

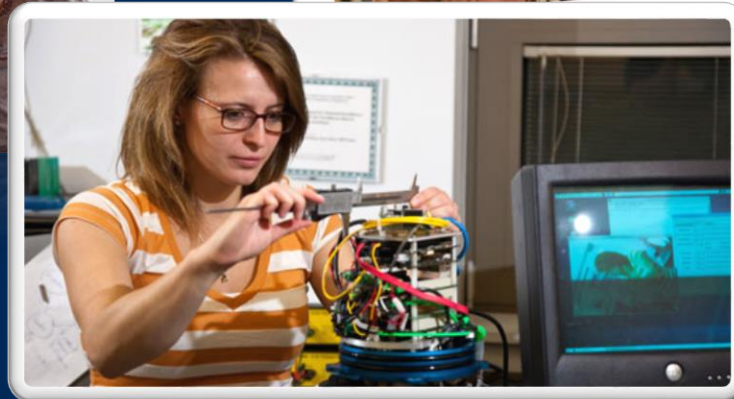
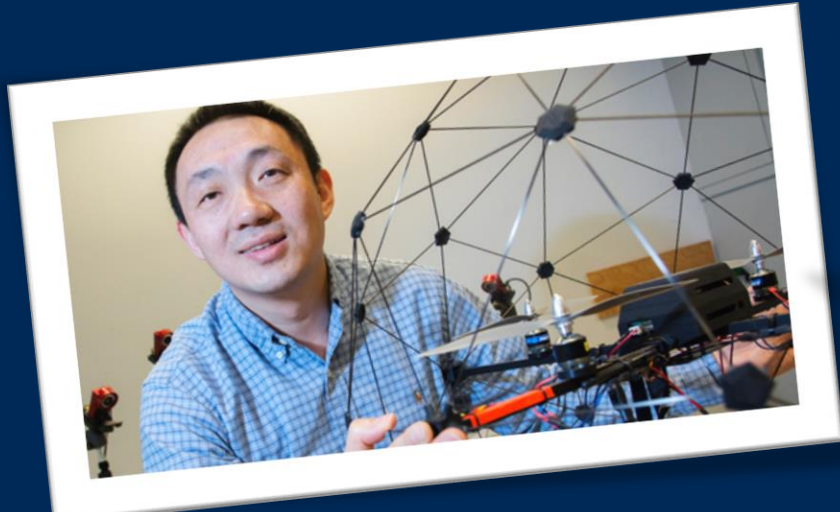
# WELCOME TO MECHANICAL ENGINEERING!



# AN OVERVIEW OF MECHANICAL ENGINEERING



# MECHANICAL ENGINEERING





# PAST, PRESENT AND FUTURE OF MECHANICAL ENGINEERING

- **Mechanization**
  - Automotive, Aerospace, Energy Systems, Manufacturing, Agriculture and Food
- **Automation**
  - Robotics
  - Computer Software Tools
  - Manufacturing: CNC, CAM
- **Design**
  - Product Design
  - Process/System Design
  - Analysis, Testing, Prototyping
- **Thermodynamics**
  - Combustion and Thermodynamic Cycles
  - Heating, Ventilation and Cooling (HVAC)
  - Heat & Mass Transfer



# PAST, PRESENT AND FUTURE OF MECHANICAL ENGINEERING

- **Fluid Dynamics**
  - Fluid Flow, Open Channel Flow, Pipe Networks
  - Aerodynamics
- **Advanced Materials**
  - New Materials and Processes
- **Multidisciplinary Studies:**
  - Renewable Energy Systems
  - Biomedical Engineering
  - Mechatronics
  - Nano-technology
  - Green Transportation



# UNDERGRADUATE PROGRAM OUTLINE

- The Bachelor of Engineering in Mechanical Engineering (BEng) degree requirements are 48 courses (72 units) and four co-op work terms (18 units):
  - **16 core courses in mechanical engineering**
  - **3 courses in electrical engineering**
  - **6 courses in math/stats**
  - **2 courses in physics**
  - **1 course in chemistry**
  - **3 courses in science/computer science**
  - **7 courses in engineering**
  - **1 technical report course**
  - **1 complementary studies elective**
  - **8 technical elective courses, with minimum of 2 selected from technical elective courses with significant design component**
  - **4 co-op work terms**



# DEPARTMENT CONTACTS AND SUPPORTING STAFF



- **Ms. Belinda de Jong, Undergraduate Advisor**  
(Academic Planning & Advising)  
EOW Ground Floor (EOW 217), Phone: 250-472-5215  
Email: engradv1@uvic.ca
- **Dr. Daniela Constantinescu, Director of Undergraduate Program**  
EOW 541, Phone: 250-721-6040  
Email: danielac@uvic.ca
- **Ms. Christine Rattray, Undergraduate Secretary**  
(General student enquiries)  
EOW 548, Phone: 250-721-8895  
Email: meng.sec@uvic.ca
- **Dr. Nick Dechev, Acting Chair**  
EOW 548, Phone: 250-721-8901  
Email: dechev@uvic.ca





# STRENGTH OF THE UVIC MECH PROGRAM

- **Solid training on fundamentals (Engineering Principles)**
- **Leading experimental learning environment**
  - **Diversified Co- and Extra-curricular Programs in All Areas and at Different Levels**
  - **Co-op Program**
  - **Honor Thesis (Research)**
- **Engage in research**
  - **Exciting opportunities to participate in research projects.**
  - **You could find yourself doing research during a co-op term.**
  - **Regular exposure to the latest in research as many of our top researchers teach first- and second-year classes.**



# STRENGTH OF THE DEPARTMENT

- **Leader in experiential learning**
  - Many courses have hands on components & require creative work through project and design work.
  - Outstanding co-curriculum and extra-curriculum activities – our faculty advise and support leading competition teams for the Faculty and UVic.
- **High-quality graduate program**
  - Attracted top students and produced many academic and industrial leaders.
  - Provided first-class training through advanced research programs.
- **Collegial and devoted faculty members, enthusiastically contributing**
  - Introducing and implementing new programs in the Faculty.
  - Leading many department, faculty and university initiatives.
  - Improving student's learning experience.



# STRENGTH OF THE UVIC MECH PROGRAM

- **Technical electives**
  - Option to get a pathway certificate if you complete six units in one of the topic areas – refer to the MECH website for further details.
  - Option to get up to two pathway certificates if you select technical elective courses that belong to two specialization areas – refer to the MECH website for further details.
  - At least 2 of the technical electives you select will have a significant design component.
- **Flexible specializations**
  - customize your degree by adding a **pathway or a minor**.
    - **Pathway specializations:** advanced materials; biomedical engineering; computer aided engineering and advanced manufacturing; energy systems; fluids and aerodynamics; mechatronics and robotics.



# DIVERSIFIED CO- & EXTRA-CURRICULAR TEAMS

- **AERO:** Aeronautical Engineering Research Organization
- **AUVic:** Autonomous Underwater Vehicles Group
- **Biodev** – Biomedical Development Team
- **EcoCAR/Formula Hybrid** (integrated with academic program with courses, projects, co-op terms, and graduate research)
- **ECOSat:** UVic Satellite Design Team
- **FormulaSAE:** Society of Automotive Engineers Design and Competition Team
- **Uvic Robotics** – Robotics club
- **UVic Rocketry**





# EXPECTATIONS

- **Becoming and acting as a Professional** is essential for future Professional Engineers.
  - Act professionally.
  - Show respect to:
    - **Professors, Peers, Support Staff, and Everyone.**
  - Honor and honesty.
    - Be aware of problems with cheating and plagiarism.
- **Becoming good team player and leader.**
- **Being open-minded.**
- **Facing challenges head on.**
- **Providing feedback.**



# STANDARDS FOR PROFESSIONAL BEHAVIOUR

It is the responsibility of all members of the Faculty of Engineering, students, staff and faculty, to adhere to and promote the standards of professional behaviour that support an effective learning environment that prepares graduates for careers as professionals.



# UNDERGRADUATE LAB SAFETY MANUAL

Adhere to the **lab safety rules** at ALL times!

Please take time to familiarize yourself with the **lab safety manual**...

<https://www.uvic.ca/engineering/mechanical/assets/docs/forms/Safety%20First.pdf>



# DEFERRED EXAMS

- Where a student has been **unable** to write an examination due to illness, family crisis or other similar circumstances, the faculty **MAY** authorize a deferred examination.
- A student should **immediately** consult a health professional, and must apply for a Deferral of the examination, or an Aegrotat (AEG) notation, by completing a formal **Request for Academic Concession (RAC)**. The RAC **MUST** be accompanied by supporting documentation, and must be submitted to the Office of the Registrar, normally within **ten working days of the end of the examination period** of the term in which the course is taken.





# CENTRE FOR ACCESSIBLE LEARNING (CAL)

Students who require accommodation:  
(e.g. learning differences, health issues, disability)

- please **register with CAL** to access suitable accommodations.

## **General inquiries:**

Phone: 250-472-4947

Email: [infocal@uvic.ca](mailto:infocal@uvic.ca)

Centre for Accessible Learning  
University of Victoria

**Campus Services Building, Room 150**

3800 Finnerty Road (Ring Road)

Victoria BC V8P 5C2

Canada



# CENTRE FOR ACCESSIBLE LEARNING (CAL)

## DEADLINES:

- You should register **as early as possible** after being accepted to the university to avoid any delays.
- The **deadline to submit medical documentation** through the online pre-intake for consideration for the:
  - Fall term is **October 31<sup>st</sup>**
  - Spring term is **February 28th**



# CO-OP EDUCATION



# CO-OP COORDINATORS FOR MECH STUDENTS:

Student # ending 0-4 – Calvin Tripp – [ctripp@uvic.ca](mailto:ctripp@uvic.ca)

Student # ending 5-9 – Susan Fiddler – [sfiddler@uvic.ca](mailto:sfiddler@uvic.ca)

## We can help you with:

- Resumes
- Cover letters
- Interview preparation
- Strategies to find your own co-op job





# CO-OP PORTAL: [learninginmotion.uvic.ca](http://learninginmotion.uvic.ca)

- Co-op job postings
- Upload your resume and cover letter
- Apply for co-op jobs
- Events and workshops
- Book an appointment with your co-op coordinator



# TO SEE THE CO-OP JOBS:

## 1. Co-op Terms & Conditions (submit via LIM)

- Only submitted once while you are in the engr program

## 2. Co-op Jobs Access form (email your coord for link)

- Submitted every term that you want to start applying for your next work term's jobs

## 3. Co-op Work Permit

- International students only
- Required to work in Canada



# INFORMAL MECH STUDENT ZOOM SESSIONS

Check **LIM / Events and Workshops** for ZOOM links –

*“Other Co-op Events - Informal MECH Students Best Practices*  
”

**Mondays, 11:30am-12:30pm**

**Fridays, 8:30am-9:30am**

- Q&A with Calvin or Susan
- Discussion topics of your choice
- Attend any session
- Okay to arrive late or leave early
- Running all term



**CO-OP IS HERE TO HELP YOU**

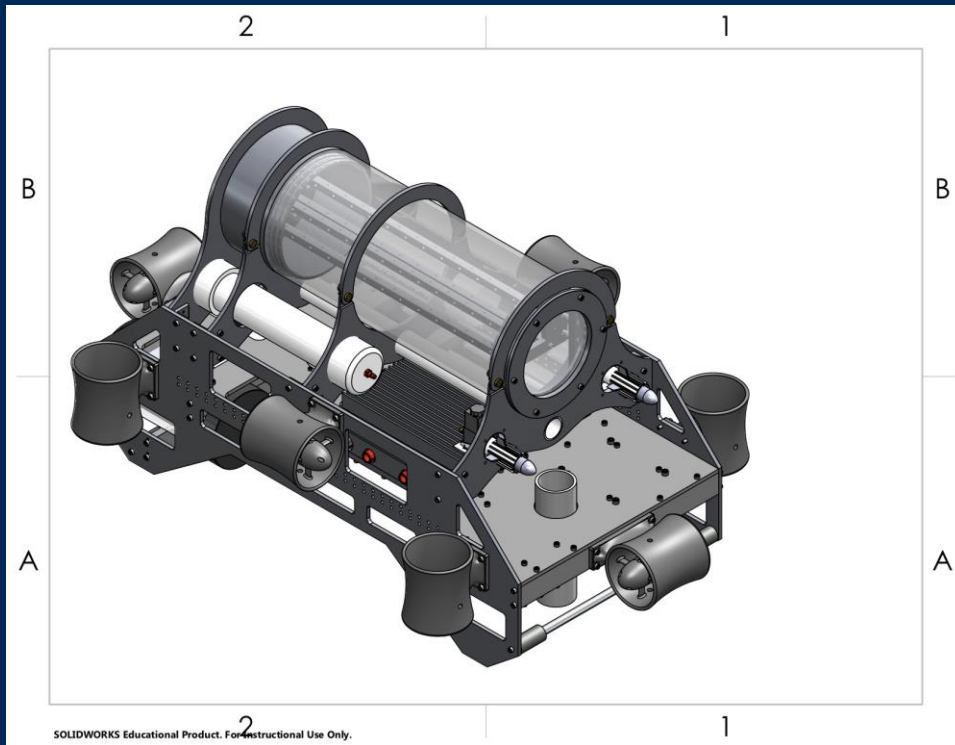
**Feel free to reach out to us**



# STUDENT TEAMS



# AUVIC





# UVIC BIOMEDICAL ENGINEERING DESIGN TEAM



UVic Biomedical Engineering  
Design Team





# UVIC FORMULA MOTORSPORT -FSAE-





# UVIC HYBRID





A white banner with a black border and a stylized robot head logo on the left. The text "UVIC" is in blue and "ROBOTICS" is in white on a black background.

UVIC ROBOTICS

A blue rectangular box containing the text "UVIC ROBOTICS" in yellow, bold, sans-serif font.

UVIC  
ROBOTICS





# UVIC ROCKETRY





# UVIC SUBMARINE RACING





# HAVE A GREAT TERM!

We're on Social Media!  
Find us on  
Twitter @MechanicalUVic  
Instagram @uvicmecheng

