

ENGR 120

Design & Communication II

ENGR 121

Design II

Project planning

Your expectations from the course...

59 responses were received

Most of them focused on *Team work*

Quite a few focused on *communication skills*

A few focused on *design skills*

A handful of responses expressed concern about the unfamiliarity of the course contents → Worry not!



Institute of Electrical and Electronics Engineers



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



Learning Outcomes

- Why plan
- Information needed for planning
- Planning tool
- How to build a Gantt chart
- Building a Gantt chart



Planning – why is it needed?

- Estimate cost
- Identify resources and the critical path
- Facilitate progress tracking
- Assists in countering contingencies
- Supports major decision making
- Helps successful completion of the project within the constraints



Activity 1

3 minutes

In teams of 2 or 3

Plan to *prepare a cake*

Assume you have no ingredients with you

Assume you have money and all the appliances/gadgets you need.

If you have any questions related to the activity, please write them down on a piece of paper.

You are not supposed to ask them until the activity is over.



Information for planning

Goal statement alone is not sufficient

Plan to *prepare a cake*

What is a goal statement?

Non-technical, easy to understand but lacks details

Used as a *pitch* – attractive enough to warrant further dialogue



Information for planning

Some more details are essential

Plan to *prepare a cake*

- Cake type/flavor
- Quantity
- Delivery time frame

Information for planning

Collect them by

- Conducting research
- Interacting with client
- Interacting with team members
- Being aware of existing resources



Activity 1

5 minutes

In teams of 2 or 3

Plan to *prepare a pound of chocolate cake to be delivered ASAP*

Assume you have no ingredients with you

Assume you have money and all the appliances/gadgets you need.

If you have any questions related to the activity, please write them down on a piece of paper.

You are not supposed to ask them until the activity is over.



Activity 1

5 minutes

In teams of 2 or 3

Plan to *prepare a pound of chocolate cake to be delivered ASAP*

Activities:

- 1) Look up for the correct recipe
- 2) Buy all the ingredients as per the recipe
- 3) Follow the steps given in the recipe
- 4) Deliver the cake once it is done

Is this the fastest way?



Project Planning – Gantt chart

Problem is loosely defined but has sufficient details

- Project planning can be initiated using existing information
- Gantt chart → a tool that shows project plans

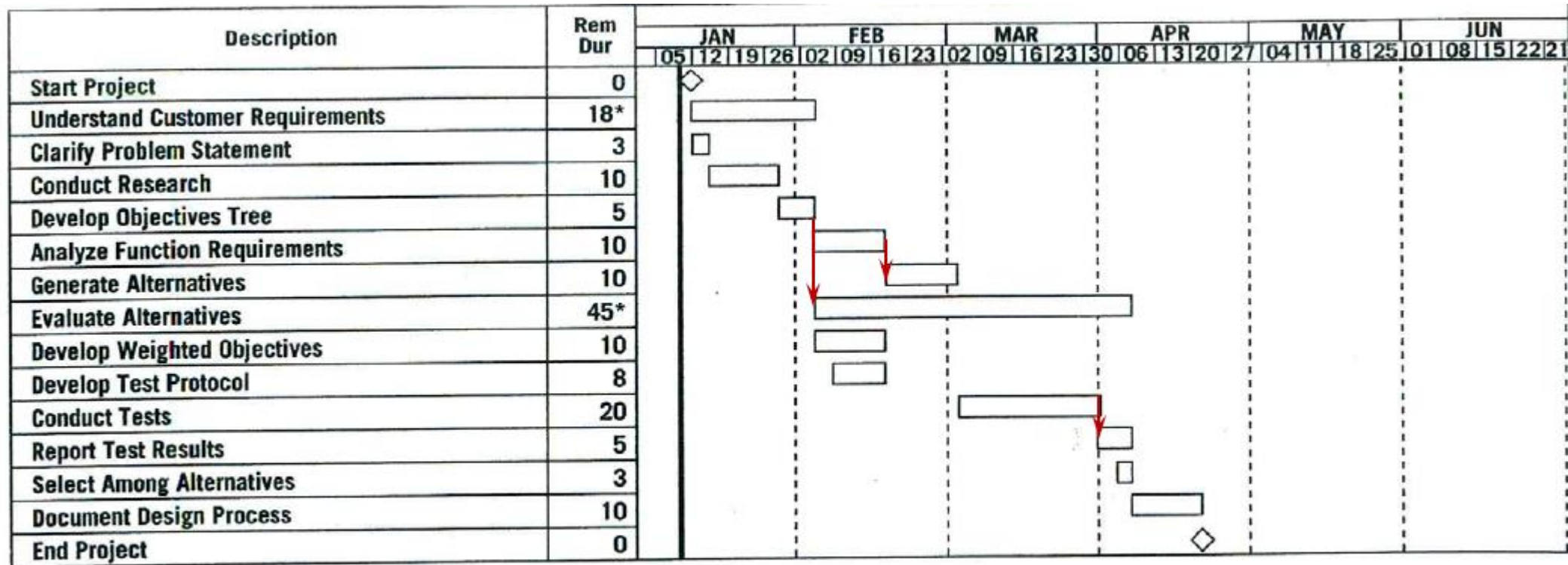
Gantt chart → horizontal bar graph that maps various design activities against time

- Prof. Flavio Firmani

ENGR 110/112



Gantt Chart template



Prof. Flavio Firmani

ENGR 110 / 112 – Design I



University
of Victoria

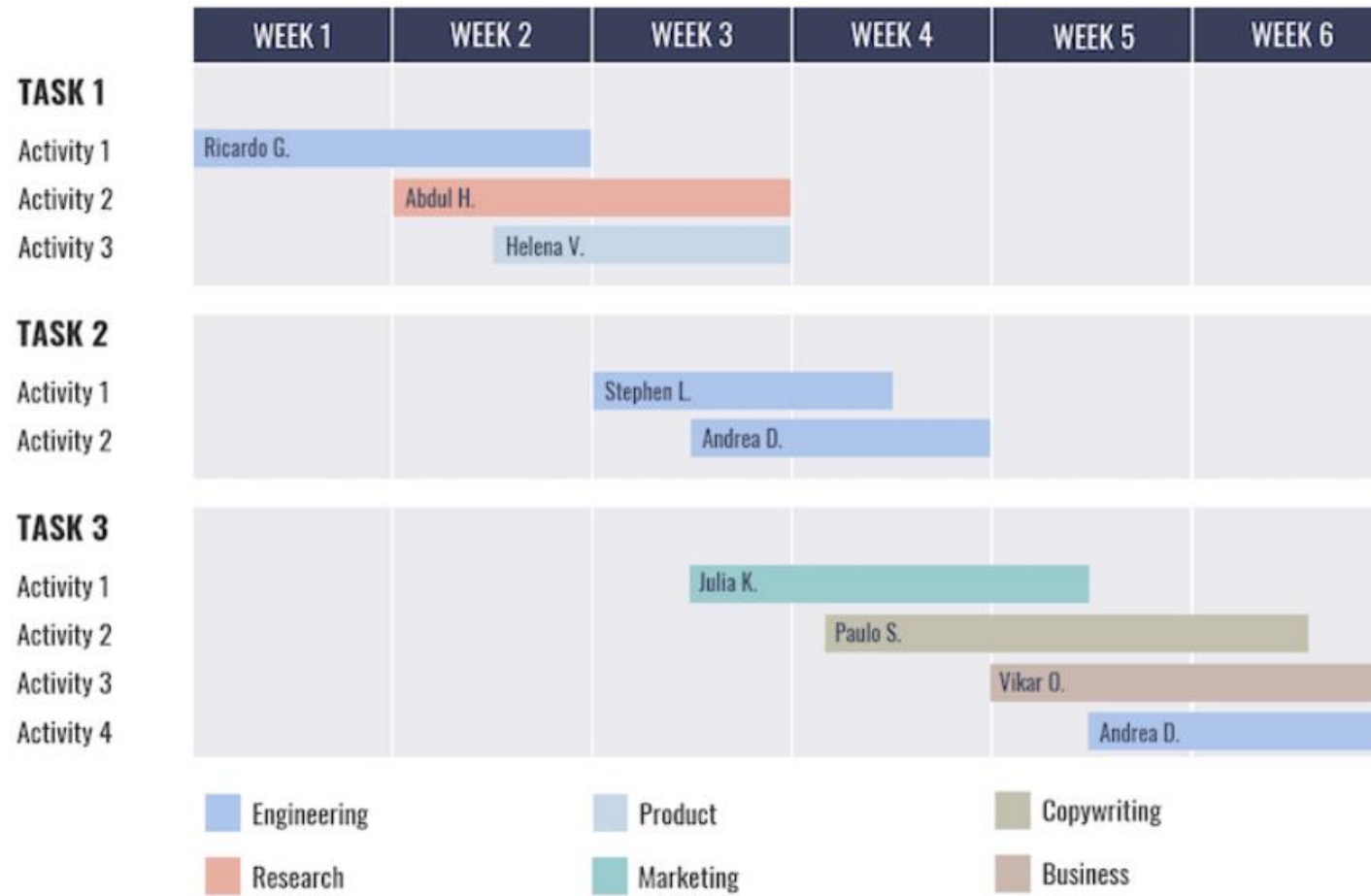
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Gantt Chart for the completed activity



Gantt Chart template

<https://venngage.com/blog/gantt-chart-example/>



How to create a Gantt chart?

- List all major design activities
- Identify resources at hand
- Estimate time needed to complete each activity based on the resources/skills available
- Identify interdependencies
- Assign priority
- Arrange in appropriate order



Gantt chart - example

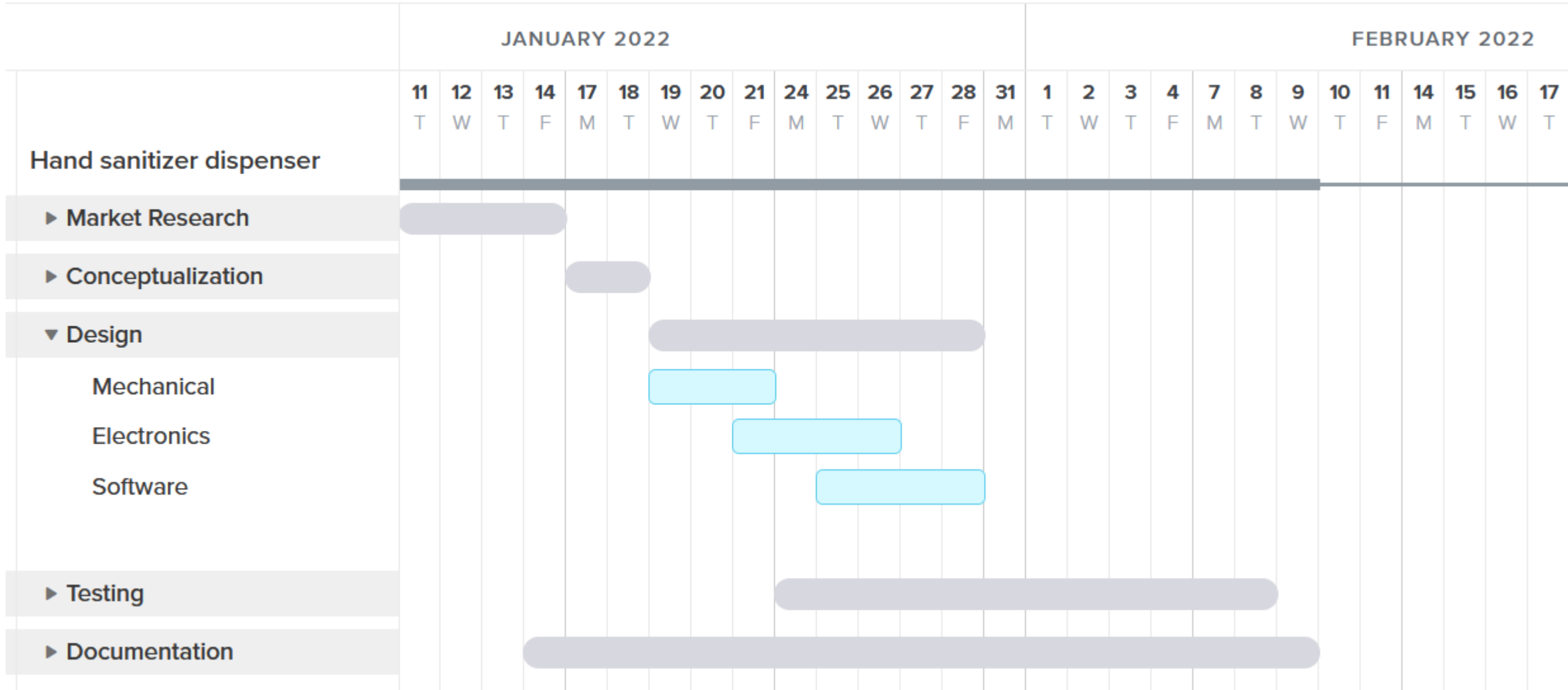
Design a smart hand sanitizer dispenser

Sample activities

- Research existing dispensers
- Conceptualize design
- Mechanical structure design
- Electronics design
- Programming
- Assembling
- Testing
- Documentation



Gantt chart - example



Summary

- Project planning → facilitates better project management
- Gantt chart is a tool used for project planning
 - Horizontal bar graph that maps various design activities with time i.e. *what has to be done and by when*
 - Captures all the interdependencies
 - Shows the person/team responsible for different activities



Announcement

- Project details will be uploaded on Brightspace by tomorrow
- In next week's lab sessions, you will be working together and preparing a Gantt chart for executing your project.
- More details will be shared via Brightspace announcement