Aerospace Stream Selection

Stream D

Space Systems Design

Prof. Steve Ulrich, Ph.D., P.Eng.
Director, Spacecraft Robotics and Control Laboratory
Department of Mechanical and Aerospace Engineering
Carleton University
Ottawa, Canada
Stream D – Space Systems Design

- Learn how to model and analyze the orbital motion of a spacecraft

AERO 3240 – Orbital Mechanics
Stream D – Space Systems Design

- Learn how to model and analyze the orbital motion of a spacecraft

AERO 3240 – Orbital Mechanics
Stream D – Space Systems Design

- Learn how to model, analyze, and control the attitude motion of a spacecraft

AERO 4540 – Spacecraft Attitude Dynamics and Control
Stream D – Space Systems Design

- Learn about the main components of a spacecraft... and more!

AERO 3841 – Spacecraft Design 1
Stream D – Space Systems Design

- Learn how to design a scientific instrument (payload)

AERO 4842 – Spacecraft Design 2
Stream D – Space Systems Design

- Learn how to design rockets (cold gas, liquid, solid, hybrid)

AERO 4442 – Transatmospheric and Spacecraft Propulsion
Space Systems Design

4th-year Engineering Design Project

- CubeSat Project
  - Conceptual Design (2015/2016)
  - Tests at DFL (2017/2018)
  - Launch and Operate (2018)
Space Systems Design

- Out-of-this-world Professors
  - Tarik Kaya
  - Jason Etele
  - Alex Ellery
  - Bruce Burlton
  - Steve Ulrich
Local Job/Coop Opportunities

[Image of various company logos: MDA, COM DEV, MAGELLAN, Telesat, Neptec, MPB Communications Inc.]

carleton.ca/spacecraft
Other Opportunities
Get Involved!

carleton.ca/spacecraft
“It’s time we face reality, my friends. ... We’re not exactly rocket scientists.”