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

Department

<table>
<thead>
<tr>
<th>Mechanical Engineering</th>
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</thead>
</table>

51 Positions

Hourly Rate: $25.15

Term of Appointment from: 3 January 2018 to 6 April 2018

Total hours: See attached schedules
Average weekly hours: See attached schedules

Summary of Duties and Responsibilities

Under supervision of the course instructor, performs some or all of the following:
Marking assignments, quizzes and lab reports, preparing for labs, recording grades, conducting or assisting labs and/or tutorials, consulting with students

Required Qualifications and Experience

Applicants should possess an undergraduate degree in Mechanical Engineering or acceptable equivalent.

Special skills or other requirements (if any) are listed on the attached schedule.

Other criteria considered include the career and/or pedagogical value a particular position will provide to the graduate/undergraduate student, the student’s preferences, and other sources of graduate student financial support being received. The Department Appointment Priority Policy provides priority to Graduate Students in their academic Department or School before others. The Policy is posted in the Department and is available on request.

The University of Victoria is an equity employer and encourages applications from women, persons with disabilities, visible minorities, and aboriginal persons.

Please submit a completed application form available from the Department to the Graduate Secretary by: 22 November 2017

1 Number of available positions/hours subject to funding availability, enrollment and/or course cancellation.
### TA Positions for Spring 2018

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Instructor</th>
<th>Positions</th>
<th>Average hrs. per week</th>
<th>Total hrs/term per TA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 141</td>
<td>Engineering Fundamentals (CORE)</td>
<td>B. Buckham</td>
<td>10</td>
<td>7.5</td>
<td>84.5</td>
</tr>
<tr>
<td>MECH 320</td>
<td>Mechanics of Solids II (CORE)</td>
<td>K. Ahmadi</td>
<td>4</td>
<td>5.5</td>
<td>71.5</td>
</tr>
<tr>
<td>MECH 335</td>
<td>Theory of Mechanisms (CORE)</td>
<td>R. Rakhsha</td>
<td>4</td>
<td>5.0</td>
<td>65.0</td>
</tr>
<tr>
<td>MECH 345</td>
<td>Mechanics of Fluids (CORE)</td>
<td>M. Akbari</td>
<td>6</td>
<td>6.0</td>
<td>78.0</td>
</tr>
</tbody>
</table>

**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 1st 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
- 1 position requires experience with ANSYS
- Other position(s) for grading and lab
- 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.
- Candidates should have a strong background in fluid mechanics.
## TA Positions for Spring 2018

### MECH 350 – Engineering Design (CORE)
- Instructor: A. Suleman
- Positions: 3
- Average hrs. per week: 5.25
- Total hrs/term per TA: 68.25

**Special Skills or Other Requirements:**
- Excellent interpersonal and communication skills.
- 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: A. Suleman
- Positions: 1
- Average hrs. per week: 5.25
- Total hrs/term per TA: 68.25

**Special Skills or Other Requirements:**
- 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.

### MECH 390 – Energy Conversion (CORE)
- Instructor: H. Struchtrup
- Positions: 4
- Average hrs. per week: 5.0
- Total hrs/term per TA: 65.0

**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 (CORE)
- Instructor: C. Bradley
- Positions: 2
- Average hrs. per week: 6.0
- Total hrs/term per TA: 78.0

**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
- Positions: 4
- Average hrs. per week: 4.5
- Total hrs/term per TA: 58.5

**Special Skills or Other Requirements:**
- Previously having taken MECH 410/520 is preferred
<table>
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<tr>
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<th>Total hrs/term per TA</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH 443</td>
<td>Advanced Thermodynamics</td>
<td>H. Struchtrup</td>
<td>1</td>
<td>3.0</td>
<td>39.0</td>
</tr>
<tr>
<td>MECH 450D</td>
<td>Pulp and Paper Technology</td>
<td>Chair/B. Dalpke</td>
<td>1</td>
<td>2.0</td>
<td>26.0</td>
</tr>
<tr>
<td>MECH 458</td>
<td>Mechatronics</td>
<td>TBA</td>
<td>5</td>
<td>5.5</td>
<td>78.0</td>
</tr>
<tr>
<td>MECH 473</td>
<td>Ferrous and Non-Ferrous Metals</td>
<td>S. Ferguson</td>
<td>1</td>
<td>5.0</td>
<td>65.0</td>
</tr>
<tr>
<td>MECH 475</td>
<td>Aircraft Design</td>
<td>A. Suleman</td>
<td>1</td>
<td>5.0</td>
<td>65.0</td>
</tr>
<tr>
<td>MECH/BME 481</td>
<td>Biomaterials + Tissue Engineering</td>
<td>S. Willerth</td>
<td>1</td>
<td>4.0</td>
<td>52.0</td>
</tr>
<tr>
<td>MECH 483</td>
<td>Mechanics and Energy Conversion for Living Cells</td>
<td>R. Bhiladvala</td>
<td>1</td>
<td>4.0</td>
<td>52.0</td>
</tr>
</tbody>
</table>

**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
- Hands-on experience with Atmel microprocessor programming and having taken MECH 458/554
- Ideal candidate will have previously taken course or similar experience
- Previously having taken MECH 450D is an asset but not required
- Previously taken MECH/BME 481 or MECH 515.
- Ideal candidate has a background and an interest in the workings of living cells
- Preferably has been a teaching assistant for the course before

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<tr>
<td>MECH 495</td>
<td>Computational Fluid Dynamics</td>
<td>P. Oshkai</td>
<td>1</td>
<td>4.0</td>
<td>52.0</td>
</tr>
<tr>
<td>MECH 594/595/695</td>
<td>Seminar</td>
<td>B. Nadler</td>
<td>1</td>
<td>2.0</td>
<td>26.0</td>
</tr>
</tbody>
</table>

**Special Skills or Other Requirements:**
- Ideal candidate will have previously taken course or similar experience
- Candidate will co-ordinate seminars, introduce speakers, collect feedback, prepare the next term’s schedule, and maintain attendance spreadsheet.