COURSE OUTLINE

AVF122

Prepared: Louis St Pierre   Approved: Greg Mapp

Course Code: Title	AVF122: NAVIGATION I & II
Program Number: Name	4061: AVIATION TECHNOLOGY
Department:	AVIATION TECHNOLOGY
Semester/Term:	18W
Course Description:	This course starts with the basic elements involved in Dead Reckoning Navigation. These elements are then combined to enable pilots-in-training to pass the navigation section of the Transport Canada Private Pilot written exam and to learn the techniques that pilots use for navigating in flight. This knowledge is also the basis for the Transport Canada Commercial Written exam in second year, and is also preparatory ground instruction for the Private Pilot Licence
Total Credits:	2
Hours/Week:	2
Total Hours:	30
Prerequisites:	AVF111, AVF115, AVF117, AVT119, CMM115, GEN100, MTH612, PHY125
This course is a pre-requisite for:	AFT130, AVF241, AVF242, AVF245, AVT248
Essential Employability Skills (EES):	#3. Execute mathematical operations accurately. #4. Apply a systematic approach to solve problems. #5. Use a variety of thinking skills to anticipate and solve problems. #6. Locate, select, organize, and document information using appropriate technology and information systems. #7. Analyze, evaluate, and apply relevant information from a variety of sources. #10. Manage the use of time and other resources to complete projects. #11. Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 70%, B
Other Course Evaluation & Assessment Requirements:	Projects handed in late: handed in next day after due date: 25% deduction. 2 days late: 50% deduction. Three days: 75%. Projects will not be accepted after that and a mark of zero awarded In order to be excused from class due to illness or other unforeseen circumstance, students

must call the professor at extension 2666 and leave a message prior to the start of class. An email is also acceptable, but must be sent prior to the start of class.

Students may request a deferment of a test for compassionate reasons. Compassionate Grounds for deferment will include but not be limited to death of an immediate family member, personal illness, or recent diagnosis of a serious illness of a family member. Make-ups will not be permitted after the fact for compassionate reasons.

Dates of tests will be announced at least 1 week in advance.

If a faculty member determines that a student is at risk of not being successful in their academic pursuits and has exhausted all strategies available to faculty, student contact information may be confidentially provided to Student Services in an effort to offer even more assistance with options for success. Any student wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Exam	50%
Projects	10%
Tests	40%

Course Outcomes and Learning Objectives:

Course Outcome 1.

Use the grid coordinate system to locate places on earth, and to understand track lines on a map

Learning Objectives 1.

Geographical Coordinates, Time and longitude, Time zones, Great circle and Rhumb lines

Course Outcome 2.

Understand EarthÃƒÂ¢Ã¢`Â¬Ã¢ Â¢s magnetism

Learning Objectives 2.

Variation, converting from True to Magnetic, The Magnetic Compass, compass errors, magnetic dip

Course Outcome 3.

Interpret Aeronautical Charts and Publications

Learning Objectives 3.

VNC, VTA, LO, CFS, basic chart information,

Course Outcome 4.

Prepare a navigation chart for dead reckoning navigation

Learning Objectives 4.

Using plotting instruments to prepare a chart that can be used by a pilot/navigator

Course Outcome 5.

use the Jeppessen styled circular slide rule (CR-2 through CR-6) to complete calculations required for Dead Reckoning navigation

Learning Objectives 5.

calculations include groundspeed, estimated time enroute, unit conversions, heading, pressure altitude, true altitude and so on
Note: only the Jeppessen circular-style flight computer will be taught.

Course Outcome 6.

Understand and apply Mental Dead Reckoning Techniques

Learning Objectives 6.

Maximum drift, using MDR techniques to estimate a heading and estimated time enroute

Course Outcome 7.

Retrieve and interpret airport information

Learning Objectives 7.

Learn to use the Canada Flight Supplement

Course Outcome 8.

Prepare for a cross country flight in preparation for AFT130 in the summer

Learning Objectives 8.

Completion of two projects that will guide students in the learning how to complete the Sault College navigation log and prepare for a cross country

Course Outcome 9.

Understand radio theory and some of the basic principles of radio navigation aids

Learning Objectives 9.

Radio theory, VOR, transponders, GPS

Course Outcome 10.

Understand and apply the theory and techniques of dead reckoning navigation, as well as theory of radio navigation aids, required for the completion of the navigation portion of the Transport Canada Private Pilot Exam

Learning Objectives 10.

This course prepares students for the Private Pilot exam and the Commercial Pilot exam as well as the applicable qualification exams

Course Outcome 11.

Understand and apply practical navigation techniques

Learning Objectives 11.

Applying the knowledge gained in learning how to confirm or revise estimated time enroute, practical drift correction, the watch-to-computer-to-map-to-ground technique, diversions by simulating cross countries

Date: Thursday, February 8, 2018

Please refer to the course outline addendum on the Learning Management System for further information.