



# Department of Mechanical Engineering

## Technical Resources and Safety

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**ENGINEERING**  
Mechanical Engineering



# Overview

- Introduction of the Technical Staff
- General Safety Information and Resources
- Project Laboratory (Machine Shop) – Overview and Training
- Mechanical Engineering Lab Space
- Example Project Pieces

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Technical Staff Office – JHE 207



John Colenbrander,  
colenbjw@

Supervisor; Design,  
purchasing, machine  
shop, safety, labs.



Michael Lee,  
mlee@

Machine Shop, Design,  
Welding, safety, labs



Mark MacKenzie,  
mackm@

Design, purchasing,  
mechatronics, welding,  
digital mfg., labs



Steve Smith,  
smits57@

Machine Shop, training,  
labs



Rob Sluban,  
slubar2@

Instrumentation,  
Electronics,  
Computer/Software, labs

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## Safety Information and Resources - Common

1. Project Laboratory (Machine Shop) Training – for Mechanical Engineering Undergraduate Students or Graduate students with Mech Eng Supervision:
  - Training materials are available year-round on Avenue, [here](#). If you can access Avenue but can't access the course, please contact the Facilities Manager.
  - The in-person tour is available in the Fall term (September) and the Summer term (April). Sign up [here](#).
2. Fire Alarms
  - You MUST leave the building promptly
  - Monthly testing – details are on a poster near the front door of every building
3. Situational awareness
  - A beautiful campus, but always consider your safety and security.
  - See [Security Services Campus Emergency Guide](#)
4. Facilities Services / Security
  - Room hot, cold, a water leak? Undergrads: Please discuss with the instructor or the Facilities Manager
  - See something suspicious? Contact Security directly, ext “88” or 24281, or call 905-522-4135



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## Safety Information and Resources – Grad Students and Employees

### 1. JHA – Job Hazard Analysis

- Identify required & role-specific training with your supervisor ([here](#))
- Explore [EOHSS Health and Safety Training FAQ](#).

### 2. Health and Safety Reps

- Diane Siv-Parr and Michael Lee (staff) and Brett Sicard (grad)
- Lab inspections, safety concerns

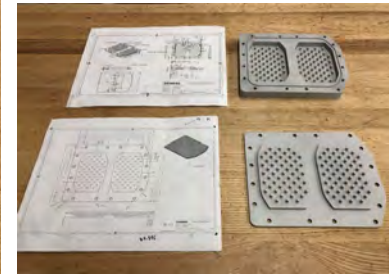
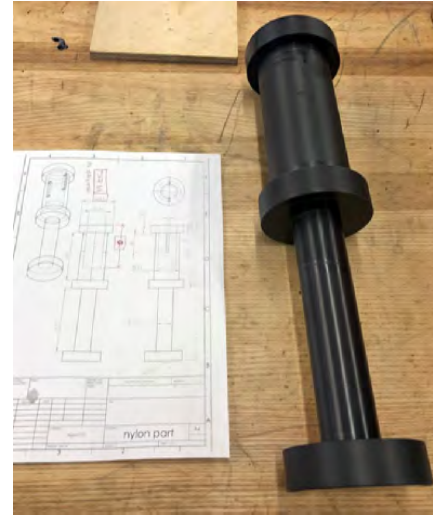
### 3. Facilities Services / Security

- Room hot, cold, a water leak? [Grad students and Researchers, [submit a Service Request directly](#)]
- See something suspicious? [Contact Security directly, ext “88” or 24281, or call 905-522-4135]

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## Undergraduate Project Laboratories

- Experienced technical staff are available to consult on project design, build, purchase/procurement, safety, etc.
- Machine shops for working with metal, wood, plastics and many other materials (training process is [outlined here](#)):
  - Manual and CNC machining processes (drilling, lathe work, milling),
  - Fastening (welding, brazing, etc.)
  - Modern digital processes (3D Printing, laser cutting)
  - Resources for electronics and instrumentation development
  - Measurements and 3D scanning
- Used by students in:
  - The Mechanical Engineering Composite Laboratory Courses
  - The Capstone Project course (ME 4M06)
  - Mechanical Engineering Graduate programs
  - MES-Sanctioned Clubs and Teams
- For many of you, time spent in the Project Laboratory will be critical to the success of your projects and we look forward to working together to help meet your goals.

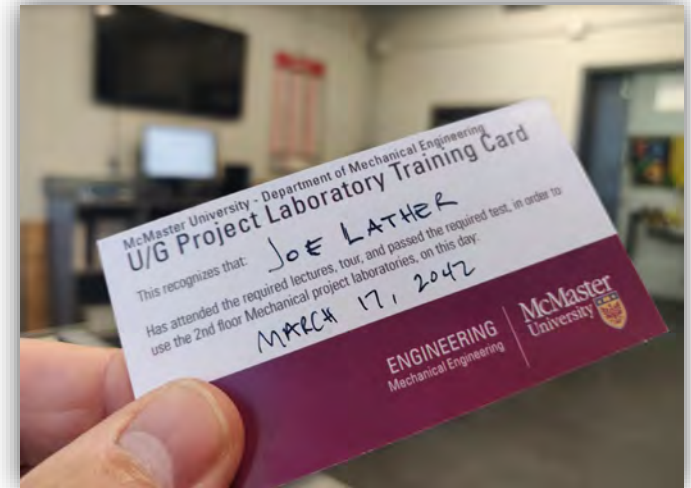


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How to Gain Access to the Undergraduate Project Laboratory Shops...

...Get a Project Laboratory Training Card!

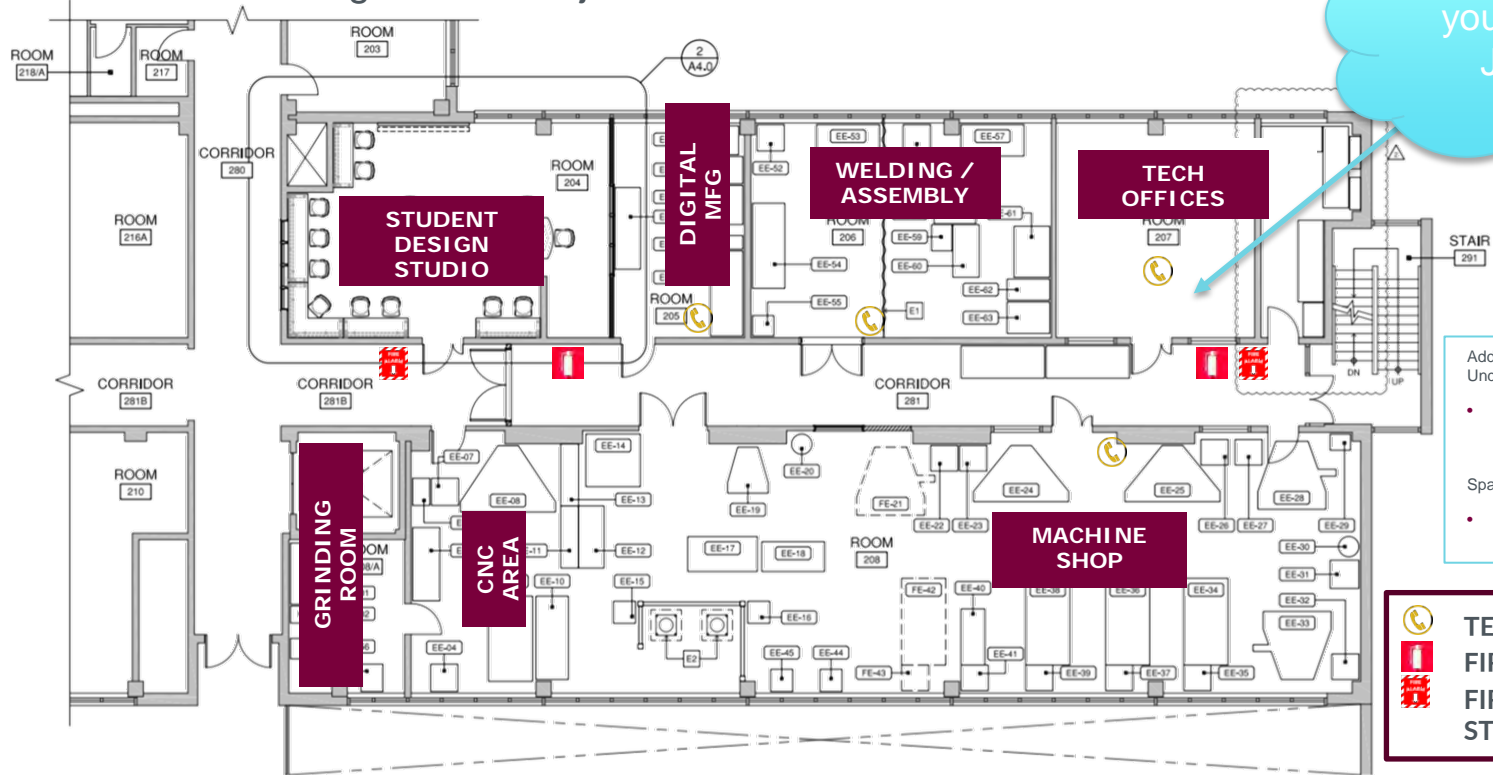
Did you do the M1, M2 and M3 Lab Experiments in Mech Eng 3M03?	NO	YES
<ul style="list-style-type: none"><li>• Use the Shop Manual as a reference</li></ul>	Yes	Yes
<ul style="list-style-type: none"><li>• View the Facilities and How-to lecture</li></ul>	Mandatory	Mandatory
<ul style="list-style-type: none"><li>• View Shop Safety video lecture<ul style="list-style-type: none"><li>◦ Write and pass safety quiz</li></ul></li></ul>	Mandatory	Suggested
<ul style="list-style-type: none"><li>• View machining videos</li></ul>	Mandatory	Optional
<ul style="list-style-type: none"><li>• Sign up for and attend a tour</li></ul>	3-hour	1-hour
<ul style="list-style-type: none"><li>• Write and pass the Safety Test</li></ul>	Mandatory	Mandatory
<ul style="list-style-type: none"><li>• Obtain Training Card</li></ul>	Mandatory	Mandatory




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## Where are the Undergraduate Project Laboratories?

Please introduce yourself to us  
JHE 207



- Additional Mechanical Engineering Undergraduate Labs include:
- JHE B108./B109, 106, 108, 305, ABB C202 (Mech Eng 2B03, 3M03 and 4P03)
- Spaces with regular Undergrad access:
- JHE 204 (Design Studio) & ABB C208 (Computer Lab)

 TELEPHONE  
 FIRE EXTINGUISHER  
 FIRE ALARM PULL STATION



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## Undergraduate Project Laboratories – Safety First

- When using the Project Laboratories, please remember:



Put Safety Glasses on  
Before Entering the Shop  
(available for purchase at  
The Drain)



Shoes / Boots  
Required  
(cover entire foot; no  
open toe sandals, etc.)



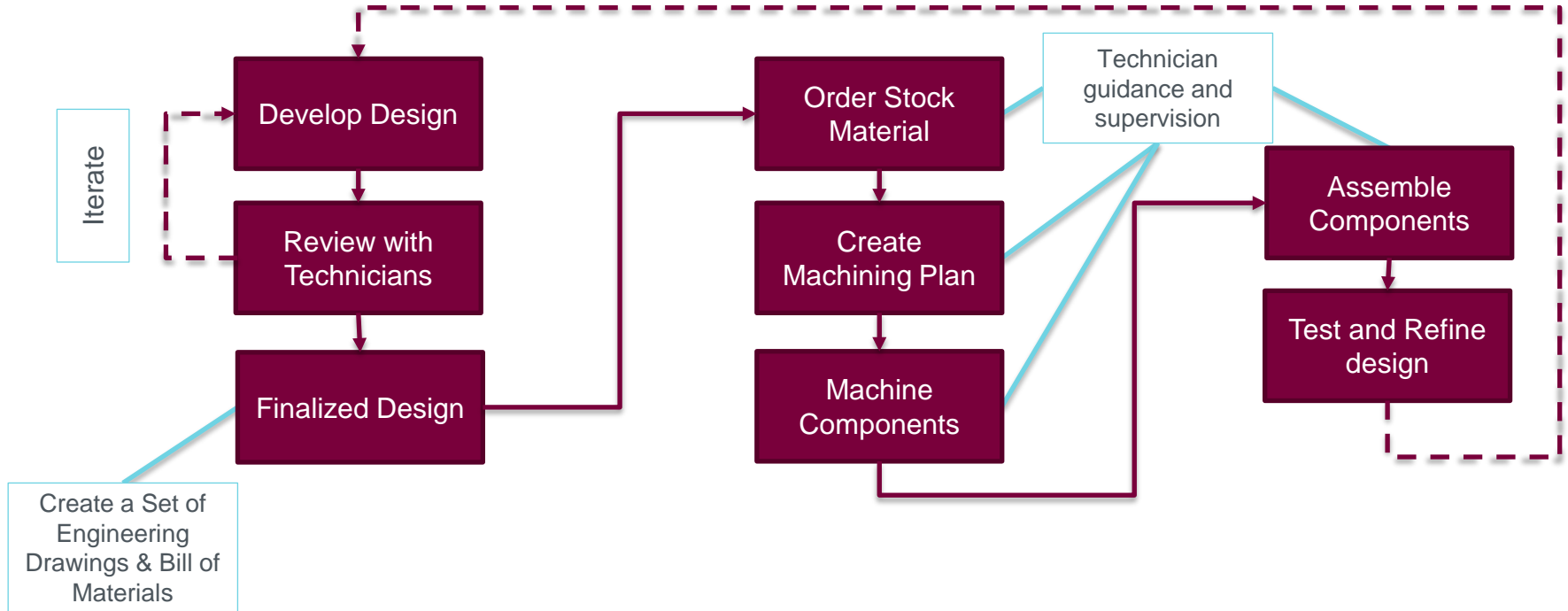
Wear Long Pants  
(no shorts, skirts, etc.)  
and Shirts appropriate  
for Shop use



Tie Back Long Hair  
and Loose Jewelry,  
Clothing, etc.

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## Typical Design Project Workflow – Interaction with Technical Staff and Facilities

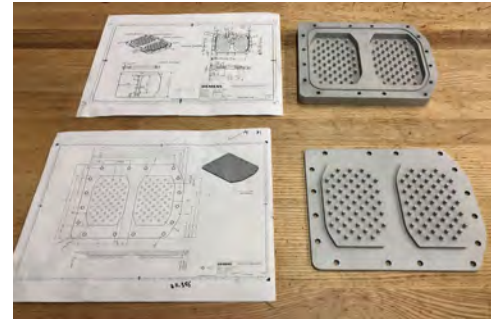
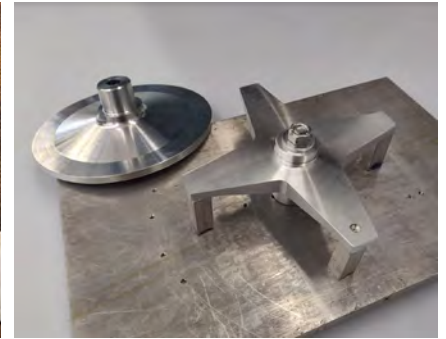
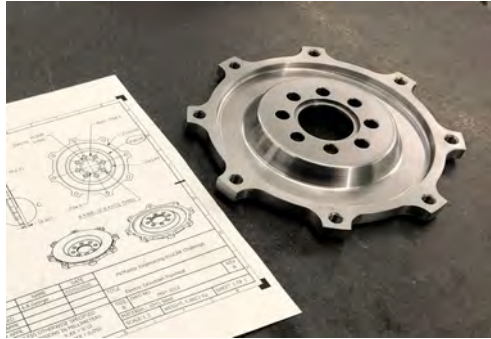




# Project Examples

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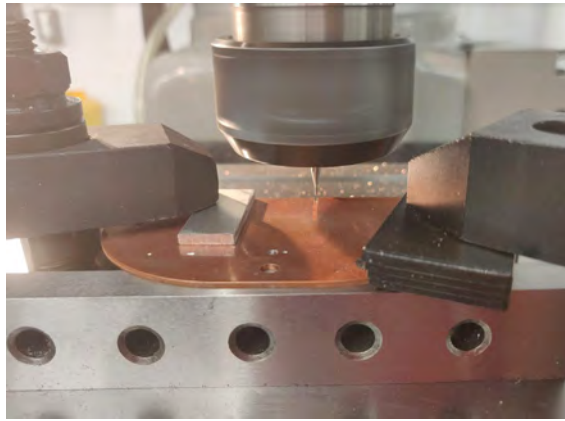
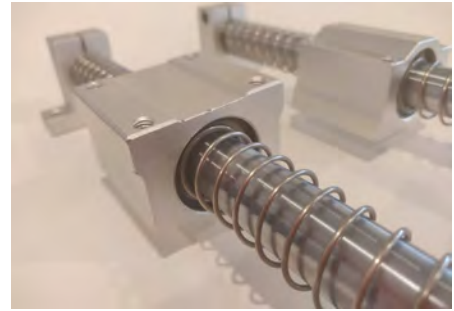
## Undergraduate Project Laboratories – Project Examples



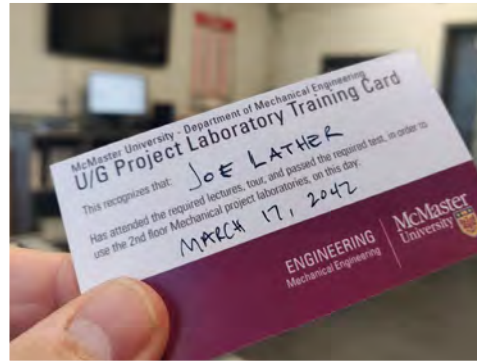


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## Undergraduate Project Laboratories – Project Examples



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