# Territory Acknowledgment

We acknowledge and respect the Lekwungen peoples on whose traditional territory the University of Victoria stands, and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

https://www.youtube.com/watch?time_continue=105&v=Fwa9c8nqHUo&feature=emb_logo

# ENGR 120

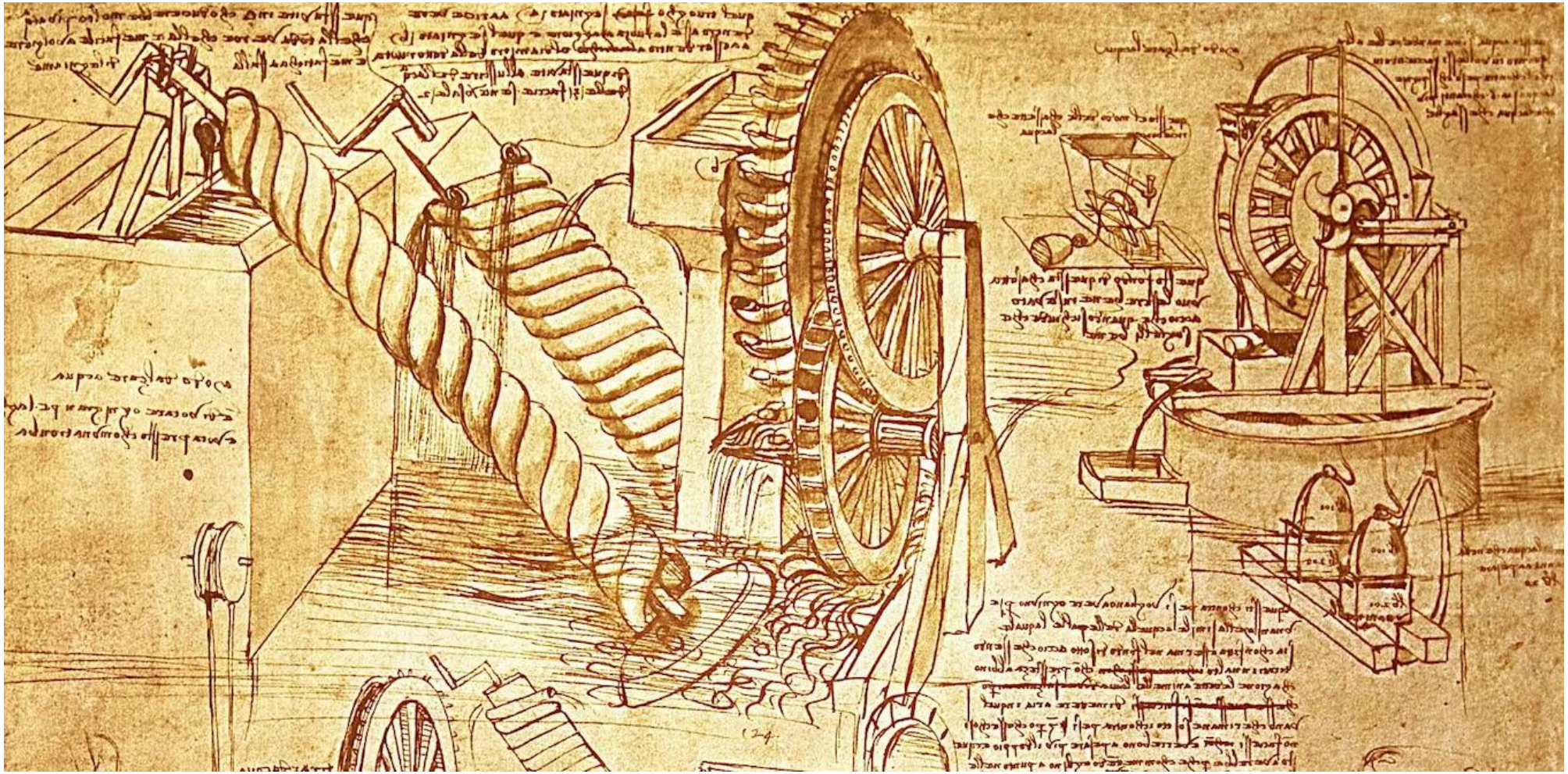
Design & Communication II

# ENGR 121

Design II

## Concept sketch

# Concept sketch



# Learning Outcomes

- Define: Concept sketch
- List: Steps to create a concept sketch
- Explain: Requirements for the upcoming assignment

# Concept sketch

- Hand sketched drawing of your design
- Captures all the major design decisions
    - Multiple views may be needed to showcase
- Notes are appended to describe major design concepts

# Steps for creating a concept sketch

- Think of different designs –
  *remember you have access to more parts than available in the kit*
- Select design options that are smart
  - *Minimize cost, maximize performance etc.*
- List all mechanisms & check if all tasks can be accomplished
- Capture the design pictorially showing all major details
- Append notes explaining the operation

# Upcoming submission – due on Feb. 3rd

Concept sketch – video submission – individual activity

Upload a video on Brightspace

Course Tools → Assignments → *Concept sketch*

1) *Hand-sketch your robot's structure*

Focus is on the mechanical structure

(a) Drive mechanism for the robot

(b) Object placement mechanism

(c) Sensors and microcontroller positions

# Upcoming submission - due on Feb. 3rd

Concept sketch – video submission – individual activity

Upload a video on Brightspace

Course Tools → Assignments → *Concept sketch*

2) *Talk about your design choices*

How many wheels? Why?

How many motors? Why?

What mechanism for robot motion & ball placement? Why?

# Some useful resources

https://curriculum.vexrobotics.com/curriculum.html

https://www.robotc.net/teaching_rc_cortex_v2/lesson/index_reference.html

https://www.robotc.net/teaching_rc_cortex_v2/lesson/media_files/clawbot_sensors.pdf

# Summary

Hand sketched drawing of your design

Focus is on the mechanical structure

(a) Drive mechanism for the robot

(b) Object placement mechanism

(c) Sensors and microcontroller positions

Create a video (about 3 minutes) and talk about your design decisions

Be creative and design smart!

# Announcement

In next lab session, you will learn to

- Build a circuit (light sensor) that can detect IR light
- Make decisions based on the output of the light sensor