



**Carleton**  
UNIVERSITY



# MAE Capstone Design Project Introduction and Overview

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**Prof. Jeremy Laliberté**

**MAE Capstone Project Coordinator**

**[Jeremy.laliberte@carleton.ca](mailto:Jeremy.laliberte@carleton.ca)**

**Note: Prof. John Gaydos ([john.gaydos@carleton.ca](mailto:john.gaydos@carleton.ca)) will take over as of 1 July 2017.**

# Outline



- Welcome
- Capstone Project Background
- Sign-up Process
- Directed Studies

# Capstone Project Background



- Based on Cranfield University Group Design Project
- Originally two projects (1991-92)
  - Aircraft and Spacecraft
- Success of team-style projects led to adoption across Department (early 2000's)
- Evolved into multi-year projects often with external collaborators and links to graduate research
- Several projects are now cross-department

# Administrative Info



- Learning Objectives

- Provide a realistic design learning environment to expose students to the complexities of modern engineering design processes, tools and practices.

- Each project has its own “corporate” approach dictated by the industry-specific design process

# 2017-18 MAE Capstone Design Projects



- Fixed Wing Aircraft
- Rotary Wing Uninhabited Aircraft System (RUAS)
- Spacecraft Design Project
- Intelligent and Assistive Devices (iTAD)
- Formula Student
- Carleton University Simulator Project (CUSP)
- Hybrid Natural Gas Vehicle
- Crash Test Dummy
- High Performance Housing
- Supercritical CO<sub>2</sub> Gas Turbine
- Small, Modular, Advanced Reactor Thermal-hydraulics Simulator (SMARTS)

# 2017 MAE Design Forum



- Final presentations for all 4<sup>th</sup> year students
- Saturday April 1<sup>st</sup>, 12:30-6:00 Galleria, Unicentre and Tory Building
- Parallel sessions for each project by students
- Hardware displays and demonstrations
- 3<sup>rd</sup> Year Students encouraged to attend

# Selection Website and Assignment Process



- Opens in March 2017
- Login using Connect userid/password
- Time stamped entries
- List will be posted and students assigned to specific project sections by Dean's Office when registration opens up in June

Students degree program, indicated project preference, specific project skill requirements, date/time of selection, past volunteer experience and scheduling constraints will all be considered in the final assignment of students to a specific project.

\* First Name:

\* Last Name:

\* Student Number:

\* Program:

In order of preference, select the 4th year projects you would most like to work on.

\* First Choice:

\* Second Choice:

\* Third Choice:

\*If you been a volunteer in one of the projects before, using the box below, name the project and briefly describe what you have done. Max 250 characters.

# Undergraduate Directed Study

## MAAE 4917 (0.5 credit)



- For students seeking additional “research” experience
- **Calendar description:**
  - Student carries out a study, analysis, and solution of an engineering problem. Results presented in the form of a written report. Carried out under the close supervision of a faculty member. Intended for students interested in pursuing graduate studies. Requires supervising faculty member and proposal from student.
  - Prerequisite: permission of the Department and completion of, or concurrent registration in, MAAE 4907 or SREE 4907.
- Approach individual faculty in your area of interest first
- Directed studies must be approved by Department **before registration**





Questions?