The WESEL Fund

In response to an increasing need to renew and update Western Engineering’s undergraduate laboratory facilities, the Western Engineering Student Endowment Laboratory (WESEL) fund was initiated by the Undergraduate Engineering Society (UES) in 2012.

The regular renewal and upgrading of undergraduate lab facilities ensures that Western undergraduate engineering students are exposed to the most recent developments in their fields of study, and that graduates of Western Engineering possess the skills needed in the engineering workforce.

Each year, engineering students contribute $50 of their student fee to WESEL, however the donation to the fund is entirely voluntary. Since its inception in 2012, the fund has grown to over $610,000 (in capital) and disbursed over $114,000 for lab equipment upgrades.

In 2013, Western Engineering began to invite alumni, who appreciate the importance of experiential learning and want to support their Faculty, to contribute toward this fund. Since then alumni have contributed more than $70,000.

The WESEL fund committee, made up of students, faculty, staff and an alumnus, review applications and decide what equipment will be purchased each year with the WESEL fund investment returns.

Often, departments whose labs receive the upgrade, will match the grant money allocated, doubling the impact of the WESEL fund.

80% of students give $50 each year

Students have a say in how the money is used

Western Engineering matches annual grants

Our goal is to grow the fund to >$1M

From $35K in 2012, the fund has grown to $610K in 2018

Returns of 6.5% in 2018
Impact of WESEL
Experiential learning drives innovation

Engineering students who have access to up-to-date equipment and software for their course and research projects benefit in three major ways:

1. They enhance their understanding of the ways of the physical world and the properties of materials by taking theory and applying it in the real-world.

2. They become familiar with the types of tools they will use in their internships as well as in their professional careers.

3. They are introduced to the value of ‘exploration’, through open-ended design experiences, where students can modify equipment or processes and come up with their own solution to problems.

“Not having such equipment available to me in high school, I greatly appreciated having access to the 3D printer in my first-year design class to print the specific parts for a modified wind turbine. We now have access to industry standard building programs such as visual studios and Quartus, which I have used not only in class, but also in my free time to explore, refine and create new projects.”

Omar Zaal
BSc Candidate Computer Engineering
Engineering Class of 2020

Western Engineering students Omar (pictured left) and Ahmad print custom parts

“The WESEL fund is one of the best ways students get to help bridge the gap between the theory learned in class and the hands-on experience we get in labs. Using the latest equipment from the start of our education is a benefit during our internships as we have already developed the necessary skills to be successful in the labs.

As part of the committee that gets to decide which equipment gets purchased, it is gratifying to see how student fees are being used to directly benefit students, both for those that are at Western Engineering today, and as the fund grows, for future generations.”

Elaine A. Cook
President | Undergraduate Engineering Society 2017-18
BSc Candidate Mechatronic Systems Engineering Class of 2019

HBA Candidate 2019
Some of the equipment purchased to date

<table>
<thead>
<tr>
<th>YEAR</th>
<th>WESTERN ENGINEERING DEPARTMENT</th>
<th>EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-13</td>
<td>Mechanical and Materials Engineering</td>
<td>Marcel Bolers</td>
</tr>
<tr>
<td>2013-14</td>
<td>Chemical and Biochemical Engineering</td>
<td>Filter Press / Quantum Datalogger</td>
</tr>
<tr>
<td>2014-15</td>
<td>Chemical and Biochemical Engineering / Electrical and Computer Engineering</td>
<td>Particle Size Reduction Mill / Consumables for mechatronics and mechanical</td>
</tr>
<tr>
<td>2015-16</td>
<td>Chemical and Biochemical Engineering / Chemical and Materials Engineering</td>
<td>Particulate operations (organic chemistry) / Pressurization test rigs</td>
</tr>
<tr>
<td>2016-17</td>
<td>Chemical and Biochemical Engineering / Electrical and Computer Engineering</td>
<td>UHF Antenna</td>
</tr>
<tr>
<td>2017-18</td>
<td>Chemical and Biochemical Engineering / Civil and Environmental Engineering</td>
<td>Sedimentary and fermentation monitoring system / Concrete compressive strength testing equipment</td>
</tr>
</tbody>
</table>

"As a previous civil engineering student, I used the data loggers in multiple classes. The equipment collected experimental results with much higher precision and accuracy. More importantly, it allowed us to perform more experiments in smaller groups and as a result, it was a much better learning experience."

Khalid Backtash, BESc'17
past WESEL Committee Chair

"Students in the chemical, biochemical, civil and environmental engineering programs are directly benefiting from the new particle size reduction classification equipment. As this type of classification is important in many industries from pharmaceuticals, fine chemicals, mining and food, it was critical to ensure we deliver the best education with the latest equipment."

Dr. Lauren Briens
Professor, Chemical and Biochemical Engineering

"The recent purchase of a UHF Antenna has enabled students to design and evaluate microwave antennas in the 2.4GHz and 5.2 Ghz ranges, as well as illustrate concepts of waveguide antennas, antenna matching, spectrum analysis and antenna gain and directivity pattern."

Dr. Serguei Primak
Associate Professor, Electrical and Computer Engineering

Your help is critical

The Faculty of Engineering and the Undergraduate Engineering Society are challenging alumni and friends to help build the WESEL Fund as part of our commitment to strengthen The Western Engineering Experience. Better equipment today means Engineering students are better prepared to meet society’s challenges tomorrow.

Donating to the WESEL Fund is one of the best ways to make sure that gifts will directly impact the learning experience of engineering students at Western.

Your generous support for the WESEL Fund strengthens The Western Experience for our engineering students. For more information, please contact:

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As the owner of a manufacturing business, I fully appreciate the need to upgrade equipment regularly. I am pleased to support the WESEL fund as proud Western Engineering alumnus and as a parent of students in the program. Technology is always changing and improving; I recognize the importance of having the latest and best laboratory equipment so students are well prepared when they join industry as new graduates."

Peter Hall, BESc'83, MBA '86
President/CEO | Autotube