This course will focus mainly on the certification of aeronautical products in the Canadian regulatory system with an emphasis on sound design practices for product development.

Assignments and Exams

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Description</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Online Assignments</td>
<td>Familiarization with aviation regulations &amp; standards.</td>
<td>10%</td>
</tr>
<tr>
<td>2. Term Project</td>
<td>Research project, airworthiness and certification.</td>
<td>30%</td>
</tr>
<tr>
<td>3. Class Assignment</td>
<td>Topical questions/problems based on Canadian regulatory system.</td>
<td>10%</td>
</tr>
<tr>
<td>4. Final Exam (3 hours)</td>
<td>Based on lectures and assigned reading for the entire term.</td>
<td>50%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Tentative Lecture Schedule

Jan. 11 – Introduction / Airworthiness Engineering
- Course Outline
- Aviation review material
- Canadian Regulatory Framework
- Canadian Aeronautics Act, Aviation Regulations and Standards
- Other Aviation Regulation Systems
- Intro Assignment (Due Jan. 18, beginning of class)

Jan. 18 – Airworthiness Engineering (continued)
- Common Terminology
- Delegation of Authority
- Assignment of Term Project (Due Feb. 15, beginning of class)

Jan. 25 – Guest Lecture*
- *David Turnbull, Director National Aircraft Certification, Transport Canada*

Feb. 1 – Airworthiness Engineering (continued)
- Type Certification Procedures

Feb. 8 – Product Development and Design
- Approvals for Aeronautical Products and Parts
- Changed Product Rule

Feb 15 – Product Development and Design (continued)
- Good Practices (standards, specifications, rules of thumb)
- Documentation: Instructions for Continued Airworthiness (ICAs)
- **NOTE:** Term Project must be submitted at the beginning of class

*Feb. 22 – Winter Break – no classes*
AERO 4009 – Aviation Management and Certification

Mar. 1 – Project Discussion, Assignment, & Case Study
- Brief project discussion/feedback
- Class Assignment (Due Mar. 22, beginning of class)
- Comprehensive Case Study – Approval of Flight Test Instrumentation

Mar. 8 – Guest Lecture*
- Malcolm Imray, Team Leader, Aircraft Support Group, NRC Aerospace
- Aviation System Safety
- FAR 25.1309 Requirements
- Open Discussion

Mar. 15 – Guest Lecture*
- Perry Comeau, Chief Test Pilot, NRC Aerospace
- Flight Test for Aircraft Handling Qualities
- Open Discussion

Mar. 22 – Practical Applications – Airworthiness Engineering
- Simplified analyses for certification
- Case Study – Evolution of System Safety
- Case Study – B747 Runway Excursion & Return-to-Service
- **NOTE:** Class Assignment must be submitted at the beginning of class

Mar. 29 – Office Hours – Student Consultation
- Appointment times available for discussion with the instructor

Apr. 5 – Guest Lecture*
- Adam Coolidge, Certification Manager, Collins Aerospace (Winnipeg)
- Certification Case Study
- Open Discussion

Apr. 12 – Assignments Returned / Exam Review / Special Topics
- Class Assignment returned with discussion
- Exam Review
- Special topics in aviation/certification/airworthiness

Note: Students with disabilities requiring academic accommodations in this course should contact the Paul Menton Centre for Students with Disabilities for the necessary letters of accommodation.

A passing grade in BOTH coursework AND final exam are required for the successful completion of this course.

e-Proctoring: Please note that tests and examinations in this course will use a remote proctoring service provided by Scheduling and Examination Services. You can find more information at https://carleton.ca/ses/e-proctoring/.

Final examination papers will not be returned to students.

*Guest lecturers and topics are dependent on the operational requirements and schedules of the lecturers.