

**University of Victoria**  
**Posting for CUPE 4163 Specialist Instructional (TA)**

Department: **Mechanical Engineering**  
Term of appointment: **TAs are expected to be available from the beginning of the semester (Jan 10, 2022) and to assist with marking the final examination (exam period is April 11-29, 2022).**  
Hourly Rate: **\$27.65**

**ENGR 141 – Engineering Fundamentals**

Instructor: **F. Firmani**

**Special Skills or Other Requirements:**

- Facilitate student led tutorials by assisting and guiding student groups as required in session
- Be confident public speakers and work with the instructors to develop presentations of the tutorial problem sets
- Mentor 1<sup>st</sup> year engineering students at drop-in seminar sessions
- Work well within a large TA team and independently coordinate tasks with colleagues
- Have excellent interpersonal and communication skills
- Have a good background in statics

**BME 320 – Engineering Materials with BME**

**Applications**

Instructor: **K. Valente**

**Special Skills or Other Requirements:**

- Candidate should have a strong background in material science (including metals, semi-conductors, ceramics and polymers)
- Candidate should have a strong background in biomedical materials
- Candidate must be familiar with running laboratory classes
- Candidate must have excellent time management skills in addition to interpersonal and communication skills
- Candidate must complete a WHMIS safety training course

**BME 401C – Human Factors**

Instructor: **S. Willerth  
(T.Carswell)**

**Special Skills or Other Requirements:**

- Previously taken BME 401C
- Past experience as a Teaching Assistant (TA)

## TA Positions for Spring 2022

### **MECH 320 – Mechanics of Solids II**

Instructor: **B. Nadler**

#### **Special Skills or Other Requirements:**

- 1 position requires experience with COMSOL Multiphysics
- Other position(s) for grading and lab

### **MECH 335 – Theory of Mechanisms**

Instructor: **F. Firmani**

#### **Special Skills or Other Requirements:**

- Candidates for the TA position(s) are asked to have an appropriate background in Mechanisms, which involves linkage analysis (position, velocity and acceleration), static and dynamic force analysis, and cam design.
- Candidates are expected to be fairly familiar with software for mechanism design like Working Model 2D.
- At least one laboratory experiment will be assigned to each TA, who will assist students during a three-week period.

### **MECH 345 – Mechanics of Fluids**

Instructor: **C. Valeo**

#### **Special Skills or Other Requirements:**

- Candidates should have a strong background in fluid mechanics.
- Previous experience in running labs is an asset
- Previous experience teaching Thermofluidic courses is an asset

### **MECH 350 – Engineering Design**

Instructor: **N. Dechev**

#### **Special Skills or Other Requirements:**

- Excellent interpersonal and communication skills are essential.
- Candidates must have demonstrated experience in Engineering Design.
- Must have completed Mech Eng. Machine Shop safety course, or permission of the Department Machinist to work in the Machine Shop.

### **BME 350 – Biomedical Engineering Design**

Instructor: **N. Dechev**

#### **Special Skills or Other Requirements:**

- Excellent interpersonal and communication skills are essential.
- Candidates must have demonstrated experience in Engineering Graphics and Drawing. Candidate will be asked to provide tutorials on engineering drawing and graphics.
- Candidates must have demonstrated experience in Engineering Design.

## TA Positions for Spring 2022

**MECH 390 – Energy Conversion**

Instructor: **P. Oshkai**

**Special Skills or Other Requirements:**

- Ideal candidate will have previously taken course or similar experience
- Preferably has been a teaching assistant for the course before

**MECH 400 - Design Project**

Instructor: **C. Crawford**

**Special Skills or Other Requirements:**

- Knowledge of electronics and microcontrollers.
- Excellent communication and organizational skills.
- Classroom participation required.

**MECH 410/520 - Computer-Aided Design and Engineering**

Instructor: **Z. Dong**

**Special Skills or Other Requirements:**

- Previously taken MECH 410/520 or equivalent course required
- Knowledge of Siemens NX CAD/CAE (FEA/CFD) required
- Knowledge of Solidworks desirable

**MECH 421/504 – Mechanical Vibrations**

Instructor: **TBA**

**Special Skills or Other Requirements:**

- Ideal candidate will have previously taken course or similar experience
- Preferably has been a teaching assistant for the course before

**MECH 442 – Heating, Ventilation, and Air Conditioning Systems (previously MECH 450B)**

Instructor: **L. Amlani**

**Special Skills or Other Requirements:**

- Ideal candidate will have previously taken course or similar experience

**MECH 450D – Pulp and Paper Technology**

Instructor: **B. Dalpke**

**Special Skills or Other Requirements:**

- Previously having taken MECH 450D is an asset but not required

**MECH 458/554 – Mechatronics**

Instructor: **Y. Shi (K. Zhang)**

**Special Skills or Other Requirements:**

- Hands-on experience with Atmel microprocessor programming and having taken MECH 458/554

## TA Positions for Spring 2022

**MECH/BME 481/MECH 515 – Biomaterials + Tissue Engineering**

Instructor: **K. Valente**

**Special Skills or Other Requirements:**

- Previously taken MECH/BME 481 or MECH 515.

**MECH 483 – Mechanics and Energy Conversion for Living Cells**

Instructor: **R. Bhiladvala**

**Special Skills or Other Requirements:**

- Ideal candidate has a background and an interest in the workings of living cells
- Preferably has been a teaching assistant for the course before

**MECH 493 – Design of Thermo-Fluid Systems**

Instructor: **S. Dost**

**Special Skills or Other Requirements:**

- Strong background in Thermofluids and design
- Preferably has been a teaching assistant for the course before
- Responsibilities will include handling and covering the quiz material on pipes, and marking quizzes and exams

**MECH 494 - Thermofluids & Intro to Mass Transfer**

Instructor: **S. Dost**

**Special Skills or Other Requirements:**

- Ideal candidate will have previously taken course or similar experience

**MECH 495/535 – Computational Fluid Dynamics**

Instructor: **P. Oshkai**

**Special Skills or Other Requirements:**

- Ideal candidate will have previously taken course or similar experience

**MECH 594/595/695 – Seminar**

Instructor: **B. Nadler**

**Special Skills or Other Requirements:**

- Candidate will co-ordinate seminars, introduce speakers, collect feedback, prepare the next term's schedule, and maintain attendance spreadsheet.