



Engineering
at Alberta

Overview of Safety Practices In ECE

Graduate Student Orientation Seminar

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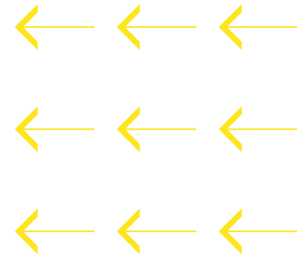
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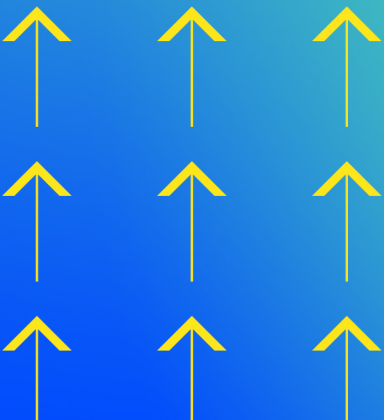
Safety in ECE – a priority at all levels



Safety of all students and staff is a high priority in ECE, in Engineering, and across campus at the U of A

- The ECE department is currently placing great emphasis on improving the awareness and implementation of good safety practices in all of its research labs
- Faculty supervisors have ultimate responsibility for ensuring that safe practices and proper training are provided in their research labs, however:
- Everyone is responsible for workplace health and safety
- As graduate students, you are on the ‘front line’: for maintaining and improving our department safety culture, it is **critical that you are given the resources to practice and recognize good safety protocols in your particular workspaces**

***Everyone is responsible
for workplace health and
safety***



Case Study

Nitric Acid Explosion





Case studies – Nitric Acid Explosion

On January 24, 2018, there was a detonation in a small contained vessel being heated in a laboratory oven. The detonation caused the vessel to fail at a threaded joint. The two pieces of the vessel rapidly accelerated in opposite directions, tearing through the oven wall, destroying the laboratory oven.



Case studies – Nitric Acid Explosion

One of the pieces narrowly missed a lab occupant and the other piece ricochets within the lab. There were no injuries as a result of this incident. However if the projectiles took a slightly different course, this could have been a very tragic event.

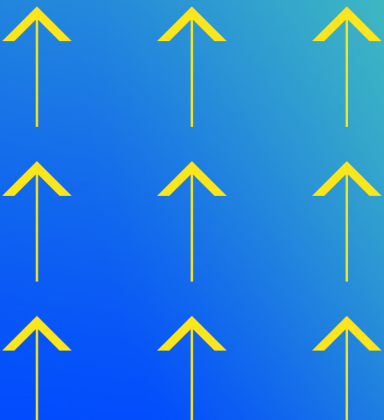


Case studies – Nitric Acid Explosion

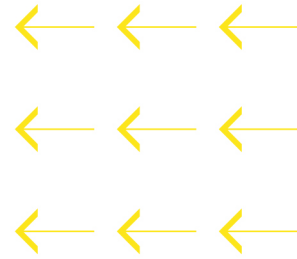
The technical analysis concluded that laboratory personnel intended to clean the vessel by pouring nitric acid and water into a Polytetrafluorethylene (PTFE) liner, placing the liner in the vessel, sealing the vessel and heating the assembly to 110oC in a laboratory oven.

The investigation determined there was chemical contamination that caused a rapid chemical reaction and detonation.

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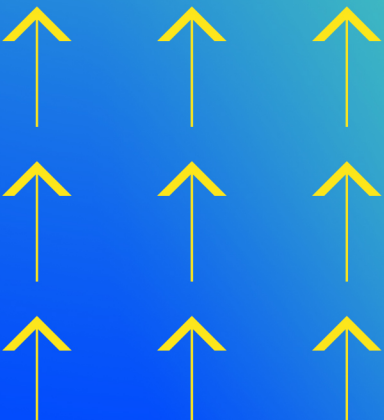
Safety – what you should know



As a new graduate student, feel empowered to advocate for good safety practices in your workspaces

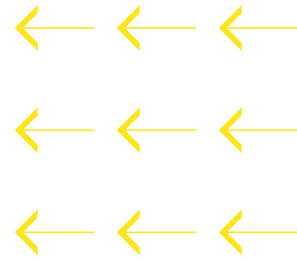
- Ensure that you are made aware of the safety training you must have before conducting research in your specific laboratory / work space
- Ask if there is a dedicated “Safety Lead” in your laboratory
- Look for opportunities to be a leader in improving/maintaining good safety practices in your lab (consider taking EHS-offered courses beyond those minimally required for your lab)
- Ask if anyone in your lab has completed the “Supervisory EHS Professional Development” course (<https://www.ualberta.ca/environment-health-safety/training/supervisory-ehs-professional-development-2018-2019>): ECE is aiming to have at least one person from each laboratory complete this course
- Know that you will be supported if you have concerns about safety!!

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Safety – COVID 19

<https://www.ualberta.ca/covid-19/index.html>



HEALTH + SUPPORT

Follow these steps to keep yourself healthy and minimize the spread of any respiratory virus (including COVID-19).

1. Prevent

- Regularly complete the [COVID-19 Alberta Health Daily Checklist](#)
- Follow all [campus safety guidelines](#)
- Practice good hygiene and [stay home if you're sick](#)

2. Stay informed

- [U of A COVID-19 Updates](#)
- [Government of Alberta COVID-19 Information Site](#)
- [Alberta Health Services \(AHS\)](#)
- [AHS COVID-19 Vaccine Information](#)
- [Public Health Agency of Canada](#)
- [World Health Organization](#)

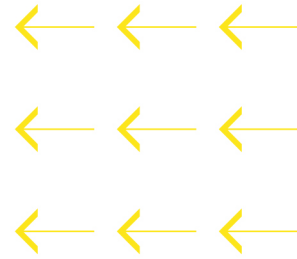
3. Know your supports

Students

- [On-campus health and wellness resources](#)
- [Off-campus resources](#)

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If you are coming to campus:

Before you come, you must:

- Complete the Mandatory Online Safety Course
- Complete the vaccination declaration / start weekly testing

The following are required for while you are on campus:

- don't come to campus if you are sick
- check-in every visit: <https://here.ualberta.ca/>
- wear a mask
- keep your distance
- wash your hands

The Beginning of Anything



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