
A. Multiconductor                        |   |
B. Coaxial                               |   |
C. Twisted Pair                          |   |
D. Single Conductor                      |   |

V. Perform Wire Maintenance              | 2 |
A. Continuity Checks                     |   |

VI. Use Test Equipment/Special Tools     | 2 |
A. Analog Multimeter                     |   |
B. Digital Multimeter                    |   |
C. Oscilloscope                          |   |

VII. ELT (Emergency Locator Transmitter) | 1 |
A. Search & rescue                       |   |
B. ELT components                        |   |
C. 406 MHz                               |   |
D. 406 ELT system                        |   |
E. Fleet operation                       |   |
F. COSPAS-SARSAT                         |   |

VIII. VOR (VHF omnidirectional range)    | 1 |

IX. Transponder                          | 1 |
B. Control display                       |   |
C. Transponder interrogator              |   |
D. ATRCRBS and mode S                    |   |
E. Airline control display               |   |
F. Line replaceable unit                 |   |
G. Mode S interrogation and replies      |   |
### SECTION 1
- **Course Prefix and Number:** AMT 1261L
- **Semester Credit Hours (Credit):** 1
- **Contact Hours (Workforce):**
- **Course Title:** Avionics Line Maintenance Fundamentals Lab

### SECTION 2a (To be completed for General Education courses only.)
**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

| General Education Core (If selected, core discipline area will be identified in Section 4.) |
| General Education (If selected, you must also complete Section 4, Section 5, and Section 8) |

### SECTION 2b
**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

- A.A. Elective
- A.A.S. Required Course
- A.A.S. Professional Elective
- A.S. Required Course
- A.S. Professional Elective
- Technical Certificate
- PSAV/Clock Hour/Workforce Development Education
- Apprenticeship
- Upper Division/Bachelors
- Other: If selected, use this space to title “other” option.

### SECTION 3
**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Reading</th>
<th>Speaking</th>
<th>Critical Analysis</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Writing</th>
<th>Listening</th>
<th>Information Literacy</th>
<th>Ethical Judgement</th>
<th>Working Collaboratively</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 4 (To be completed for General Education courses only.)
**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences</td>
<td>Natural Sciences</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 5 (To be completed for General Education courses only.)
**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Quantitative Reasoning</td>
<td>Global Sociocultural Responsibility</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 6
**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpret Schematic Diagrams Course</td>
<td>Practical and/or Written test</td>
</tr>
<tr>
<td>Demonstrate proper use of ELT test equipment Course</td>
<td>Practical and/or Written test</td>
</tr>
<tr>
<td>Demonstrate proper use of an electrical multimeter Course</td>
<td>Practical test</td>
</tr>
<tr>
<td>Demonstrate proper use of Transponder receiver test equipment</td>
<td>Practical test</td>
</tr>
</tbody>
</table>

### SECTION 7
- **Faculty name(s):** John Mayes
- **Date:** 02/16/2016

CS20150615
FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AVM 1931
COURSE TITLE: Aviation Capstone
PREREQUISITE(S): None
COREQUISITE(S): None
CONDITIONS: None
CREDIT HOURS: 2
CONTACT HOURS/WEEK: 2
CONTACT HOUR BREAKDOWN:
   Lecture: 2
   Laboratory: 
   Other __________:
FACULTY WORKLOAD POINTS: 2
STANDARDIZED CLASS SIZE ALLOCATION: 35 10

CATALOG COURSE DESCRIPTION:
This course will bring all elements of the Aviation Maintenance Management degree – maintenance operations for air carriers, charter operations, or commercial operations, Federal Aviation Regulations (FARs), aviation safety, and airport operations – together into a culminating learning experience. It will also provide opportunities to prepare students for the post-graduation job search through résumé writing and job interview skills. Students will work on group projects covering maintenance operations for large and small aircraft, and auditing compliance of selected FARs. Individual projects will cover maintenance operations as an Aviation Maintenance Technician from a project based learning perspective, and creating an individual résumé. This course is designed for aviation students who desire a complete understanding of how the many, various facets of an organization interact to keep an aircraft in an airworthy and in a flying status. Students will also construct a Capstone Portfolio to provide an overview of the knowledge, skills, and abilities learned about the aviation maintenance industry.

SUGGESTED TEXT(S): None

IMPLEMENTATION DATE: Fall Term, 2013 (20141) – Proposal 2013-22

REVIEW OR MODIFICATION DATE: Fall Term, 2015 (20161) – Outline Review 14-15
   Fall Term, 2019 (2198) – Proposal 2019-TBD
<table>
<thead>
<tr>
<th>COURSE TOPICS</th>
<th>CONTACT HOURS PER TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Maintenance Requirements under 14 CFR Part 91</td>
<td>3</td>
</tr>
<tr>
<td>II. Maintenance Requirements under 14 CFR Part 135</td>
<td>2</td>
</tr>
<tr>
<td>III. Maintenance Requirements under 14 CFR Part 145</td>
<td>2</td>
</tr>
<tr>
<td>IV. Maintenance Requirements under 14 CFR Part 121</td>
<td>2</td>
</tr>
<tr>
<td>V. Fixed Base Operations</td>
<td>3</td>
</tr>
<tr>
<td>VI. FAR Compliance</td>
<td>3</td>
</tr>
<tr>
<td>VII. Career Paths in Aviation</td>
<td>2</td>
</tr>
<tr>
<td>VII. Class Presentations</td>
<td>3</td>
</tr>
<tr>
<td>IX. Project Based Portfolio</td>
<td>10</td>
</tr>
</tbody>
</table>
SECTION 1

<table>
<thead>
<tr>
<th>Course Prefix and Number:</th>
<th>AVM 1931</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Credit Hours (Credit):</td>
<td>2</td>
</tr>
<tr>
<td>Contact Hours (Workforce):</td>
<td></td>
</tr>
<tr>
<td>Course Title:</td>
<td>Aviation Capstone</td>
</tr>
</tbody>
</table>

SECTION 2a (To be completed for General Education courses only.)

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

| General Education Core (If selected, core discipline area will be identified in Section 4.) |
| General Education (If selected, you must also complete Section 4, Section 5, and Section 8) |

SECTION 2b

**TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>A.A. Elective</th>
<th>X</th>
<th>A.S. Required Course</th>
<th>A.S. Professional Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.A.S. Required Course</td>
<td></td>
<td>A.A.S. Professional Elective</td>
<td>Technical Certificate</td>
</tr>
<tr>
<td>PSAV/Clock Hour/Workforce</td>
<td>Development Education</td>
<td>Apprenticeship</td>
<td></td>
</tr>
<tr>
<td>Upper Division/Bachelors</td>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 3

**INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Reading</th>
<th>Speaking</th>
<th>X</th>
<th>Critical Analysis</th>
<th>X</th>
<th>Qualitative Skills</th>
<th>Scientific Method of Inquiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing</td>
<td>Listening</td>
<td>Information Literacy</td>
<td>Ethical Judgement</td>
<td>X</td>
<td>Working Collaboratively</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4 (To be completed for General Education courses only.)

**GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communications</th>
<th>Humanities</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences</td>
<td></td>
<td>Natural Sciences</td>
</tr>
</tbody>
</table>

SECTION 5 (To be completed for General Education courses only.)

**GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)**

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Information Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Quantitative Reasoning</td>
<td></td>
<td>Global Sociocultural Responsibility</td>
</tr>
</tbody>
</table>

SECTION 6

**LEARNING OUTCOMES**

<table>
<thead>
<tr>
<th>TYPE OF OUTCOME (General Education, Course or Program)</th>
<th>METHOD OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate an understanding of the maintenance planning processes</td>
<td>Program</td>
</tr>
<tr>
<td>Demonstrate an understanding of the logistical considerations in planning</td>
<td>Program</td>
</tr>
<tr>
<td>Demonstrate an understanding of fiscal considerations and maintaining regulation compliance</td>
<td>Program</td>
</tr>
</tbody>
</table>

SECTION 7

<table>
<thead>
<tr>
<th>Faculty name(s):</th>
<th>David Dagenais</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>03-18-2013</td>
</tr>
</tbody>
</table>

CS20150615
FLORIDA STATE COLLEGE AT JACKSONVILLE
COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER: AVM 1942
COURSE TITLE: Aviation Internship
PREREQUISITE(S): None
COREQUISITE(S): None
CREDIT HOURS: 2
CONTACT HOURS/WEEK: Average of 9 per week, total of 135 for term
CONTACT HOUR BREAKDOWN:
Lecture: 
Laboratory: 
Other - On the job experience: Average of 8 (120 for term)
Job related report/s: Average of 1 (15 for term)
FACULTY WORKLOAD POINTS: Calculated on the # of students in the internship
Calculated by formula per current CBA
STANDARDIZED CLASS SIZE ALLOCATION: Open

CATALOG COURSE DESCRIPTION:
The first discipline related internship provides students with meaningful work experience in a chosen career field. The course is designed to allow students to learn on the job as part of their educational program of study. (2 Credits, 120 contact hours on the job during the term with additional work/reporting required off the job site.)

Prefix will be assigned according to student field of study/work.

SUGGESTED TEXT(S): None
IMPLEMENTATION DATE: Summer Term, 2006 (20063)
REVIEW OR MODIFICATION DATE: Fall Term, 2015 (20161) – Outline Review 14-15
Fall Term, 2019 (2198) – Proposal 2019-18
COURSE TOPICS

I. Job Search to include résumé and cover letter preparation, contacts with employer(s), interviews and contact agreement development

II. Discipline-related Work Experience 120 (Minimum)

II. Reporting and Evaluation 15 (Minimum)

Note: Other performance standards will be assigned by program manager(s) and internship supervisor(s) as determined by discipline and specific job/task assignments.
Florida State College at Jacksonville  
Course Learning Outcomes and Assessment

SECTION 1
Course Prefix and Number: AVM 1942  
Semester Credit Hours (Credit): 2
Contact Hours (Workforce):
Course Title: Aviation Internship

SECTION 2a (To be completed for General Education courses only.)
TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)
- General Education Core (If selected, core discipline area will be identified in Section 4.)
- General Education (If selected, you must also complete Section 4, Section 5, and Section 8)

SECTION 2b
TYPE OF COURSE (Place an “X” in the box next to those that are applicable.)
- A.A. Elective
- A.S. Required Course
- A.S. Professional Elective
- A.A.S. Required Course
- A.A.S. Professional Elective
- Technical Certificate
- PSAV/Clock Hour/Workforce
- Development Education
- Apprenticeship
- Upper Division/Bachelors
- Other:

SECTION 3
INTELLECTUAL COMPETENCIES (Place an “X” in the box next to those that are applicable.)
- Reading
- Speaking
- Critical Analysis
- Qualitative Skills
- Scientific Method of Inquiry
- Writing
- Listening
- Information Literacy
- Ethical Judgement
- Working Collaboratively

SECTION 4 (To be completed for General Education courses only.)
GENERAL EDUCATION DISCIPLINE AREA (Place an “X” in the box next to those that are applicable.)
- Communications
- Humanities
- Mathematics
- Social and Behavioral Sciences
- Natural Sciences

SECTION 5 (To be completed for General Education courses only.)
GENERAL EDUCATION LEARNING OUTCOME AREA (Place an “X” in the box next to those that are applicable.)
- Communication
- Critical Thinking
- Information Literacy
- Scientific and Quantitative Reasoning
- Global Sociocultural Responsibility

SECTION 6
LEARNING OUTCOMES  
TYPE OF OUTCOME (General Education, Course or Program)  
METHOD OF ASSESSMENT
- Demonstrate appropriate work habits.
  - Course
  - Instructor interface with employer.
- Demonstrate employability skills.
  - Course
  - Assess supervisory evaluations.

SECTION 7
Faculty name(s): David W. Dagenais  
Date: 04-28-2011 12/14/2018
CS20150615
VIII. Addenda

Identify any addenda that will enhance the proposal submission.

Key Topics

- Faculty Support (Optional)
- Program Advisory Committee Meeting Minutes
- Notice to Students of Program Inactivation
**ADDENDUM A**  
**Faculty Support (Optional)**

<table>
<thead>
<tr>
<th>Faculty Support</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum proposal originator(s) are strongly encouraged to solicit support from faculty members and to gather feedback through Demonstration at disciplinary, departmental and/or programmatic meetings prior to proposal submission to the Office of Curriculum Services at <a href="mailto:curriculum@fscj.edu">curriculum@fscj.edu</a>. Please note that obtaining additional faculty members’ support is <strong>highly recommended but not required</strong> as part of the signatory process.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty Correspondence</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Was the proposal submitted electronically to faculty members for review and feedback?</td>
<td>☒ Yes ☐ No</td>
</tr>
<tr>
<td>If YES, please provide the date of the electronic correspondence.</td>
<td>Date 02/06/2019</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty Meeting(s)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Was a disciplinary, departmental and/or programmatic meeting held to review the actions identified in the proposal? If YES, please provide the date of the meeting.</td>
<td>☒ Yes ☐ No</td>
</tr>
<tr>
<td>Date</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>If a vote was taken during the meeting, please provide the number of faculty votes for “yes,” “no,” or “abstention.”</td>
<td></td>
</tr>
<tr>
<td># Yes Votes</td>
<td></td>
</tr>
<tr>
<td># No Votes</td>
<td></td>
</tr>
<tr>
<td># Abstention</td>
<td></td>
</tr>
</tbody>
</table>

Provide a summary of the reasons that the disciplinary council, departmental and/or programmatic committee decided to support or not to support the proposal.

<table>
<thead>
<tr>
<th>Faculty Review and Comments</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A summary of faculty members’ comments appears below; comments may also be submitted anonymously.</td>
<td></td>
</tr>
</tbody>
</table>

| Faculty Member | Comments |  |
|----------------|----------|
|                |          |  |
|                |          |  |
|                |          |  |
|                |          |  |
|                |          |  |
|                |          |  |
|                |          |  |
|                |          |  |

If additional space is required for faculty comments, please insert additional pages as needed.
ADDENDUM B
Program Advisory Committee Meeting Minutes

Notice to Program Advisory Committee Members

The following emails represent PAC member responses and serve as official record of support.

**ADVISORY COMMITTEE RESPONSE RE: LECTURE/LABORATORY SEPARATION**

**From:** Meyer, Tamera R. [mailto:Tamera.Meyer@fscj.edu]
**Sent:** Monday, May 6, 2019 12:38 PM
**To:** 'Ben Gabriel' <ben@allatps.com>; 'Brent Klavon' <brent.klavon@ASEC-Incorporated.com>; David Thompson <david.thompson@jetblue.com>; Eaton, Matt (meatonjax@comcast.net) <meatonjax@comcast.net>; 'Ernie Strange <erniestrng@cs.com>; Hayden, Michael B. <mhayden@fscj.edu>; Hendrix, Shanna <shawna.hendrix@myoneclay.net>; 'Jeff Lefever' <Toozer7@aol.com>; 'Juan Blanco' <N1855DD@yahoo.com>; Justin Fletcher (justin.fletcher@cecilairport.com) <justin.fletcher@cecilairport.com>; Kelly Dollarhide (kelly.dollarhide@cecilairport.com) <kelly.dollarhide@cecilairport.com>; 'Lites Leenhouts' <Lites@sun-n-fun.org>; 'madmaxx@retusgroup.com'; 'Marge Pitts' <mpitts@neptunetechservices.com>; Matt Bocchino <matt.bocchino@cecilairport.com>; 'Pat Mulvihill <pem@axisp.com>; Pauline Sevigny <pauline@graceaero.com>; Ralph Zahnle <zahnler@nefec.org>; 'Reba Ludlow' <aireba@aol.com>; 'Richard A. Tillery <till26@juno.com>; Rob Finklea <rfinklea@gmail.com>; Robert Armstrong (rkarmstrong@ups.com) <rkarmstrong@ups.com>; 'Rutledge, Charles S.' <rutledgec@duvalschools.org>; Steve Cooper (steven.j.cooper@navy.mil) <steven.j.cooper@navy.mil>; Steven Davenport <florida354@yahoo.com>; William Walker <sunriseaviationjx@gmail.com>; Ralph Zahnle <ralph@zahnle.net>; bcrofoot@flightstarjax.com; Maxwell (US), William H <william.h.maxwell@boeing.com>; snunez@flightstarjax.com; gunslinger105@yahoo.com; rfaircloth@careersourcenefl.com
**Subject:** FSCJ Aviation Advisory Committee Vote Request

Greetings Advisory Committee Members,

As you recall, last month we shared our intentions to establish College Credit Certificates (CCC) aligning with the General, Airframe, and Powerplant portions of the Aviation Maintenance Management degree curriculum. As we have been working on submitting this curriculum modification to the Curriculum Committee, we have been asked to modify the AMT course outlines into separate lecture and lab outlines for administrative purposes. There will be no change in course content or in total time allocated to the courses. The only change will be instead of a combined lecture/lab course outline, each course will have a separate lecture outline and a separate lab course outline.

We are asking for your vote of concurrence to submit this to the Curriculum Committee.

- Should we separate the AMT course outlines into separate lecture and lab outlines? Yay / Nay

Should you have any questions, please let us know.

Respectfully,
David Dagenais
Aviation Program Manager

**From:** Maxwell (US), William H <william.h.maxwell@boeing.com>
**Sent:** Monday, May 6, 2019 12:47 PM
**To:** Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
**Subject:** RE: FSCJ Aviation Advisory Committee Vote Request

Yay.
Thanks,

Bill Maxwell

Bill Maxwell
Senior Manager Production, Boeing Global Services
Cell: 904-860-9156

One Team – Excellence – Fight Ready Jets

From: Marge Pitts <mpitts@neptunetechservices.com>
Sent: Monday, May 6, 2019 1:15 PM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: RE: FSCJ Aviation Advisory Committee Vote Request

YAY

Marge Pitts
Neptune Tech Services, Inc.
904-646-2700 ext 202

From: John Leenhouts <Lites@flysnf.org>
Sent: Monday, May 6, 2019 2:09 PM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: RE: [EXTERNAL] FSCJ Aviation Advisory Committee Vote Request

I say “Yay”.

Lites
John Leenhouts
President & CEO

Visit us online for a year full of events & mark your calendar for the 46th Annual
From: Rutledge, Charles S. <RutledgeC@duvalschools.org>
Sent: Monday, May 6, 2019 2:21 PM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: Re: FSCJ Aviation Advisory Committee Vote Request

Yay
Charlie

Sent from my iPhone

From: Jeff Richardson <gunslinger105@yahoo.com>
Sent: Monday, May 6, 2019 5:23 PM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: Re: FSCJ Aviation Advisory Committee Vote Request

Hello Dave and Tammy,

I concur with the modification as stated below.
Yay.

Sincerely,
Jeff Richardson

From: Cooper, Steven J CIV USN NAVSTA MAYPORT (US) <steven.j.cooper@navy.mil>
Sent: Tuesday, May 7, 2019 7:54 AM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: RE: FSCJ Aviation Advisory Committee Vote Request

My vote is Yea.

v/r,
Steve

Steve Cooper
Air Operations Deputy
Naval Station Mayport, FL
(904) 270-7126, ext. 102
Email: steven.j.cooper@navy.mil

"FOR OFFICIAL USE ONLY - PRIVACY SENSITIVE" This e-mail, including any attachments, may contain information that requires protection from unauthorized disclosure. Do not disseminate this e-mail or its contents, to anyone who does not have an official need for access. Any misuse or unauthorized disclosure may result in both civil and criminal penalties.

From: Juan Blanco <n1855dd@yahoo.com>
Sent: Tuesday, May 7, 2019 9:05 AM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: Re: FSCJ Aviation Advisory Committee Vote Request

Yes
From: Pauline Sevigny <pauline@graceaero.com>
Sent: Tuesday, May 7, 2019 9:23 AM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: RE: FSCJ Aviation Advisory Committee Vote Request

I vote yay on the below.

Thank you,
Pauline

Pauline Sevigny
Grace Aerospace
Pauline@graceaero.com
Ph. (904) 854-9852 x239

From: Robby Finklea <rjfinklea@gmail.com>
Sent: Tuesday, May 7, 2019 9:33 PM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: Re: FSCJ Aviation Advisory Committee Vote Request

Yay.

From: Steven <florida354@yahoo.com>
Sent: Wednesday, May 8, 2019 12:46 PM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: Re: FSCJ Aviation Advisory Committee Vote Request

Hello Tammy,
I vote Yes on the curriculum modification.
Respectfully,
Steven Davenport
From: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Sent: Friday, April 12, 2019 3:53 PM
To: Arlinda Smith <smitha28@duvalschools.org>; 'Ben Gabriel' <ben@allatps.com>; 'Brent Klavon' <brent.klavon@ASEC-Incorporated.com>; 'Chereese Stewart' <TCSTEWART@OneClay.net>; David Thompson <david.thompson@jetblue.com>; Eaton, Matt (meatonjax@comcast.net) <meatonjax@comcast.net>; 'Ernie Strange <erniestrng@cs.com>; Hayden, Michael B. <mhayden@fscj.edu>; Hendrix, Shawna <shawna.hendrix@myoneclay.net>; 'Jeff Lefever' <Toozier7@aol.com>; Justin Fletcher (justin.fletcher@cecilairport.com) <justin.fletcher@cecilairport.com>; Kelly Dollarhide (kelly.dollarhide@cecilairport.com) <kelly.dollarhide@cecilairport.com>; 'Lites Leenhouts' <Lites@sun-n-fun.org>; 'Marge Pitts' <mpitts@neptunetechservices.com>; Matt Bocchino <matt.bocchino@cecilairport.com>; 'Pat Mulvihill <pem@axisp.com>; Pauline Sevigny <pauline@graceaero.com>; Ralph Zahnle <zahnler@nefec.org>; 'Reba Ludlow' <aireba@aol.com>; 'Richard A. Tillery <till26@juno.com>; Rob Finklea <rfinklea@gmail.com>; Roben Faircloth (rfaircloth@careersourcenefl.com) <rfaircloth@careersourcenefl.com>; Robert Armstrong (rkarmstrong@ups.com) <rkarmstrong@ups.com>; 'Rutledge, Charles S.' <rutledgec@duvalschools.org>; Cooper, Steven J CIV USN NAVSTA MAYPORT (US) <steven.j.cooper@navy.mil>; Steven Davenport <florida354@yahoo.com>; William Walker <sunriseaviationjax@gmail.com>; Ralph Zahnle <ralph@zahnle.net>; Bill Maxwell <william.h.maxwell@boeing.com>; bcrofoot@flightstarjax.com
Cc: Fischer, Sam <Sam.Fischer@fscj.edu>; Dagenais, David W. <David.W.Dagenais@fscj.edu>
Subject: [Non-DoD Source] FSCJ Aviation Advisory Committee Vote Request

Greetings Advisory Committee Members,

As you may recall, at our last meeting we discussed upcoming changes to our program curriculum this fall. A vote was taken, and those present approved of the changes as presented. That said, for our Accreditation purposes, the College likes to document every small change. With that in mind, we are kindly asking you to vote Yay or Nay on the following tweaks.

Should you have any questions, please let us know.

Item 1 – The FLDOE has three (3) College Credit Certificates (aka CCC), aligning with General, Airframe, and Powerplant. This group previously approved adding the Airframe and Powerplant CCCs to our curriculum. To round out the Aviation Maintenance Management degree, we are proposing to add the General CCC to the program. This would provide an “exit point” for students who do not continue beyond the General courses, while also converting the A&P program from PSAV (aka non-credit) over to PSV (aka for-credit) and would enable us to phase out the older program.

Should we add a College Credit Certificate for the FAA’s General courses, and phase out the non-credit A&P courses? YAY / NAY

Item 2 – A similar CCC exists for the Professional Pilot program and uses 24 credit hours to cover Private, Instrument, and Commercial (Single-engine, Land) certifications. As above, by adding the CCC to the Professional Pilot degree, students who wish to only complete the required flight training courses would now have an “exit point” where they could earn a certificate without earning the entire degree.

Should we add a College Credit Certificate for Commercial Pilots under the Professional Pilot Technology degree program? YAY / NAY

Respectfully,

FSCJ Aviation Program Managers
Good Morning,

I vote Yea on all the changes proposed in the email.

Please excuse spelling and punctuation errors. Mail was sent from an iphone. Thanks
Ralph J. Zahnle Jr.

Friday the 12th April 2019

Greetings / Please see VOTE below.

Should we add a College Credit Certificate for the FAA’s General courses, and phase out the non-credit A&P courses? YAY

Should we add a College Credit Certificate for Commercial Pilots under the Professional Pilot Technology degree program? YAY

Warmest regards.

Pat Mulvihill
Mr. Padraic E. Mulvihill, Partner
AXIOUN Strategic Planning
14600 Whirlwind Ave.
Jacksonville FL 32218 USA
904.741.0965 ext. 15
904.534.0035 Cell
pem@axisp.com
www.AXIOUNsp.com
From: Robby Finklea <rjfinklea@gmail.com>
Sent: Friday, April 12, 2019 5:27 PM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: Re: FSCJ Aviation Advisory Committee Vote Request

Item 1 Yay
Item 2 Yay

Thank you,

Robby Finklea

From: William Walker <sunriseaviationjax@gmail.com>
Sent: Saturday, April 13, 2019 8:12 PM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: Re: FSCJ Aviation Advisory Committee Vote Request

Yay to all from me.

Respectfully,

Lcdr William K. Walker
Chief Instructor Pilot, Sunrise Flight Academy
Offices: Jacksonville, Lakeland & Ormond Beach
904-317-3875 Dispatch Office Jacksonville
904-317-3843 Chief Instructor Office
757-404-8285 Cell
Email: SunriseAviationJax@gmail.com
Web: FlyCecil.com / FlySunrise.com Like us on Facebook, search "Sunrise Flight Academy, Jacksonville"

From: Hendrix, Shawna <shawna.hendrix@myoneclay.net>
Sent: Monday, April 15, 2019 7:32 AM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: Re: FSCJ Aviation Advisory Committee Vote Request

Yay to both. :)

From: Cooper, Steven J CIV USN NAVSTA MAYPORT (US) <steven.j.cooper@navy.mil>
Sent: Monday, April 15, 2019 8:24 AM
To: Meyer, Tamera R. <Tamera.Meyer@fscj.edu>
Subject: RE: FSCJ Aviation Advisory Committee Vote Request

Yea and Yay to both.

v/r,

Steve

Steve Cooper
Air Operations Deputy
Naval Station Mayport, FL
(904) 270-7126, ext. 102
Email: steven.j.cooper@navy.mil
ADDENDUM C
Program Inactivation

Notice to Students of Program Inactivation

Please contact Curriculum Services at curriculum@fscj.edu for an example.

N/A
Notice to College District Board of Trustees

Curriculum Services will compile the board item and submit for inclusion on the next available the DBOT agenda.

N/A
May 14, 2019

Belle Wheelan, President
Southern Associate of Colleges and Schools
Commission on Colleges
1866 Southern Lane
Decatur, GA 30033

Dear Dr. Wheelan,

I am writing to inform you of an impending program addition at Florida State College at Jacksonville. Effective fall term 2019, the Aviation Mechanic Technical Certificate (T.C.) program will be added to the College Catalog. The T.C. is wholly comprised of courses in the existing Aviation Maintenance Management Associate in Science (A.S.) degree.

After a thorough review, the College determined that the program did not meet the requirements for significant departure as it does not require significant addition of equipment, facilities, financial resources, coursework, faculty or library or learning resources. As such, the College has determined the program does not meet the qualifications for substantive change, but wanted to notify the Commission of the addition.

The addition of the program is also subject to the institution's internal process including review and recommendation by the College’s Curriculum Committee and approval by the Provost and Vice President for Academic Affairs and the District Board of Trustees. During this process, should the College decide not to add the new program to the College Catalog, I will notify the Commission of the change in plan.

Please feel free to contact me with questions regarding the addition of the Aviation Mechanic T.C. I can be reached by phone at (904) 633-5094 or by email at Marie.Gnage@fscj.edu.

Sincerely,

Marie F. Gnage, Ph.D.
Vice President for Institutional Effectiveness and Advancement
SACSCOC Liaison

Cc:  Dr. John Wall, Provost and Vice President for Academic Affairs
     Ms. Jennifer Mullings, Director of Curriculum Services
     Ms. Jacqueline Schmidt, Registrar and Director of Student Records
     Ms. Kristine Hibbard, Director of Financial Aid
IX. Signatures

Signatures of the faculty member(s), instructional program manager(s) or department chair(s) and dean(s) must be obtained prior to submission to the Office of Curriculum Services at curriculum@fscj.edu.

The Office of Curriculum Services will obtain signatures of the SACSCOC Accreditation Liaison, Associate Provost or Vice President of Online and Workforce Education, Curriculum Committee Chair (Faculty Senate President) and the Provost/Vice President of Academic Affairs.

**Signatures Obtained by Proposal Originator(s)**

- Faculty Member(s)
- Instructional Program Manager(s) or Department Chair(s)
- Director(s) or Dean(s)

**Signatures Obtained by Curriculum Services on behalf of Proposal Originator(s)**

- Technical and Quality Review
- SACSCOC Liaison
- Associate Provost or Associate Vice President or Executive Director or Vice President of FSCJ Online and Workforce Education
- Curriculum Committee Chair
- Provost/Vice President of Academic Affairs
## Faculty Members

<table>
<thead>
<tr>
<th>Name(s)</th>
<th>Don Coy, Robert Crognale, Gary Davidson, John Mayes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone No.</td>
<td>317-3822/18/27/23</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:dcoy@fscj.edu">dcoy@fscj.edu</a>, <a href="mailto:robert.crognale@fscj.edu">robert.crognale@fscj.edu</a>, <a href="mailto:gary.davidson@fscj.edu">gary.davidson@fscj.edu</a>, <a href="mailto:jomayes@fscj.edu">jomayes@fscj.edu</a></td>
</tr>
<tr>
<td>Signature</td>
<td><img src="image" alt="Signature" /></td>
</tr>
<tr>
<td>Date</td>
<td>4/23/2019</td>
</tr>
</tbody>
</table>

Faculty Members are encouraged to gather additional support from their disciplinary faculty colleagues. Please review the Faculty Support (Optional) (Addendum A) for further information.

## Instructional Program Manager or Department Chair

<table>
<thead>
<tr>
<th>Name(s)</th>
<th>David Dagenais</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title(s)</td>
<td>Program Manager</td>
</tr>
<tr>
<td>Provisions</td>
<td>Support</td>
</tr>
<tr>
<td>Comments</td>
<td>The modifications to the course outlines will put them in line with the rest of the College. The three CCC will identify major points of the program completion.</td>
</tr>
<tr>
<td>Signature</td>
<td><img src="image" alt="Signature" /></td>
</tr>
<tr>
<td>Date</td>
<td>4/23/2019</td>
</tr>
</tbody>
</table>

## Director or Dean

<table>
<thead>
<tr>
<th>Name(s)</th>
<th>Douglas C. Brauer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title(s)</td>
<td>Dean of Engineering Technology and Industry</td>
</tr>
<tr>
<td>Provisions</td>
<td>Support</td>
</tr>
<tr>
<td>Comments</td>
<td>[Handwritten comment]</td>
</tr>
<tr>
<td>Signature</td>
<td><img src="image" alt="Signature" /></td>
</tr>
<tr>
<td>Date</td>
<td>02 MAY 2019</td>
</tr>
</tbody>
</table>

Should the technical review process conducted by the Office of Curriculum Services result in findings that may cause significant modification to the original proposal, then revised signatures of support from the faculty member(s), instructional program manager(s) or department chair(s) and dean(s) may be requested and/or required.
### Office of Curriculum Services Technical and Quality Review

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Technical Review Complete</th>
<th>Initials</th>
<th>MH/RN</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality Review Complete</td>
<td>Initials</td>
<td>RN</td>
<td></td>
<td>Date</td>
</tr>
</tbody>
</table>

**Comments**

4/10/2019: Initial TR/QR findings resulted in the need for additional input from originators. The QR confirmed FWL increase to 14 for one course may place faculty in an overload status (15+ FWL = overload per conversation on 4/10/19 with Debbie Stewart). Provided feedback to originator that the fiscal impact section of the proposal would require commentary that reflects this change. 5/9/2019: Follow-up review on findings indicated the total contact hours per course did not align with requested contact hours per week; faculty work load value assigned for 5 contact hour courses did not align with the .5 assignment of WL value to contact hours. Also, noted reduction in laboratory contact hour time overall and increase in lecture contact hour time overall required PAC support in addition to standard change to separate courses; need documented support of change to lecture and laboratory time with students. 5/13/2019: Final TR/QR revealed all areas of concern have been addressed by IPM including contact hour distribution and FWL. Confirmed intent was not to reduce/increase total contact hours per lecture/lab type therefore no additional PAC minutes are required.

### SACSCOC Accreditation Liaison

<table>
<thead>
<tr>
<th>Name(s)</th>
<th>Dr. Marie F. Gnage</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Does not constitute a substantive change; no further information required.</th>
<th>Possibly constitutes a substantive change; liaison will request further information.</th>
<th>Constitutes a substantive change; liaison will request further information.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td>While the new program does not qualify as substantive change, the Accreditation Liaison will notify SACSCOC of the addition of the program to the College’s inventory.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Signature]</td>
<td>5/13/19</td>
</tr>
</tbody>
</table>

*The SACSCOC Accreditation Liaison must review to determine if the proposal constitutes a substantive change that is a significant modification or expansion in the nature and scope of an accredited institution. See Program Accreditation for further information.*
### Associate Provost –or– Associate Vice President –or– Executive Director
–or– Vice President of FSCJ Online and Workforce Education

<table>
<thead>
<tr>
<th>Name(s)</th>
<th>Dr. Sheri Litt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title(s)</td>
<td>Associate Provost Baccalaureate and Career and Technical Education</td>
</tr>
<tr>
<td>Provisions</td>
<td>✔ Support</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
</tr>
<tr>
<td>Signature</td>
<td>[Signature]</td>
</tr>
</tbody>
</table>

### Curriculum Committee Chair (Faculty Senate President)

<table>
<thead>
<tr>
<th>Name(s)</th>
<th>Dr. John Woodward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provisions</td>
<td>☐ Recommend</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
</tr>
<tr>
<td>Signature</td>
<td>[Signature]</td>
</tr>
</tbody>
</table>

Once the proposal has been presented to the Curriculum Committee and a recommendation has been made, the Office of Curriculum Services will forward the proposal along with any supporting documentation to the Provost/Vice President of Academic Affairs with a request for review and signature.
<table>
<thead>
<tr>
<th>Name(s)</th>
<th>Dr. John Wall</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provisions</strong></td>
<td></td>
</tr>
<tr>
<td>☐ Approve</td>
<td>☐ Do Not Approve</td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Signature</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Date</strong></td>
<td></td>
</tr>
</tbody>
</table>

Once the proposal has been reviewed by the Provost/Vice President of Academic Affairs and an approval decision has been determined with corresponding signature support, the proposal will be returned to the Office of Curriculum Services for systems input and updates that include the PeopleSoft Course Catalog, the College Catalog, official Course Outlines and the State Course Numbering System (SCNS). Upon completion of systems input and updates, the Office of Curriculum Services will notify via email correspondence the Office of Admissions and Records, the Office of Financial Aid, the College’s web team, Curriculum Committee members, faculty members, instructional program managers or department chairs, and directors or deans of proposal completion.

**In order to maintain consistent record keeping, the Office of Curriculum Services requests confirmation via return email receipt of completed proposal actions from the Office of Admissions and Records and the Office of Financial Aid.**

**Should a proposal require District Board of Trustees (DBOT) and/or SACSCOC approval prior to implementation, the Office of Curriculum Services will notify the appropriate departments via email correspondence.**
Good Afternoon, All.

Thank you for your updated proposal submission for to modify the Aviation Maintenance Management (2130) (A.S.), Aviation Airframe Mechanics (6115) (T.C.), and Aviation Powerplant Mechanics (6117) (T.C.) programs and add the new Aviation Mechanic (6119) (T.C.) program.

As part of the proposal process, the Curriculum Services office conducts a comprehensive technical and quality review of the proposal. The findings for the technical review of this submission are listed below. Please note that we have opted NOT to utilize the “add comments” feature in word, but rather noted individual page numbers and the associated updates that require your attention on the attached excel worksheet. In light of the College communication which will be sent tomorrow, we kindly ask for your expeditious reply regarding the attached findings. Also, please use the attached file to make the updates and send to us ASAP.

Also, when reviewing the submission, we noted that the course outlines while now separated have added 1 additional lecture hour to those without a "C" suffix, and eliminated 1 laboratory hour to those with an "L" suffix. A table of the changes which indicate a total of 7 additional lecture hours and a reduction of 14 lab hours is summarized below. Typically with these types of changes, PAC minutes are very helpful to show to the Committee that the overall contact hour distribution increase/decrease is supported in full. Currently, the proposal has PAC minutes attached which indicate support of the new program and the separation of lecture/lab, but not the specific support of this type of programmatic change. If you all would kindly ensure that these minutes are included in the proposal prior to Committee next week that would be most helpful as this may come up as an item of concern as to why there are not clearly documented PAC minutes of support for the overall increase/reduction of contact hour types. Please know it is the goal of the Curriculum Services team for you all to be fully prepared as presenters to address any questions that may arise during Committee so if we may be of assistance, please let us know.

<table>
<thead>
<tr>
<th>Course Prefix/Number</th>
<th>Current</th>
<th>Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMT 1751</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>AMT 1752</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>AMT 1753</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>AMT 1754</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>AMT 1761</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>AMT 1762</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>AMT 1763</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUMMARY LECTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Lecture</td>
</tr>
<tr>
<td>Revised Lecture</td>
</tr>
<tr>
<td>Change +/-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUMMARY LAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Lab</td>
</tr>
<tr>
<td>Revised Lab</td>
</tr>
<tr>
<td>Change +/-</td>
</tr>
<tr>
<td>AMT 1754</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>AMT 1771</td>
</tr>
<tr>
<td>AMT 1772</td>
</tr>
<tr>
<td>AMT 1773</td>
</tr>
<tr>
<td>AMT 1774</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AMT 1764</th>
<th>9</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMT 1771</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>AMT 1772</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>AMT 1773</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>AMT 1774</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>87</strong></td>
<td><strong>46</strong></td>
</tr>
</tbody>
</table>

Thank you again for your proposal submission and we wish you a wonderful rest of the afternoon.

Sincerely,

Rebecca Ann Nelson  
Curriculum Services Specialist | Secretary, Curriculum Committee & GER Sub-Committee  
Curriculum Services | Office of Curriculum and Instruction  
501 W. State Street, Room 301P, Jacksonville, FL 32202  
Office: (904) 632-3274 | Fax: (904) 632-3043 | Cell: 304-207-2043  
Email: rebecca.nelson@fscj.edu | Web: Curriculum Services
## TECHNICAL REVIEW FINDINGS

<table>
<thead>
<tr>
<th>PAGE NUMBER</th>
<th>ACTION REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page 5</td>
<td>Added the four faculty member names as faculty collaborators.</td>
</tr>
<tr>
<td>Page 10</td>
<td>Added the PAC information from 4/11 and 5/6.</td>
</tr>
<tr>
<td>Page 14</td>
<td>The new program is not FA eligible nor is it Gainful Employment eligible.</td>
</tr>
<tr>
<td>Page 19</td>
<td>Removed the header &quot;Communications 6 credit hours&quot; which appears to have been added unnecessarily. The program already lists ENC 1101 or ENC 1101C and SPC 2608 as courses that fulfill the requirement. Adding this header would indicate you are adding an</td>
</tr>
<tr>
<td>Page 27</td>
<td>Removed the words &quot;English Composition&quot; and replaced with the actual courses that are listed on the program page: ENC 1101 or ENC 1101C. Added &quot;Recommended course PHI 2603&quot; below the Humanities requirement to align with content listed on the program page. Added &quot;Recommended course ECO 2013&quot; to the SBS requirement to align with content listed on the program page.</td>
</tr>
<tr>
<td>Page 28</td>
<td>Added strikethrough for courses with C just to be consistent so other reviewers are aware of changes.</td>
</tr>
<tr>
<td>Pages 35-39: AMT 1751</td>
<td>Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
<tr>
<td>Pages 48-50: AMT 1752</td>
<td>Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
<tr>
<td>Pages 58-62: AMT 1753</td>
<td>Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
<tr>
<td>Pages 72-74: AMT 1754</td>
<td>Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
<tr>
<td>Pages 83-90: AMT 1761</td>
<td>Contact hour topics total 148 and need to total 135 because the course is 9 contact hours (9 x 15 = 135).</td>
</tr>
<tr>
<td>Page 92: AMT 1761L</td>
<td>FWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x .5 = 2.5).</td>
</tr>
<tr>
<td>Pages 93-97: AMT 1761L</td>
<td>Contact hour topics total 62 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
<tr>
<td>Page 101-106: AMT 1762</td>
<td>Contact hour topics total 141 and need to total 135 because the course is 9 contact hours (9 x 15 = 135).</td>
</tr>
<tr>
<td>Page 108: AMT 1762L</td>
<td>FWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x .5 = 2.5).</td>
</tr>
<tr>
<td>Page 109-112: AMT 1762L</td>
<td>Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
<tr>
<td>Page 116-119: AMT 1763</td>
<td>Contact hour topics total 148 and need to total 135 because the course is 9 contact hours (9 x 15 = 135).</td>
</tr>
<tr>
<td>Page 121: AMT 1763L</td>
<td>FWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x .5 = 2.5).</td>
</tr>
<tr>
<td>Page 122-123: AMT 1763L</td>
<td>Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
<tr>
<td>Page 127-130: AMT 1764</td>
<td>Contact hour topics total 140 and need to total 135 because the course is 9 contact hours (9 x 15 = 135).</td>
</tr>
<tr>
<td>Page 132: AMT 1764L</td>
<td>FWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x .5 = 2.5).</td>
</tr>
<tr>
<td>Page 133-134 AMT 1764L</td>
<td>Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
<tr>
<td>PAGE NUMBER</td>
<td>ACTION REQUIRED</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Page 143-138: AMT 1771</td>
<td>Contact hour topics total 140 and need to total 135 because the course is 9 contact hours (9 x 15 = 135).</td>
</tr>
<tr>
<td>Page 145: AMT 1771L</td>
<td>FWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x .5 = 2.5).</td>
</tr>
<tr>
<td>Page 146-148: AMT 1771L</td>
<td>Contact hour topics total 71 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
<tr>
<td>Page 153-156: AMT 1772</td>
<td>Contact hour topics total 140 and need to total 135 because the course is 9 contact hours (9 x 15 = 135).</td>
</tr>
<tr>
<td>Page 158: AMT 1772L</td>
<td>FWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x .5 = 2.5).</td>
</tr>
<tr>
<td>Page 159-161: AMT 1772L</td>
<td>Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
<tr>
<td>Page 165-169: AMT 1773</td>
<td>Contact hour topics total 140 and need to total 135 because the course is 9 contact hours (9 x 15 = 135).</td>
</tr>
<tr>
<td>Page 171: AMT 1773L</td>
<td>FWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x .5 = 2.5).</td>
</tr>
<tr>
<td>Page 172-175: AMT 1773L</td>
<td>Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
<tr>
<td>Page 178-181: AMT 1774</td>
<td>Contact hour topics total 140 and need to total 135 because the course is 9 contact hours (9 x 15 = 135).</td>
</tr>
<tr>
<td>Page 183: AMT 1774L</td>
<td>FWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x .5 = 2.5).</td>
</tr>
<tr>
<td>Page 184-185: AMT 1774L</td>
<td>Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (5 x 15 = 75).</td>
</tr>
</tbody>
</table>
## Program and Course Modifications; Aviation Mechanic (6119) (T.C.) New Program

<table>
<thead>
<tr>
<th>Course Prefix/Number</th>
<th>Current</th>
<th>Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lecture</td>
<td>Lab</td>
</tr>
<tr>
<td>AMT 1751</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>AMT 1752</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>AMT 1753</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>AMT 1754</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>AMT 1761</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1762</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1763</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1764</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1771</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1772</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1773</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1774</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>80</strong></td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>

### SUMMARY LECTURE

<table>
<thead>
<tr>
<th></th>
<th>Current Lecture</th>
<th>Revised Lecture</th>
<th>Change +/-</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80</td>
<td>87</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Current Lab</th>
<th>Revised Lab</th>
<th>Change +/-</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60</td>
<td>46</td>
<td>-14</td>
</tr>
</tbody>
</table>
Good Morning Dave.

I hope this message finds you doing well. Thank you for taking the time this weekend to update the proposal with corrections to total contact hours per topic and faculty workload to align with points assigned per the weekly contact hours designated for each course. As a point of reference, I have attached an updated version of the Excel spreadsheet I sent on Friday which documents all of the corrections per the technical review findings. I have also updated the worksheet to show the current lecture/lab combined hours are now same in the separated format and that no increase in lecture time and reduction in lab time has been made. Finally, no additional PAC minutes are needed at this time as per our conversation on Friday, the increase/reduction in lecture/lab time respectively was made in error as it was included in the proposal document submitted last week to Curriculum Services. The course contact hours have now been rectified throughout the revised proposal document as submitted today and attached. At this time, no further input or corrections are needed. I will post this to the website for all to review the latest document accordingly.

Thank you so much again for your time this weekend to make these updates.

Sincerely,

Rebecca Ann Nelson
Curriculum Services Specialist | Secretary, Curriculum Committee & GER Sub-Committee
Curriculum Services | Office of Curriculum and Instruction
601 W. State Street, Room 301P, Jacksonville, FL 32202
Office: (904) 632-3274 | Fax: (904) 632-3043 | Cell: 904-207-2043
Email: rebecca.nelson@fscj.edu | Web: Curriculum Services

---

From: Dagenais, David W. <David.W.Dagenais@fscj.edu>
Sent: Monday, May 13, 2019 8:15 AM
To: Nelson, Rebecca A. <Rebecca.Nelson@fscj.edu>
Subject: RE: 2150 Curriculum Proposals

Hi Rebecca,

I went through the file that you sent me Friday. I corrected all of the contact hours, and WLU assignments. I also reviewed your notes on the spreadsheet and made the change to page 6, 10, 19, 27, and 28. Not sure about the note for page 14.

Thanks,

David

David W. Dagenais
Aviation Program Manager
From: Nelson, Rebecca A.  
Sent: Friday, May 10, 2019 11:28 AM  
To: Dagenais, David W. <David.W.Dagenais@fscj.edu>  
Subject: FW: 2150 Curriculum Purposes

This is exactly what we received and processed as a technical review.

Thank you!

Rebecca Ann Nelson  
Curriculum Services Specialist | Secretary, Curriculum Committee & GER Sub-Committee  
Curriculum Services | Office of Curriculum and Instruction  
501 W. State Street, Room 301P, Jacksonville, FL 32202  
Office: (904) 632-3274 | Fax: (904) 632-3043 | Cell: 904-207-2043  
Email: rebecca.nelson@fscj.edu | Web: Curriculum Services

---

From: Mullings, Jennifer M. <jennifer.mullings@fscj.edu>  
Sent: Monday, May 6, 2019 8:48 AM  
To: Nelson, Rebecca A. <Rebecca.Nelson@fscj.edu>; Hartshorn, Maurie B. <Maurie.Hartshorn@fscj.edu>  
Subject: FW: 2150 Curriculum Purposes

Good morning ladies,

This is the updated Aviation Maintenance Management (2150) (A.S.), Aviation Airframe Mechanics (6115) (T.C.), & Aviation Powerplant Mechanics (6117) (T.C.) Program & Course Modifications; Aviation Mechanic (6119) (T.C.) New Program curriculum proposal. Their goal is still May meeting. What do you think?

Jennifer

Jennifer Mullings  
Director of Curriculum Services  
Florida State College at Jacksonville  
501 W. State Street, 301K  
Jacksonville, Florida 32201  
Office: (904) 532-3331
Morning Jennifer,

Dr. Brauer wanted me to forward you the electronic copy of what will be submitted today. Attached.

Regards,

Carissa Gardner
Academic Department Coordinator
Engineering & Industry
ATC-T1 14
904-598-5620

Please consider the environment before printing this email

*Please note that under Florida's very broad public records law, electronic mail and recorded voicemail messages to and from College employees may be subject to public disclosure.*
<table>
<thead>
<tr>
<th>PAGE NUMBER</th>
<th>ACTION REQUIRED</th>
<th>ACTION TAKEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page 6</td>
<td>Added the four faculty member names on the faculty collaborators.</td>
<td>Done. Added faculty member names.</td>
</tr>
<tr>
<td>Page 14</td>
<td>Updated the teacher &quot;Communications &amp; 6 credit hours&quot; which appears to have been added unnecessarily. The program already lists ENC 1101 or ENC 1101C and SPC 2698 as courses that fulfill the requirement. Adding this would indicate you are adding an.</td>
<td>Done. New program is not listed in the GMC eligible.</td>
</tr>
<tr>
<td>Page 19</td>
<td>Removed the words &quot;English Composition&quot; and replaced with the actual courses that are listed on the program page. ENC 1101 or ENC 1101C. Added &quot;Recommended course Phi 2689&quot; below the Human Resource requirement to align with content listed on the program page. Added &quot;Recommended course ECO 2103&quot; to the SRS requirement to align with content listed on the program page.</td>
<td>Done. Course sequencing now includes recommended course options as well as approval from the advisor and credit hours.</td>
</tr>
<tr>
<td>Page 24</td>
<td>Added strikethrough for courses with C's just to be consistent so other reviewers are aware of changes.</td>
<td>Done. Added strikethrough.</td>
</tr>
<tr>
<td>Pages 31-32</td>
<td>AMT 1751 Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (x 15 = 75). Adjusted contact hour topics to 60 because course was adjusted to 4 contact hours (x 15 = 60).</td>
<td></td>
</tr>
<tr>
<td>Pages 41-42</td>
<td>AMT 1752 Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (x 15 = 75). Adjusted contact hour topics to 60 because course was adjusted to 4 contact hours (x 15 = 60).</td>
<td></td>
</tr>
<tr>
<td>Pages 51-52</td>
<td>AMT 1753 Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (x 15 = 75). Adjusted contact hour topics to 60 because course was adjusted to 4 contact hours (x 15 = 60).</td>
<td></td>
</tr>
<tr>
<td>Pages 71-74</td>
<td>AMT 1754 Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (x 15 = 75). Adjusted contact hour topics to 60 because course was adjusted to 4 contact hours (x 15 = 60).</td>
<td></td>
</tr>
<tr>
<td>Pages 81-90</td>
<td>AMT 1761 Contact hour topics total 188 and need to total 183 because the course is 9 contact hours (8 x 15 = 120). Adjusted contact hour topics to 120 because course was adjusted to 8 contact hours (8 x 15 = 120).</td>
<td></td>
</tr>
<tr>
<td>Page 92</td>
<td>AMT 1761FPA is listed as 3 and needs to be 2.5 because the course is 5 contact hours (x 5 = 25). Adjusted FPA to 3 because course was adjusted to 6 contact hours.</td>
<td></td>
</tr>
<tr>
<td>Pages 99-100</td>
<td>AMT 1761FPA is listed as 3 and needs to be 2.5 because the course is 5 contact hours (x 5 = 25). Adjusted FPA to 3 because course was adjusted to 6 contact hours (x 15 = 90).</td>
<td></td>
</tr>
<tr>
<td>Page 101</td>
<td>AMT 1761FPA is listed as 3 and needs to be 2.5 because the course is 5 contact hours (x 5 = 25). Adjusted FPA to 3 because course was adjusted to 6 contact hours (x 15 = 90).</td>
<td></td>
</tr>
<tr>
<td>Pages 109-11</td>
<td>AMT 1762 Contact hour topics total 70 and need to total 75 because the course is 5 contact hours (x 15 = 75). Adjusted contact hour topics to 60 because course was adjusted to 6 contact hours (x 15 = 90).</td>
<td></td>
</tr>
<tr>
<td>Pages 116-120</td>
<td>AMT 1762 Contact hour topics total 188 and need to total 183 because the course is 9 contact hours (8 x 15 = 120). Adjusted contact hour topics to 120 because course was adjusted to 8 contact hours (8 x 15 = 120).</td>
<td></td>
</tr>
<tr>
<td>Pages 121-124</td>
<td>AMT 1764 Contact hour topics total 188 and need to total 183 because the course is 9 contact hours (8 x 15 = 120). Adjusted contact hour topics to 120 because course was adjusted to 8 contact hours (8 x 15 = 120).</td>
<td></td>
</tr>
<tr>
<td>Pages 127-130</td>
<td>AMT 1764 Contact hour topics total 188 and need to total 183 because the course is 9 contact hours (8 x 15 = 120). Adjusted contact hour topics to 120 because course was adjusted to 8 contact hours (8 x 15 = 120).</td>
<td></td>
</tr>
<tr>
<td>Pages 132-134</td>
<td>AMT 1764 Contact hour topics total 188 and need to total 183 because the course is 9 contact hours (8 x 15 = 120). Adjusted contact hour topics to 120 because course was adjusted to 8 contact hours (8 x 15 = 120).</td>
<td></td>
</tr>
<tr>
<td>PAGE NUMBER</td>
<td>ACTION REQUIRED</td>
<td>ACTION TAKEN</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Page 138: AMT 764L</td>
<td>Contact hour topics total 79 and need to total 75 because the course is 5 contact hours (5 x 15 = 75)</td>
<td>Adjusted contact hour topics to 75 because course was adjusted to 6 contact hours (6 x 15 = 90)</td>
</tr>
<tr>
<td>Page 141: AMT 1773</td>
<td>Contact hour topics total 180 and need to total 135 because the course is 9 contact hours (9 x 15 = 135)</td>
<td>Adjusted contact hour topics to 120 because course was adjusted to 8 contact hours (8 x 15 = 120)</td>
</tr>
<tr>
<td>Page 145: AMT 1771L</td>
<td>PWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x 3 = 15)</td>
<td>Adjusted PWL to 3 because course was adjusted to 6 contact hours.</td>
</tr>
<tr>
<td>Page 146: AMT 1771L</td>
<td>Contact hour topics total 71 and need to total 75 because the course is 5 contact hours (5 x 15 = 75)</td>
<td>Adjusted contact hour topics to 90 because course was adjusted to 6 contact hours (6 x 15 = 90)</td>
</tr>
<tr>
<td>Page 153: AMT 1772</td>
<td>Contact hour topics total 180 and need to total 135 because the course is 9 contact hours (9 x 15 = 135)</td>
<td>Adjusted contact hour topics to 120 because course was adjusted to 8 contact hours (8 x 15 = 120)</td>
</tr>
<tr>
<td>Page 159: AMT 1772L</td>
<td>PWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x 3 = 15)</td>
<td>Adjusted PWL to 3 because course was adjusted to 6 contact hours.</td>
</tr>
<tr>
<td>Page 160: AMT 1772L</td>
<td>Contact hour topics total 79 and need to total 75 because the course is 5 contact hours (5 x 15 = 75)</td>
<td>Adjusted contact hour topics to 90 because course was adjusted to 6 contact hours (6 x 15 = 90)</td>
</tr>
<tr>
<td>Page 160: AMT 1773</td>
<td>Contact hour topics total 180 and need to total 135 because the course is 9 contact hours (9 x 15 = 135)</td>
<td>Adjusted contact hour topics to 120 because course was adjusted to 8 contact hours (8 x 15 = 120)</td>
</tr>
<tr>
<td>Page 171: AMT 1771L</td>
<td>PWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x 3 = 15)</td>
<td>Adjusted PWL to 3 because course was adjusted to 6 contact hours.</td>
</tr>
<tr>
<td>Page 172: AMT 1771L</td>
<td>Contact hour topics total 79 and need to total 75 because the course is 5 contact hours (5 x 15 = 75)</td>
<td>Adjusted contact hour topics to 90 because course was adjusted to 6 contact hours (6 x 15 = 90)</td>
</tr>
<tr>
<td>Page 173: AMT 1774</td>
<td>Contact hour topics total 180 and need to total 135 because the course is 9 contact hours (9 x 15 = 135)</td>
<td>Adjusted contact hour topics to 120 because course was adjusted to 8 contact hours (8 x 15 = 120)</td>
</tr>
<tr>
<td>Page 178: AMT 1774L</td>
<td>PWL is listed as 3 and needs to be 2.5 because the course is 5 contact hours (5 x 3 = 15)</td>
<td>Adjusted PWL to 3 because course was adjusted to 6 contact hours.</td>
</tr>
<tr>
<td>Page 180: AMT 1774L</td>
<td>Contact hour topics total 79 and need to total 75 because the course is 5 contact hours (5 x 15 = 75)</td>
<td>Adjusted contact hour topics to 90 because course was adjusted to 6 contact hours (6 x 15 = 90)</td>
</tr>
<tr>
<td>Course Prefix/Number</td>
<td>Current Lecture</td>
<td>Current Lab</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>AMT 1751</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>AMT 1752</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>AMT 1753</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>AMT 1754</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>AMT 1761</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1762</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1763</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1764</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1771</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1772</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1773</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>AMT 1774</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>80</strong></td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>

**SUMMARY LECTURE**

- Current Lecture: 80
- Revised Lecture: 87
- Change +/-: 7

**SUMMARY LAB**

- Current Lab: 60
- Revised Lab: 46
- Change +/-: -14