

**ELATE Coffee & Chat**  
Faculty of Engineering  
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# Enhancing student learning through the use of instructional videos in lab courses

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# Course Information

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## **Course: CIVE430** Water Treatment and Pollution Control

- Design technical elective
- Four lab sessions that cover an array of common water and wastewater quality analysis
- Usually has students from civil, chemical, and bioresource engineering
- Large variations in previous wet lab experience

# Objectives

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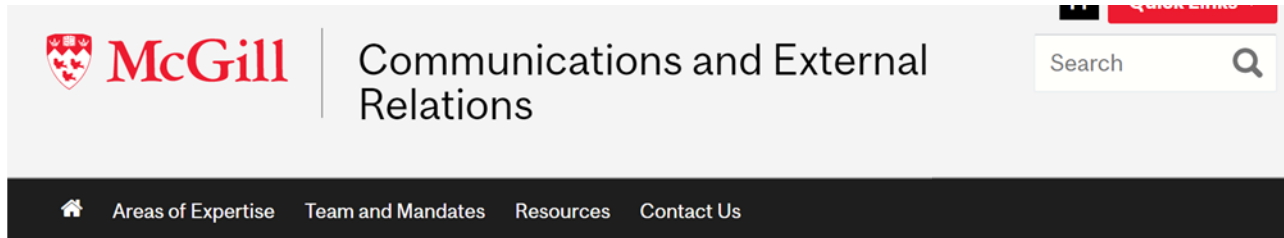
**Course: CIVE430** Water Treatment and Pollution Control

## Objectives in creating lab demonstration videos

- Study aid for pre-lab quiz and lab report
- Safety net for potential future interruptions in access to in-person lab
- Increase familiarity with equipment and safety procedure
- **Increase student confidence in the lab**

# Funding and Resources

## ELATE Teaching and Learning Improvement Fund



### Video Production



**Frank Roop**  
Video Producer  
514-398-3700, Ext. 2

Take advantage of our expertise

[Request a service](#)

**Communications Huddle**

The Communications Huddle is



## EUSF Engineering Undergraduate Support Fund

# Planning & Creation

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## Video Content

- Introductory Statement (theory)
- Safety Statement (identification of key hazards)
- Demonstration with narration

### **My Advice:** *the video cannot replace the lab manual*

- Keep the demonstration somewhat general (avoid noting exact quantities or times) to avoid any contradictions with what is actually done on the day
- Focus on instrumentation and identification of hazards



# Evaluation & Student Reception

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**Fall 2022 session is the first time that the videos are fully integrated into the course – 2 of 4 lab sessions completed so far**

- For 2022, no lab sessions yet required extra time (compared to 2021, in which lab session 1 went significantly overtime). Qualitatively, students are observed to be working more efficiently
- Scores on the pre-lab quizzes slightly higher (2022: 94%, 90%; 2021: 89%, 90%)
- Submitted lab reports of higher quality (2022: 85%; 2021: 78%)
- Students verbally report to use the videos primarily *after* the lab to help them recall the procedure performed while completing the lab report
- End of the semester survey will ask students to report on the usefulness of the videos, and their impact on their perceived confidence in the lab

# Thanks

Email me anytime with questions: [stephanie.loeb@mcgill.ca](mailto:stephanie.loeb@mcgill.ca)

