

# Western Engineering Outreach

## 2022 Virtual ENG Squad



### **Welcome to ENG Squad**

We are very excited you have decided to participate in Western Engineering Outreach's ENG Squad. We hope that through this program you will have the opportunity to learn about engineering through hands-on projects, Q&A panels and guest speakers. Below is some important information to help you prepare for your adventure with us. If you have any questions or comments please feel free to contact us at [discover@uwo.ca](mailto:discover@uwo.ca).

### **Virtual ENG Squad Policy**

This year, ENG Squad will take place virtually through a secure Zoom account. Display names must match the name used for registration to ensure safety of all participants. Only registered individual will be admitted to the Zoom sessions.

### **Program Expectations & Acknowledgement of Risk**

#### **Supervision is the Responsibility of Guardians**

Guardians must supervise and support their student when participating in a Western Engineering Outreach virtual program. The supervision provided should be at an age-appropriate level for a student working on an independent project. Guardians must be easily available if the student requires them. Participation in a Western Engineering Outreach virtual program is not a substitute for guardian supervision.

#### **Internet Use has Inherent Risks**

In order to support student learning, these programs are being offered online. Internet use carries with it inherent risks. During this program, youth will access the internet and interact with other youth in a structured online environment. It is the responsibility of the guardian to structure their child's internet access in an age-appropriate manner. We also encourage guardians to talk to their child about online privacy and responsible online engagement.

#### **Sessions Will be Recorded for Safety and Training Purposes**

To protect the safety of participants and Instructors, online sessions will be recorded whenever possible. Recordings will only be accessed by Western Engineering staff for training purposes or as part of an incident review process.

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### Our Mentors

In addition to all the fantastic activities that you will get to participate in we have fantastic female engineering student who have volunteered to be mentors for this year's ENGSquad. They will be coming to all our sessions. You will get to meet them at our first session. Below is a special message from them to you:

*"We can't wait to meet you all and are super excited that you will be joining us for ENGSquad! You are in store for a great year of friends, engineering fun and memories that last a lifetime. #squadgoals" – Mentor Team*

Schedule	
Date & Timing	What we will be doing!
<b>Saturday October 23, 2021</b> 10:00am-12:00pm	Welcome and Introduction <ul style="list-style-type: none"> <li>• Introduction and Icebreakers</li> <li>• Virtual Campus Tour</li> <li>• Special Guest – Our Mentors and BMO!</li> </ul>
<b>Saturday November 13, 2021</b> 10:00am-12:00pm	Software Engineering <ul style="list-style-type: none"> <li>• Into to Coding Lesson</li> <li>• Special guest</li> </ul>
<b>Saturday December 4, 2020</b> 10:00am-11:00am	Q&A Panel with <ul style="list-style-type: none"> <li>• Recruitment Coordinator</li> <li>• Current Female Undergrad Students</li> <li>• Alumni</li> <li>• BMO</li> </ul>
<b>Saturday January 22, 2022</b> 10:00am-12:00pm	Thermoelectric Flashlights <ul style="list-style-type: none"> <li>• Electrical Engineering Activity with Circuits</li> <li>• Special Guest</li> </ul>
<b>Saturday February 26, 2022</b> 10:00am-12:00pm	Chew Chew Bubble Gum <ul style="list-style-type: none"> <li>• Chemical Engineering Activity</li> <li>• Special Guest – Master of Engineering in Food Processing Program</li> </ul>
<b>Saturday March 26, 2022</b> 10:00am-12:00pm	Crash Testers <ul style="list-style-type: none"> <li>• Mechanical Engineering Activity</li> <li>• Special Guest – Ruhmaa Bhatti, BEMSc: Chassis/Denso Parts Quality Mass Production Rep at Honda of Canada Mfg.</li> </ul>
<b>Saturday April 23, 2022</b> 10:00am-12:00pm	Engineering and Business Case Study <ul style="list-style-type: none"> <li>• Integrated Engineering</li> <li>• Special Guests</li> </ul>
<b>Saturday May 7, 2022</b> 10:00am-11:00am	Q&A Panel with <ul style="list-style-type: none"> <li>• Recruitment Coordinator</li> <li>• Current Female Undergrad Students</li> <li>• Alumni</li> <li>• BMO</li> </ul>

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### Material Kit

We have a material kit available for purchase. The kit is optional but recommended. Please see the table below for the materials included in the kit. All materials are for participants to keep. The cost of the kit is \$80. If you are interested in purchasing a kit, please email [discover@uwo.ca](mailto:discover@uwo.ca)

Required Materials		
Activity	Materials in Kit	Materials Needed from Home
<b>Thermoelectric Flashlights</b>	<ul style="list-style-type: none"> <li>1 Peltier Thermoelectric Generator Tiles</li> <li>3 LEDs</li> <li>1 KOhm resistor</li> <li>1 AA</li> <li>Transistor 2N4401</li> <li>1 Ferrite Toroid</li> <li>4 wires</li> </ul>	<ul style="list-style-type: none"> <li>Computer with internet connection</li> <li>Toilet paper tube</li> <li>Cardboard</li> <li>Paper</li> <li></li> </ul>
<b>Chew Chew Bubble Gum</b>	<ul style="list-style-type: none"> <li>1/2 cup beeswax (make sure it's food grade)</li> <li>1 cup powdered sugar</li> <li>3 tablespoons honey</li> <li>Microwave safe bowls</li> <li>Stirring stick</li> <li>Wax Paper</li> <li>Stickers</li> <li>Ribbon</li> </ul>	<ul style="list-style-type: none"> <li>Computer with internet connection</li> <li>Water</li> <li>Microwave</li> <li>Food Colouring (optional)</li> <li>Microwave safe bowl</li> <li>Permanent Markers</li> <li>Peppermint or cinnamon extract</li> </ul>
<b>Crash Testers</b>	<ul style="list-style-type: none"> <li>4 Blank CDs</li> <li>10 Straws</li> <li>10 popsicle sticks</li> <li>8 Skewers</li> <li>Glue</li> <li>Rubber bands</li> <li>Plasticine</li> <li>Paper clips</li> <li>5 pipe cleaners</li> <li>1 9V Battery</li> <li>1 Vital Rigid Battery Snap</li> <li>1 On/off switch</li> <li>1 DC Motor</li> </ul>	<ul style="list-style-type: none"> <li>Computer with internet connection</li> <li>Egg</li> <li>Blank paper</li> <li>Something to write with</li> <li>Scissors</li> <li>Tape</li> <li>4 Bottle caps</li> <li>Cardboard</li> <li>Textbook</li> <li>Place to put the start of the board (at least 1 foot tall) Eg. stack of books or a shelf</li> </ul>

### Western Engineering Outreach

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Engineering