2016

FANS-01337- Aviation Technology – Aircraft Maintenance and Avionics CVS Application

Fanshawe College

Ontario College Quality Assurance Service
Service de l'assurance de la qualité des collèges de l'Ontario

APPLICATION FORM FOR PROGRAM PROPOSAL

A. Funding Request: This proposal will be sent to the MTCU for Approval for Funding.
☒Yes
☐No

B. College Name: Fanshawe College

C. College Contact(s): Person responsible for this proposal.

Name: Tracy Gedies
Title: Director, Centre for Academic Excellence
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Name: Stephen Patterson
Title: Chair, Norton Wolf School of Aviation Technology
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D. Proposed Program Title: Aviation Technology – Aircraft Maintenance and Avionics

E. Proposed Credential: Please select one (1).
☐Local Board Approved Certificate
☐Ontario College Certificate
☐Ontario College Diploma
☒Ontario College Advanced Diploma
☐Ontario College Graduate Certificate

F. Program Maps (Appendix A): Please complete and attach the two (2) Program Maps.
Form 1- Vocational Program Learning Outcomes
Form 2- Essential Employability Skills Outcomes

G. Program Description (Appendix B): Please complete and attach the Program Description Form.

H. Program Curriculum (Appendix C): Please complete and attach the Program Curriculum Form.

I. Regulatory Status Form (Appendix D): Please complete and attach the Regulatory Status Form.

J. Date of Submission to CVS: October 3, 2016

FOR CVS USE ONLY

K. Date of CVS Response: October 27, 2016

L. CVS Validation Decision:
☒Proposal Validated. APS Number: FANS 01337
Reason: Well-developed program; aligned to the MAESD code for this field and credential
☐Proposal not Validated.
Reason:

M. CVS Signature: Karen Belfer

Send the completed form and required appendices to: belfer@ocqas.org. For detailed information on how to complete the *Application Form for Program Proposal*, please refer to the *Instructions for Submission of Program Proposal* document at www.ocqas.org.

INTRODUCTION

The process established by the Credentials Validation Service (CVS) is designed to be a streamlined, seamless, effective, and efficient process that will allow colleges to submit and receive validation requests and decisions in a timely manner. The document with the instructions to complete this form (*CVS Instructions for Submission of Program Proposal*) is available to all colleges on the OCQAS website (www.ocqas.org).

F. PROGRAM MAPS (APPENDIX A): Form 1 - Vocational Program Learning Outcomes

Provincial Vocational Program Outcomes ☐ Provincial Program Standard, *or* ☒ Provincial Program Description *MTCU code*: 66600	**Proposed Program Vocational Learning Outcomes**	**Course Title / Course Code**
1. Service, test, troubleshoot and repair aircraft and systems on large or small, fixed or rotary wing aircraft in accordance with manufacturers' specified instructions, accepted aviation techniques/practices and the requirements of the Canadian aviation regulations.	1. Service, test, troubleshoot and repair aircraft and systems on large or small, fixed or rotary wing aircraft in accordance with manufacturers' specified instructions, accepted aviation techniques/practices and the requirements of the Canadian aviation regulations.	AVIA-1025 Aircraft Corrosion Control AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1033 Canadian Aviation Regulations AVIA-1036 Aircraft AC Electrical Systems AVIA-1037 Aircraft Management & AMO AVIA-1038 Aircraft Materials/Hardware AVIA-1039 Aircraft Non-Metallic Structure & Comp AVIA-1040 Aircraft Gas Turbine Engines AVIA-1041 Aircraft Water, Fuel & Ignition Systems AVIA-1042 Aircraft Airframe Electrical Systems AVIA-1043 Aircraft Inspection & Records AVIA-1044 Advanced Maintenance Techniques AVIA-1045 Aircraft Turbine Engine Maintenance AVIA-1046 Aircraft Starting & Indications AVIA-1047 Avionics-Intro AVIA-1006 Avionics Radio Theory

		AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac. AVIA-1023 Flight Line Maintenance Practices
2. Evaluate fixed wing and rotary aircraft structures including avionics and electrical systems to complete maintenance and repair work on large and small aircrafts. 8. Complete minor structural repairs and modifications in accordance with technical manuals, standard practices and safety precautions.	2. Evaluate fixed wing and rotary aircraft structures and complete maintenance, assembly, fabrication, and structural repair work on large and small aircrafts in accordance with technical manuals, standard practices, and standards of performance and safety.	AVIA-1025 Aircraft Corrosion Control AVIA-1050 Fixed Wing Aerodynamics AVIA-1052 Aircraft Propellers AVIA-1031 Aircraft Metallic Structure & Metallurgy AVIA-1035 Rotary Wing Aerodynamics AVIA-1036 Aircraft AC Electrical Systems AVIA-1038 Aircraft Materials/Hardware AVIA-1039 Aircraft Non-Metallic Structure & Comp AVIA-1040 Aircraft Gas Turbine Engines AVIA-1041 Aircraft Water, Fuel & Ignition Systems AVIA-1042 Aircraft Airframe Electrical Systems AVIA-1045 Aircraft Turbine Engine Maintenance AVIA-1046 Aircraft Starting & Indications AVIA-1047 Avionics-Intro AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1021 Aircraft Automatic Flight Control System AVIA-1023 Flight Line Maintenance Practices

3. Perform scheduled and unscheduled inspections on aircraft communication, navigation, surveillance and flight guidance systems to ensure they are in proper working order and meet standards of performance and safety.	3. Perform scheduled and unscheduled inspections on aircraft structural, operational, environmental, communication, navigation, surveillance, and flight guidance systems to ensure they are in proper working order and meet standards of performance and safety.	AVIA-1025 Aircraft Corrosion Control AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1031 Aircraft Metallic Structure & Metallurgy AVIA-1033 Canadian Aviation Regulations AVIA-1053 Aircraft Drawings/Diagrams AVIA-1037 Aircraft Management & AMO AVIA-1038 Aircraft Materials/Hardware AVIA-1039 Aircraft Non-Metallic Structure & Comp AVIA-1040 Aircraft Gas Turbine Engines AVIA-1041 Aircraft Water, Fuel & Ignition Systems AVIA-1043 Aircraft Inspection & Records AVIA-1045 Aircraft Turbine Engine Maintenance AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1020 Aircraft Radio Navigation Systems AVIA-1023 Flight Line Maintenance Practices
4. Remove, install and assemble avionics parts, components and assemblies as part of unscheduled maintenance and out-of-phase tasks.	4. Remove, install, and configure airframe and avionics parts, components, and line replaceable units as part of unscheduled maintenance and out-of-phase tasks.	AVIA-1025 Aircraft Corrosion Control AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1031 Aircraft Metallic Structure & Metallurgy AVIA-1032 Aircraft Hydraulics/Ctrls/Emerg Equip AVIA-1036 Aircraft AC Electrical Systems

		AVIA-1038 Aircraft Materials/Hardware AVIA-1039 Aircraft Non-Metallic Structure & Comp AVIA-1040 Aircraft Gas Turbine Engines AVIA-1041 Aircraft Water, Fuel & Ignition Systems AVIA-1044 Advanced Maintenance Techniques AVIA-1045 Aircraft Turbine Engine Maintenance AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1006 Avionics Radio Theory AVIA-1021 Aircraft Automatic Flight Control System
5. Remove, install, and configure the aircraft power plant indication on both turbine and piston engines.	5. Remove, install, and configure the aircraft power plant and accessories on both turbine and piston engines.	AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1040 Aircraft Gas Turbine Engines AVIA-1041 Aircraft Water, Fuel & Ignition Systems AVIA-1044 Advanced Maintenance Techniques AVIA-1045 Aircraft Turbine Engine Maintenance AVIA-1021 Aircraft Automatic Flight Control System AVIA-1023 Flight Line Maintenance Practices
6. Remove, install, configure, test, and evaluate function and operation of instrument, communication, navigation, surveillance and flight guidance systems.	6. Remove, install, configure, test, and evaluate function and operation of instrument, communication, navigation, surveillance, and flight	AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers

	guidance systems.	AVIA-1030 Aircraft DC Electrical Systems AVIA-1053 Aircraft Drawings/Diagrams AVIA-1038 Aircraft Materials/Hardware AVIA-1042 Aircraft Airframe Electrical Systems AVIA-1044 Advanced Maintenance Techniques AVIA-1046 Aircraft Starting & Indications AVIA-1047 Avionics-Intro AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac.
7. Diagnose malfunctions and defects in aircraft systems, avionics systems, and related components using technical manuals, drawings, wiring diagrams, engineering orders, and standards of performance and safety.	7. Diagnose malfunctions and defects in aircraft systems, avionics systems, and related components using technical manuals, drawings, wiring diagrams, engineering orders, and standards of performance and safety.	AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1053 Aircraft Drawings/Diagrams AVIA-1036 Aircraft AC Electrical Systems AVIA-1038 Aircraft Materials/Hardware AVIA-1042 Aircraft Airframe Electrical Systems

		AVIA-1044 Advanced Maintenance Techniques AVIA-1046 Aircraft Starting & Indications AVIA-1047 Avionics-Intro AVIA-1005 Avionics Digital Fundamentals AVIA-1006 Avionics Radio Theory AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac.
9. Perform component analysis using appropriate measuring devices to determine wear and fatigue repair or replacement tasks in order to maintain the aircraft's airworthiness and safety.	8. Evaluate component wear and fatigue using appropriate measuring devices to determine necessary repair or replacement tasks in order to maintain the aircraft's airworthiness and safety.	AVIA-1025 Aircraft Corrosion Control AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1031 Aircraft Metallic Structure & Metallurgy AVIA-1053 Aircraft Drawings/Diagrams AVIA-1037 Aircraft Management & AMO AVIA-1038 Aircraft Materials/Hardware AVIA-1039 Aircraft Non-Metallic Structure & Comp AVIA-1040 Aircraft Gas Turbine Engines AVIA-1041 Aircraft Water, Fuel & Ignition Systems AVIA-1045 Aircraft Turbine Engine Maintenance AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems

		AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac.
14. Perform composite material repairs using advanced structural techniques and procedures in adherence with pertinent regulations and safety procedures.	9. Complete airworthiness directives, manufacturers' service bulletin, and engineering modification tasks on aircraft systems, avionics systems, and structures.	AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1031 Aircraft Metallic Structure & Metallurgy AVIA-1053 Aircraft Drawings/Diagrams AVIA-1036 Aircraft AC Electrical Systems AVIA-1037 Aircraft Management & AMO AVIA-1038 Aircraft Materials/Hardware AVIA-1041 Aircraft Water, Fuel & Ignition Systems AVIA-1043 Aircraft Inspection & Records AVIA-1021 Aircraft Automatic Flight Control System AVIA-1023 Flight Line Maintenance Practices
10. Dismantle and reassemble electrical and electronic systems for repair and overhaul.	10. Dismantle and reassemble airframes, aircraft engines, and electrical and electronic systems for repair and overhaul.	AVIA-1025 Aircraft Corrosion Control AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1031 Aircraft Metallic Structure & Metallurgy AVIA-1053 Aircraft Drawings/Diagrams AVIA-1036 Aircraft AC Electrical Systems

		AVIA-1042 Aircraft Airframe Electrical Systems AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac.
11. Interpret written instructions, schematics, manufacturer's specifications, technical drawings, manuals, and computer based information while performing routine and unscheduled tasks.	11. Interpret written instructions, schematics, manufacturers' specifications, technical drawings, manuals, and computer-based information while performing routine and unscheduled tasks.	AVIA-1025 Aircraft Corrosion Control AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1031 Aircraft Metallic Structure & Metallurgy AVIA-1053 Aircraft Drawings/Diagrams AVIA-1035 Rotary Wing Aerodynamics AVIA-1036 Aircraft AC Electrical Systems AVIA-1037 Aircraft Management & AMO AVIA-1038 Aircraft Materials/Hardware AVIA-1039 Aircraft Non-Metallic Structure & Comp AVIA-1042 Aircraft Airframe Electrical Systems AVIA-1044 Advanced Maintenance Techniques AVIA-1046 Aircraft Starting & Indications AVIA-1047 Avionics-Intro AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1006 Avionics Radio Theory

		AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac. AVIA-1023 Flight Line Maintenance Practices
12. Maintain inspection, repair, maintenance, and certification records and reports to meet industry regulations and logbook requirements.	12. Maintain detailed inspection, repair, maintenance, and certification records and reports to meet industry regulations and logbook requirements.	AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1053 Aircraft Drawings/Diagrams AVIA-1037 Aircraft Management & AMO AVIA-1040 Aircraft Gas Turbine Engines AVIA-1041 Aircraft Water, Fuel & Ignition Systems AVIA-1043 Aircraft Inspection & Records AVIA-1045 Aircraft Turbine Engine Maintenance AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1023 Flight Line Maintenance Practices
13. Perform all work in accordance with health and safety regulations, manufacturers' instructions and specifications, service bulletins and Transport Canada guidelines.	13. Perform all work in accordance with health and safety regulations, manufacturers' specifications, and Transport Canada guidelines.	AVIA-1024 Aircraft Safety/Shop Practices AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines

		AVIA-1052 Aircraft Propellers AVIA-1031 Aircraft Metallic Structure & Metallurgy AVIA-1032 Aircraft Hydraulics/Ctrls/Emerg Equip AVIA-1053 Aircraft Drawings/Diagrams AVIA-1035 Rotary Wing Aerodynamics AVIA-1036 Aircraft AC Electrical Systems AVIA-1037 Aircraft Management & AMO AVIA-1042 Aircraft Airframe Electrical Systems AVIA-1043 Aircraft Inspection & Records AVIA-1044 Advanced Maintenance Techniques AVIA-1046 Aircraft Starting & Indications AVIA-1047 Avionics-Intro AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1019 Aircraft Wireless Communications Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1023 Flight Line Maintenance Practices
15. Evaluate, modify and implement quality control and quality assurance procedures to meet organizational standards and requirements.	14. Evaluate, modify and implement quality control and quality assurance procedures to meet organizational standards and requirements.	AVIA-1037 Aircraft Management & AMO AVIA-1043 Aircraft Inspection & Records AVIA-1044 Advanced Maintenance Techniques AVIA-1022 Avionics Installations & Standard Prac. AVIA-1023 Flight Line Maintenance Practices

16. Apply human resource practices, and principles of business ethics and corporate social responsibility to support organizational objectives.	N/A	
17. Manage projects using leadership principles and industry best practices appropriate to project requirements in order to achieve project goals.	N/A	

Add additional rows as required to complete the mapping exercise.

F. PROGRAM MAPS (APPENDIX A): Form 2 – Essential Employability Skills Outcomes

Skill Categories	Defining Skills Skill areas to be demonstrated by the graduates	Essential Employability Skills Outcomes The graduate has reliably demonstrated the ability to:	Course Title / Course Codes (*As indicated in Appendix A*)
Communication	• Reading • Writing • Speaking • Listening • Presenting • Visual Literacy	• communicate clearly, concisely, and correctly in the written, spoken, and visual form that fulfils the purpose and meets the needs of the audience	AVIA-1024 Aircraft Safety/Shop Practices AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1053 Aircraft Drawings/Diagrams AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1006 Avionics Radio Theory AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac. AVIA-1023 Flight Line Maintenance Practices
		• respond to written, spoken, or visual messages in a manner that ensures	AVIA-1024 Aircraft Safety/Shop Practices AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures

Skill Categories	Defining Skills Skill areas to be demonstrated by the graduates	Essential Employability Skills Outcomes The graduate has reliably demonstrated the ability to:	Course Title / Course Codes (*As indicated in Appendix A*)
		effective communication	AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1053 Aircraft Drawings/Diagrams AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1006 Avionics Radio Theory AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac. AVIA-1023 Flight Line Maintenance Practices
Numeracy	• Understanding and applying mathematical concepts and reasoning • Analysing and using numerical data • Conceptualizing	• execute mathematical operations accurately	AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1031 Aircraft Metallic Structure & Metallurgy

Skill Categories	Defining Skills Skill areas to be demonstrated by the graduates	Essential Employability Skills Outcomes The graduate has reliably demonstrated the ability to:	Course Title / Course Codes (*As indicated in Appendix A*)
			AVIA-1039 Aircraft Non-Metallic Structure & Comp AVIA-1042 Aircraft Airframe Electrical Systems AVIA-1047 Avionics-Intro AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1006 Avionics Radio Theory AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac. AVIA-1023 Flight Line Maintenance Practices
Critical Thinking & Problem Solving	• Analysing • Synthesizing • Evaluating • Decision-making • Creative and innovative thinking	• apply a systematic approach to solve problems	AVIA-1024 Aircraft Safety/Shop Practices AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1040 Aircraft Gas Turbine Engines

Skill Categories	Defining Skills Skill areas to be demonstrated by the graduates	Essential Employability Skills Outcomes The graduate has reliably demonstrated the ability to:	Course Title / Course Codes (*As indicated in Appendix A*)
			AVIA-1041 Aircraft Water, Fuel & Ignition Systems AVIA-1042 Aircraft Airframe Electrical Systems AVIA-1044 Advanced Maintenance Techniques AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1006 Avionics Radio Theory AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac. AVIA-1023 Flight Line Maintenance Practices
		• use a variety of thinking skills to anticipate and solve problems	AVIA-1024 Aircraft Safety/Shop Practices AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1042 Aircraft Airframe Electrical Systems

Skill Categories	Defining Skills Skill areas to be demonstrated by the graduates	Essential Employability Skills Outcomes The graduate has reliably demonstrated the ability to:	Course Title / Course Codes (*As indicated in Appendix A*)
			AVIA-1044 Advanced Maintenance Techniques AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1006 Avionics Radio Theory AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac. AVIA-1023 Flight Line Maintenance Practices
Information Management	• Gathering and managing information • Selecting and using appropriate tools and technology for a task or a project • Computer literacy • Internet skills	• locate, select, organize, and document information using appropriate technology and information systems	AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1031 Aircraft Metallic Structure & Metallurgy AVIA-1053 Aircraft Drawings/Diagrams AVIA-1038 Aircraft Materials/Hardware AVIA-1039 Aircraft Non-Metallic Structure & Comp AVIA-1041 Aircraft Water, Fuel & Ignition Systems

Skill Categories	Defining Skills Skill areas to be demonstrated by the graduates	Essential Employability Skills Outcomes The graduate has reliably demonstrated the ability to:	Course Title / Course Codes (*As indicated in Appendix A*)
			AVIA-1004 Avionics Electronic Fundamentals AVIA-1005 Avionics Digital Fundamentals AVIA-1006 Avionics Radio Theory AVIA-1018 Aircraft Internal Communications AVIA-1019 Aircraft Wireless Communications Systems AVIA-1020 Aircraft Radio Navigation Systems AVIA-1021 Aircraft Automatic Flight Control System AVIA-1022 Avionics Installations & Standard Prac. AVIA-1023 Flight Line Maintenance Practices
		• analyse, evaluate, and apply relevant information from a variety of sources	AVIA-1024 Aircraft Safety/Shop Practices AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1053 Aircraft Drawings/Diagrams AVIA-1039 Aircraft Non-Metallic Structure & Comp AVIA-1040 Aircraft Gas Turbine Engines AVIA-1006 Avionics Radio Theory

Skill Categories	Defining Skills Skill areas to be demonstrated by the graduates	Essential Employability Skills Outcomes The graduate has reliably demonstrated the ability to:	Course Title / Course Codes (*As indicated in Appendix A*)
			AVIA-1022 Avionics Installations & Standard Prac.
Inter-personal	• Team work • Relationship management • Conflict resolution • Leadership • Networking	• show respect for the diverse opinions, values, belief systems, and contributions of others	AVIA-1024 Aircraft Safety/Shop Practices AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1031 Aircraft Metallic Structure & Metallurgy
		• interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals	AVIA-1024 Aircraft Safety/Shop Practices AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1031 Aircraft Metallic Structure & Metallurgy
Personal	• Managing self • Managing change and being flexible and	• manage the use of time and other resources to complete projects	AVIA-1024 Aircraft Safety/Shop Practices AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics

Skill Categories	Defining Skills Skill areas to be demonstrated by the graduates	Essential Employability Skills Outcomes The graduate has reliably demonstrated the ability to:	Course Title / Course Codes (*As indicated in Appendix A*)
	adaptable • Engaging in reflective practice • Demonstrating personal responsibility		AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1031 Aircraft Metallic Structure & Metallurgy
		• take responsibility for one's own actions, decisions, and consequences	AVIA-1024 Aircraft Safety/Shop Practices AVIA-1025 Aircraft Corrosion Control AVIA-1049 Aircraft Tools/Procedures AVIA-1050 Fixed Wing Aerodynamics AVIA-1051 Aircraft Reciprocating Engines AVIA-1052 Aircraft Propellers AVIA-1030 Aircraft DC Electrical Systems AVIA-1031 Aircraft Metallic Structure & Metallurgy

G. PROGRAM DESCRIPTION (APPENDIX B)

Program Description

Provide a brief description of the program, similar to what might be used as, or found in, advertising or a calendar description.

The Aviation Technology – Aircraft Maintenance and Avionics Advanced Diploma will provide students with the knowledge and skills required to start a career in aircraft maintenance and/or aircraft avionics maintenance. This program will cover all aspects of aircraft maintenance including systems used in general aviation, corporate, and charter transport category aircraft as well as helicopters. The program will also include avionics training for service, repair, and maintenance of aircraft electrical and electronic systems such as communication, navigation, and data systems.

Laddering Opportunities

Provide a brief description of known laddering into and from the proposed program, e.g. certificate to diploma, diploma to degree, apprenticeship to college, diploma to apprenticeship, college to college, diploma to college degree, etc.

This three-year Advanced Diploma program supports student mobility by offering a laddering opportunity from the existing two-year Aviation Technician – Aircraft Maintenance program into this program. The first two years of this Advanced Diploma program will be the same curriculum as is currently delivered in the Aviation Technician – Aircraft Maintenance Diploma program. The third year of the proposed program will extend students' knowledge and skills in avionics.

Occupational Areas

Provide a brief description of where it is anticipated graduates will find employment.

The interdisciplinary nature of this program, pairing Maintenance and Avionics, will provide 24 months accreditation towards a prospective Aircraft Maintenance Engineer License by Transport Canada. This additional training provides opportunity for ab initio trained Maintenance Technicians to log the appropriately required skills in both Maintenance and Avionics, thereby permitting them to apply for 'M' or 'E' category licensing, post apprenticeship. This will allow for greater scope of work and greater flexibility to move between the disciplines of Maintenance and Avionics much more fluidly. Graduates may enjoy greater job prospects due to this breadth of knowledge and interdisciplinary background.

Proposed Program Vocational Learning Outcomes

Provide the list of the proposed program vocational learning outcomes. These outcomes should be listed, verbatim as they appear in Appendix A- Form 1.

***The graduate has reliably demonstrated the ability to*:**

1. Service, test, troubleshoot and repair aircraft and systems on large or small, fixed or rotary wing aircraft in accordance with manufacturers' specified instructions, accepted aviation techniques/practices and the requirements of the Canadian aviation regulations.
2. Evaluate fixed wing and rotary aircraft structures and complete maintenance, assembly, fabrication, and structural repair work on large and small aircrafts in accordance with technical manuals, standard practices, and standards of performance and safety.
3. Perform scheduled and unscheduled inspections on aircraft structural, operational, environmental, communication, navigation, surveillance, and flight guidance systems to ensure they are in proper working order and meet standards of performance and safety.
4. Remove, install, and configure airframe and avionics parts, components, and line replaceable units as part of unscheduled maintenance and out-of-phase tasks.
5. Remove, install, and configure the aircraft power plant and accessories on both turbine and piston engines.
6. Remove, install, configure, test, and evaluate function and operation of instrument, communication, navigation, surveillance, and flight guidance systems.
7. Diagnose malfunctions and defects in aircraft systems, avionics systems, and related components using technical manuals, drawings,

wiring diagrams, engineering orders, and standards of performance and safety.
8. Evaluate component wear and fatigue using appropriate measuring devices to determine necessary repair or replacement tasks in order to maintain the aircraft's airworthiness and safety.
9. Complete airworthiness directives, manufacturers' service bulletin, and engineering modification tasks on aircraft systems, avionics systems, and structures.
10. Dismantle and reassemble airframes, aircraft engines, and electrical and electronic systems for repair and overhaul.
11. Interpret written instructions, schematics, manufacturers' specifications, technical drawings, manuals, and computer-based information while performing routine and unscheduled tasks.
12. Maintain detailed inspection, repair, maintenance, and certification records and reports to meet industry regulations and logbook requirements.
13. Perform all work in accordance with health and safety regulations, manufacturers' specifications, and Transport Canada guidelines.
14. Evaluate, modify and implement quality control and quality assurance procedures to meet organizational standards and requirements.

Admission Requirements

Identify the Admission Requirements for the program.

OSSD with courses from the College (C), University (U),
University/College (M), or Open (O) stream WITH:
- Any Grade 12 English (C) or (U)
- Any Grade 12 Mathematics (C) or (U)

OR
Academic and Career Entrance Certificate (ACE)
OR
Pre-Technology Ontario College Certificate
OR
Ontario High School Equivalency Certificate (GED) AND:
- Any Grade 12 Mathematics (C) or (U)

OR
Mature Applicant with standing in the required courses stated above

English Language Requirements

Applicants whose first language is not English will be required to demonstrate proficiency in English by one of the following methods:
•A Grade 12 College Stream or University Stream English credit from an Ontario Secondary School, or equivalent, depending on the program's Admission Requirements
•Test of English as a Foreign Language (TOEFL) test with a minimum score of 550 for the paper-based test (PBT), or 79 for the Internet-based test (iBT), with test results within the last two years
•International English Language Testing System (IELTS) test with an overall score of 6.0 with no score less than 5.5 in any of the four bands, with test results within the last two years
•Canadian Academic English Language (CAEL) test with an overall score of 60 with no score less than 50 in any of the four bands, with test results within the last two years
•An English Language Evaluation (ELE) at Fanshawe College with a minimum score of 70% in all sections of the test, with test results within the last two years

Recommended Academic Preparation

•Grade 12 Transportation Technology (C)
•Grade 11 or Grade 12 Physics (C) or (U)

•It is recommended that students in the Academic and Career Entrance Certificate (ACE) program take a Technical or Apprenticeship Mathematics course within the ACE program.

Applicant Selection Criteria

Where the number of eligible applicants exceeds the available spaces in the program, the Applicant Selection Criteria will be:

1.Preference for Permanent Residents of Ontario

2.Receipt of Application by February 1st (After this date, Fanshawe College will consider applicants on a first-come, first-served basis until the program is full)

3.Achievement in the Admission Requirements

Note: Admission to the Fanshawe College Pre-Technology program does not guarantee admission in a subsequent year to the Aviation Technology – Aircraft Maintenance program. Successful completion of the Fanshawe College Pre-Technology program, however, does enable the student to be given additional consideration when applying to the Aviation Technology – Aircraft Maintenance program. The Pre-Technology program is the preferred designated preparatory program for admission to the Aviation Technology – Aircraft Maintenance program.

H. PROGRAM CURRICULUM (APPENDIX C)

Semester	Course Code/ Course Title (*As indicated in Appendix A*)	General Education Course *(indicate with an X)*	Total Course Hours	Course Description
1	AVIA-1024 Aircraft Safety/Shop Practices		30	This course is an introduction to the Aircraft Maintenance Engineer (AME) category M license. It outlines the regulations, requirements and processes as well as the roles and responsibilities of the AME in the shop/hangar environment.
1	AVIA-1025 Aircraft Corrosion Control		60	This course is the study of the materials of modern aircraft and the processes involved in protecting them from their environment.
1	AVIA-1049 Aircraft Tools/Procedures		60	This course is the study of general tools and tools specific to aviation and how they are safely used on the materials of the aircraft industry.
1	AVIA-1050 Fixed Wing Aerodynamics		90	This course is the study of basic aerodynamic principles used in aircraft. It is designed for a full understanding of the devices and components used for aircraft control and flight performance.
1	AVIA-1051 Aircraft Reciprocating Engines		150	This course is the comprehensive study of aircraft reciprocating engines and their systems.
1	AVIA-1052 Aircraft Propellers		30	This course is the comprehensive study of aircraft propellers and their systems.
1	AVIA-1030 Aircraft DC Electrical Systems		90	This course is a comprehensive introduction to basic electrical theory and components used in aircraft direct current (DC) systems. Students will gain a familiarity with electrical equipment construction and operation, and its application in industry.
1	COOP-1020 Co-operative Education Employment Prep [Optional]		6	This workshop will provide an overview of the Co-operative Education consultants and students' roles and responsibilities as well as the Co-operative Education Policy. It will provide students with employment preparatory skills specifically related to co-operative education work assignments and will prepare students for their work term.
2	AVIA-1031 Aircraft Metallic Structure & Metallurgy		120	This course is the study of basic maintenance workshop safety and practices. It includes hands-on practice with the identification and safe and proper use of common industry tools as used in sheet metal repair.
2	AVIA-1032 Aircraft		150	This course is a comprehensive study of several of the systems found on modern aircraft. Students will gain a

	Hydraulics/Ctrls/Emerg Equip			familiarity with the systems, their components and their operation in preparation for the next steps in maintenance.
2	AVIA-1033 Canadian Aviation Regulations		30	This course is a continuation of the study of the regulations as they affect the role of the AME and maintain safety.
2	AVIA-1053 Aircraft Drawings/Diagrams		30	This course is a comprehensive introduction to Aircraft Drawings. Students will gain a familiarity with technical drawings and learn how to extract the necessary information for specific applications as found in industry.
2	AVIA-1035 Rotary Wing Aerodynamics		90	This course is the study of basic aerodynamic principles used in aircraft. It is designed for a better understanding of the devices and components used for rotary wing aircraft control and performance.
2	AVIA-1036 Aircraft AC Electrical Systems		90	This course is a comprehensive introduction to basic electrical theory and components used in aviation Alternating Current (AC) systems. Students will gain a familiarity with electrical equipment construction and operation, and its application in industry.
2	Elective	X	45	
3	Co-op [Optional]			
4	AVIA-1037 Aircraft Management & AMO		30	This course is a continuation of the study of the regulations as they affect the role of the AME working on Canadian registered aircraft and in an Approved Maintenance Organization (AMO).
4	AVIA-1038 Aircraft Materials/Hardware		60	This course is the study of industry standards in the classification and use of common aircraft wire, connectors, control and protection devices, and hardware.
4	AVIA-1039 Aircraft Non-Metallic Structure & Comp		120	This course is the study of basic composite workshop safety and practices. It includes hands on practice with the identification and safe and proper use of common industry tools.
4	AVIA-1040 Aircraft Gas Turbine Engines		120	This course is the comprehensive study of aircraft turbine engines and their systems.
4	AVIA-1041 Aircraft Water, Fuel & Ignition Systems		90	This course is a continuation of the study of several of the systems found on modern aircraft. Students will gain a familiarity with the systems, their components and their operation in preparation for the next steps in maintenance.
4	AVIA-1042 Aircraft Airframe Electrical Systems		90	This course is a continuation of the comprehensive study of electrical systems with a focus on actual aircraft systems and their operation.
4	Elective	X	45	

5	AVIA-1043 Aircraft Inspection & Records		90	This course is a continuation of the study of the regulations as they affect the role of the AME.
5	AVIA-1044 Advanced Maintenance Techniques		120	This course is a study of fault isolation in systems found on modern aircraft. Students will hone their familiarity with the systems and apply their systems knowledge to determine the factors affecting the proper operation of aircraft systems.
5	AVIA-1045 Aircraft Turbine Engine Maintenance		90	This course is a study of the maintenance requirements for turbine engines and their fuel systems.
5	AVIA-1046 Aircraft Starting & Indications		90	This course is a continuation of the study of several of the systems found on modern aircraft. Students will gain a familiarity with the systems, their components and their operation in preparation for the next steps in maintenance.
5	AVIA-1047 Avionics-Intro		120	This course is an introduction to the field of avionics instruments as applicable to the M category AME.
5	Elective	X	45	
6	AVIA-1004 Avionics Electronic Fundamentals		150	This course is an introduction to the theory of electronic component, circuit and servomechanism fundamentals.
6	AVIA-1005 Avionics Digital Fundamentals		150	This course is the study of basic digital concepts and techniques used in aircraft avionics, instrument and entertainment systems.
6	AVIA-1006 Avionics Radio Theory		120	This course is a study of the basic principles of radio transmission, reception and radio coverage techniques used in aircraft radio systems.
6	AVIA-1018 Aircraft Internal Communications		30	This course is a study of common aircraft internal communication system basics and their aircraft configurations. It includes system testing and maintenance procedures and practices.
6	Elective	X	45	
7	AVIA-1019 Aircraft Wireless Communications Systems		90	This course is the study of aircraft outgoing communication system fundamentals and aircraft configurations.
7	AVIA-1020 Aircraft Radio Navigation Systems		90	This course is a study of common aircraft radio navigation and secondary surveillance radar system basics and their aircraft configurations. It includes system testing and maintenance procedures and practices.
7	AVIA-1021 Aircraft Automatic Flight Control System		90	This course is a study of aircraft flight control, flight management, and radar systems basics and their aircraft configurations. It includes system testing, maintenance procedures and practices.
7	AVIA-1022 Avionics Installations &		120	This course is a study and performance of aircraft avionic system installation procedures, practices and regulations.

	Standard Prac.			
7	AVIA-1023 Flight Line Maintenance Practices		120	This course is a study of common aircraft avionic systems testing, trouble shooting and repair procedures, standards, and regulations in the flight line.

Add additional rows as required to complete the curriculum chart.

I. REGULATORY STATUS FORM (APPENDIX D)

Please complete the following:

There IS a legislative requirement that program graduates must be certified or licensed by a regulatory authority to practice or work in the occupation

☒ **Mandatory recognition of a regulatory authority exists and is being sought.**
(Please refer to Section A below- *Mandatory Regulatory Requirements*)

There IS or IS NOT a voluntary (i.e., not required by legislation) licensing or certification for entry to practice in the profession or trade.

☐ YES
☐ NO

☐ **Voluntary recognition of a regulatory authority IS being sought.**
(Please refer to Section B below- *Recognition by Voluntary Association*)

☐ **Voluntary recognition is NOT being sought***.
Please explain why: Click here to enter text.

*Note: *There may be titling implications for programs that are not seeking recognition in an area where existing programs have secured recognition.*

A. MANDATORY REGULATORY REQUIREMENTS

Where licensing or certification is ***required by legislation*** for entry to practice in the profession or trade, the Ministry of Training, Colleges and Universities requires that colleges ensure that their programs will meet the requirements of the regulatory body in order to be approved for funding.

Name of regulatory authority: Transport Canada

Status (please select ALL that apply)

☐ Accreditation or approval by the regulatory authority / designated third party received.
Date of recognition:

☒ The college is working toward accreditation with the regulatory authority/ designated third party.
Describe current status of application: At present, the Fanshawe College Transport Canada Regulator has been made aware of the proposed program, and the appropriate applications are being sought. Fanshawe College is currently an Approved Training Organization (ATO) with Transport Canada for delivery of the Aviation Technician – Aircraft Maintenance and Aviation Technician – Avionics Maintenance Diploma programs. Detailed curriculum documents will need to be presented to Transport Canada to have this proposed Aviation Technology Advanced Diploma program approved.
Expected date of recognition: Spring 2017

☐ The regulatory authority does not accredit educational programs directly or through designated third party. Formal acknowledgement (e.g. in its published or legislated registration requirements) that the program graduates will be eligible to write any required certifying or registration exam(s) or that the program is otherwise recognized for the purposes of certifying or registering a graduate is being sought.

Please submit an acknowledgement and/or evidence from the regulatory authority regarding the status of the recognition.

B. RECOGNITION BY VOLUNTARY ASSOCIATION

Colleges may choose to have a program accredited or recognized by a voluntary membership organization or association. Graduate eligibility for association recognition or adherence to standards imposed by the body is ***a recommendation and not a requirement*** for program funding approval by the Ministry of Training, Colleges and Universities.

Name of voluntary association:

Status (please select ALL that apply)

☐ The college is working toward recognition.
Describe current status of application:
Expected date of recognition:

☐ Recognition has been received.
Date of recognition:
Type of recognition (e.g. accreditation, graduates eligible to write membership exams, etc.):

☐ The association does not recognize educational programs directly or through designated third party. Formal recognition (e.g. in its published requirements) that the program graduates will be eligible to write any required certifying or registration exam(s) or that the program is otherwise recognized for the purposes of certifying or registering a graduate is being sought.

Please submit an acknowledgement and/or evidence from the regulatory authority or voluntary association regarding the status of the recognition.