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UNIVERSITY

FACULTY OF ENGINEERING AND ARCHITECTURE

DEPARTMENT OF ELECTROMECHANICAL, SYSTEMS AND METAL ENGINEERING
RESEARCH GROUP SUSTAINABLE THERMO-FLUID ENERGY SYSTEMS

PLANNING AND SCHEDULING YOUR THESIS

Wim Beyne 26/10/2021

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WHY MAKE A PLANNING?

October	November	December	January
			
February	**March**	**April**	**May**
		 WHAT CAN I DO?	 NOTHING

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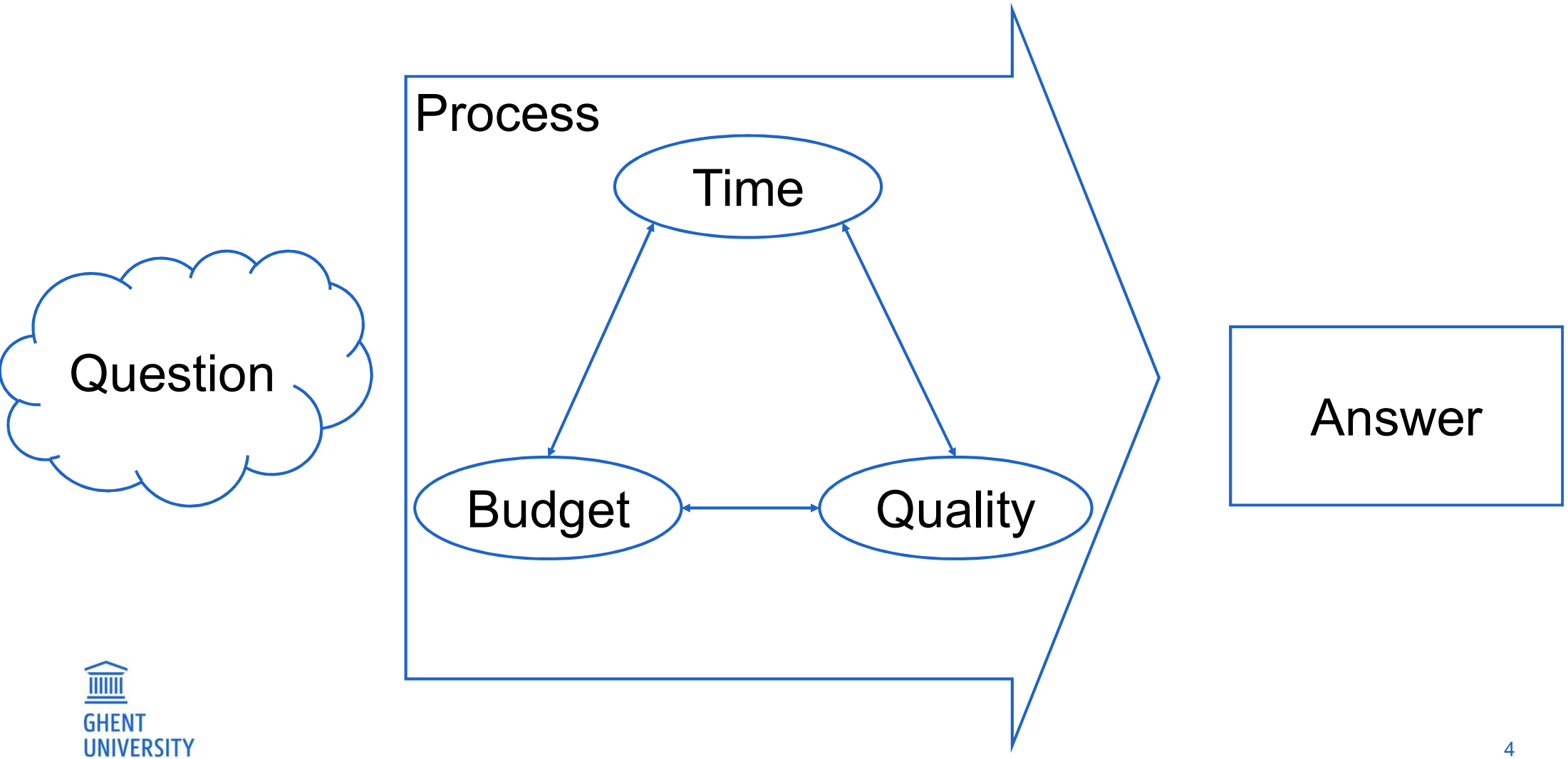
TO OWN YOUR PROJECT!

PROJECT DEFINITION



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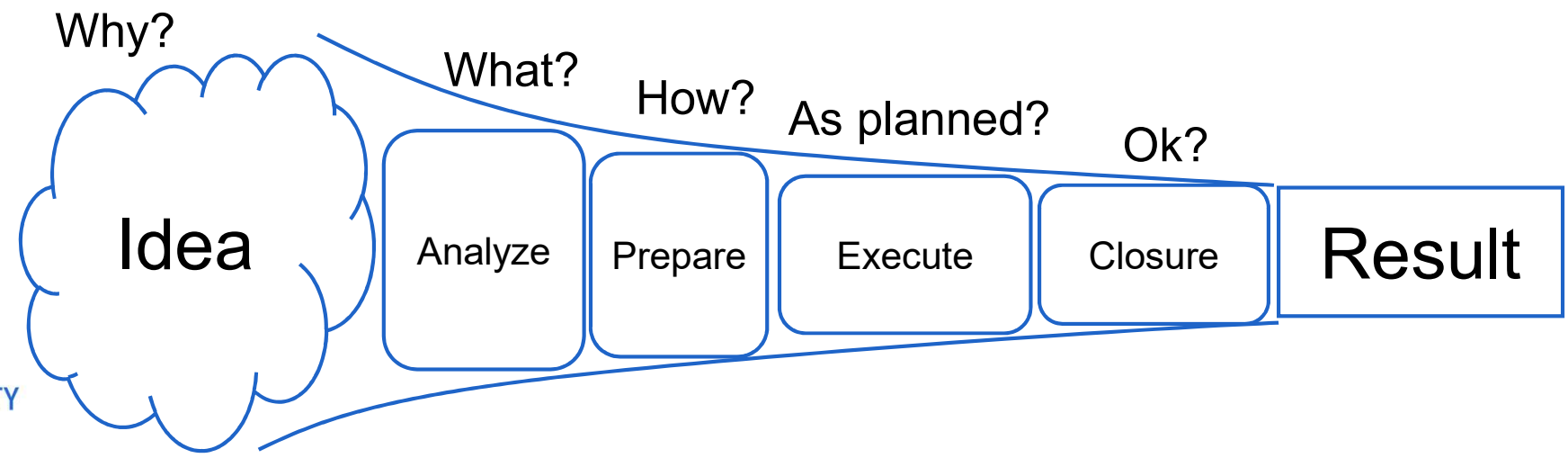
PHASING YOUR MASTER THESIS

- After each phase build in:
  - Concrete result
  - Decision moment
- Control the scope of the project



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CASE STUDY: MY MASTER THESIS

DECONINCK
WANSON
WE EXCEL UNDER PRESSURE.

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WE WANT TO REDUCE THE COST OF OUR FIRE TUBE BOILERS.

PHASING YOUR MASTER THESIS

Idea

We want to reduce the cost of our fire tube boilers

Why?: because we want to reduce the cost for our customers.

Analyze

Our designs are not tailor made for each customer.

What? Tailor the boiler for the need of the specific client.

Prepare

How? Build a heat transfer model of the boiler.

Execute

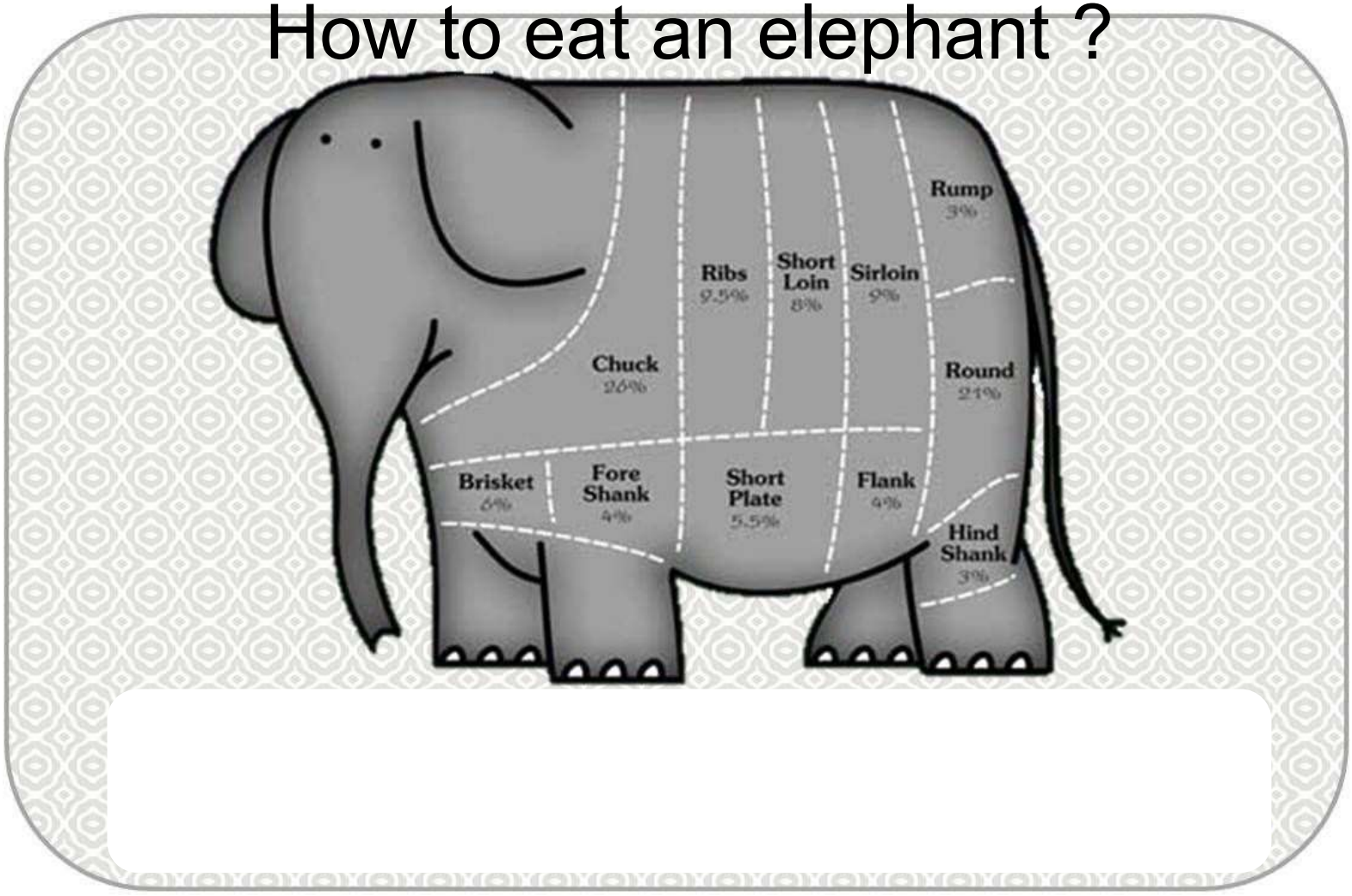
As planned?

Closure

Can we use the models for boiler design?

HOW TO DO A LARGE TASK?

How to eat an elephant ?



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WORK BREAKDOWN STRUCTURE

- Divide the project into sub tasks until:
  - Each task has one owner
  - Each task has an estimated duration
- Identify milestones

  e.g. literature review, finished setup …
- Identify decision moments

  e.g. components to buy , scope of the study

WORK BREAKDOWN STRUCTURE: CASE

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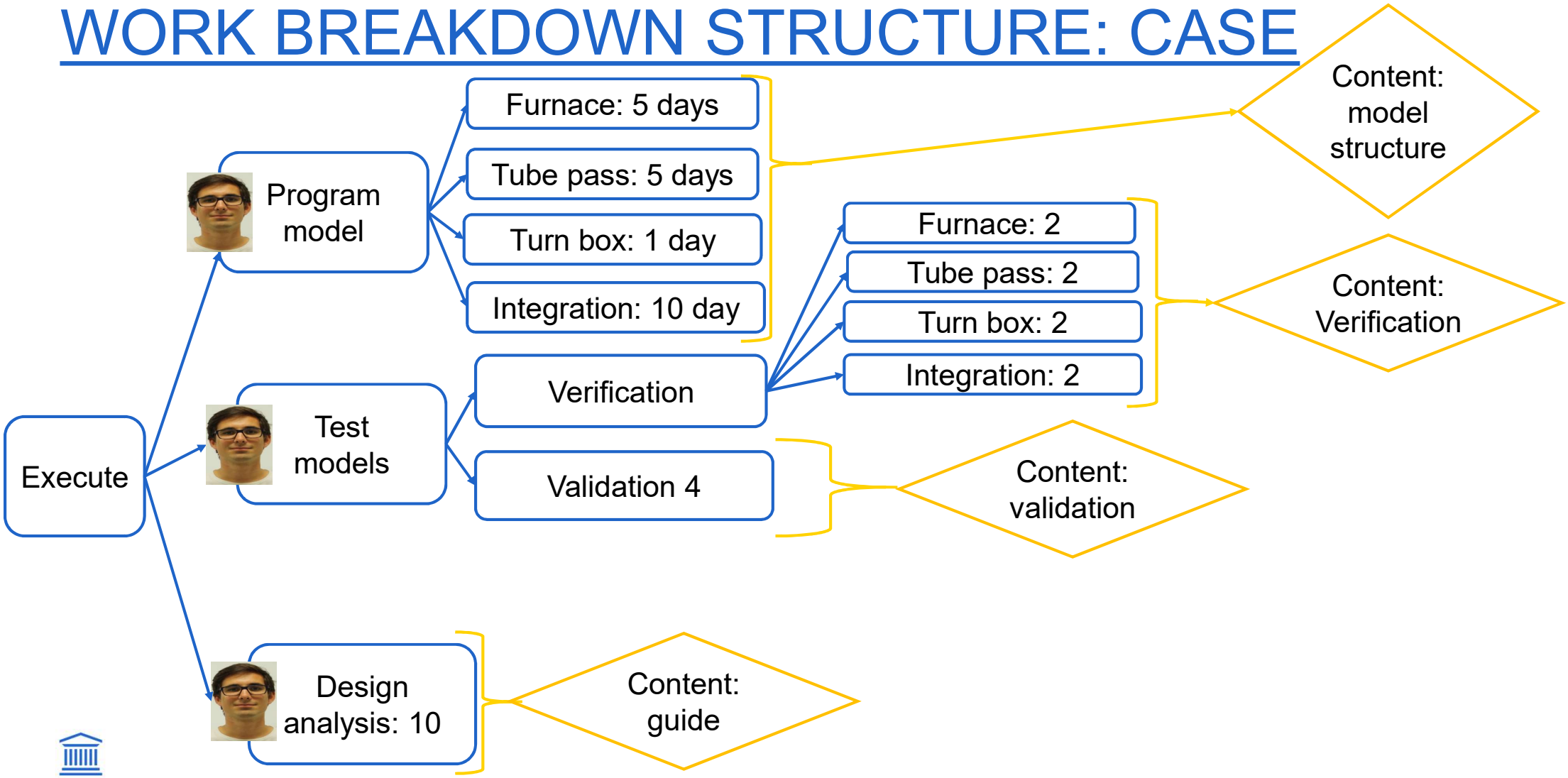
WORK BREAKDOWN STRUCTURE: CASE



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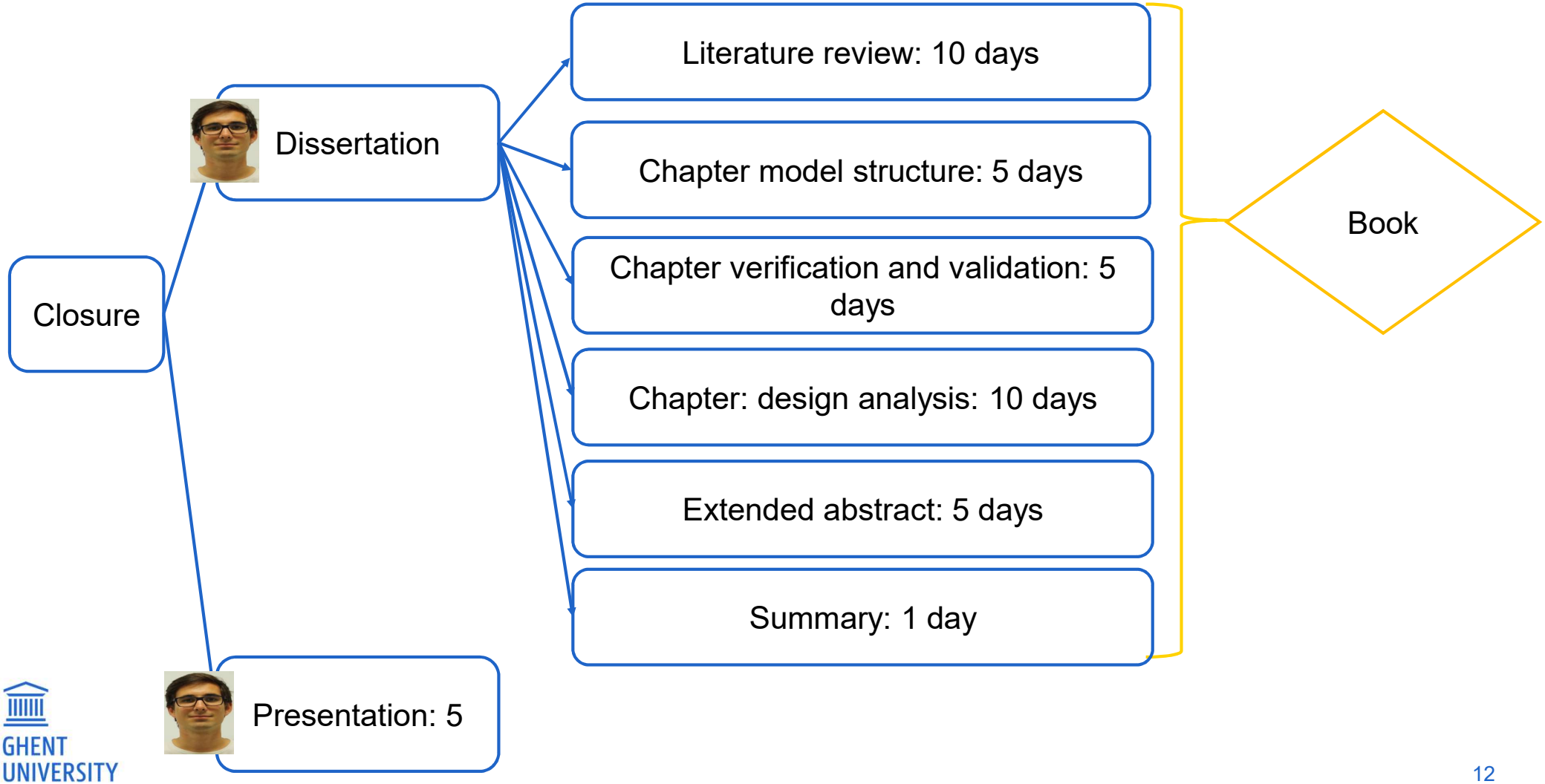
WORK BREAKDOWN STRUCTURE: CASE



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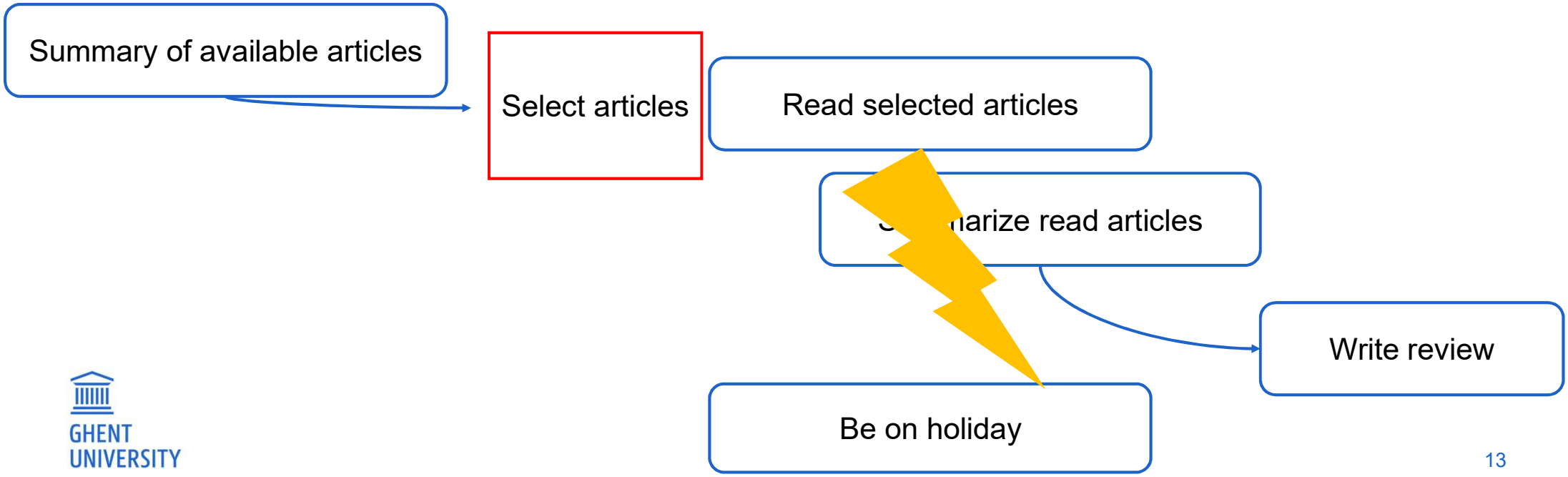
NETWORK PLANNING

Identify the logical sequence of tasks

Based on dependencies :

- task-intrinsic
- resource bound



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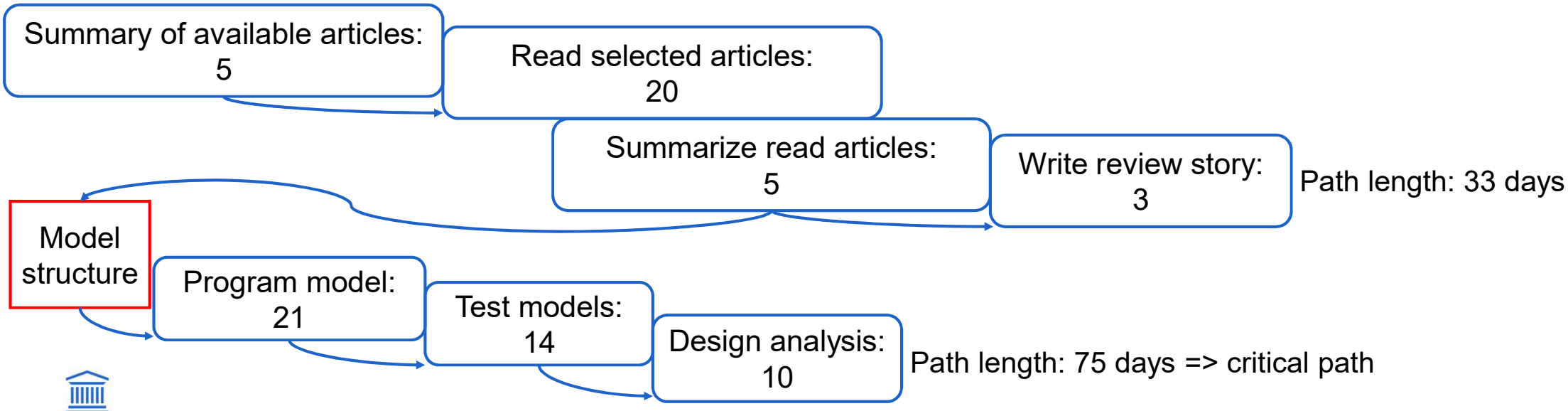
CRITICAL PATH

=The longest chain of dependent tasks

Any delay in the critical path is a delay in the project



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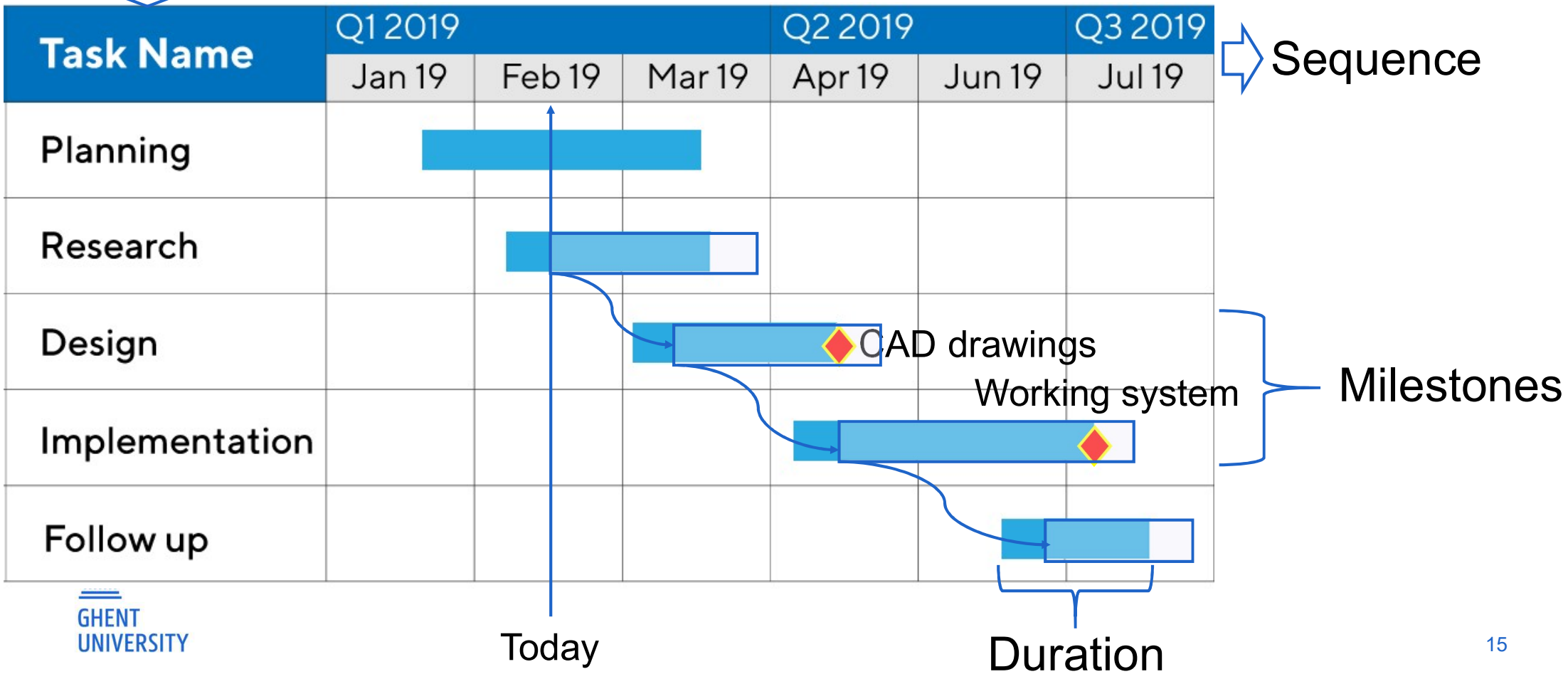
GANTT CHART = GRAPHICAL OVERVIEW OF:

Tasks



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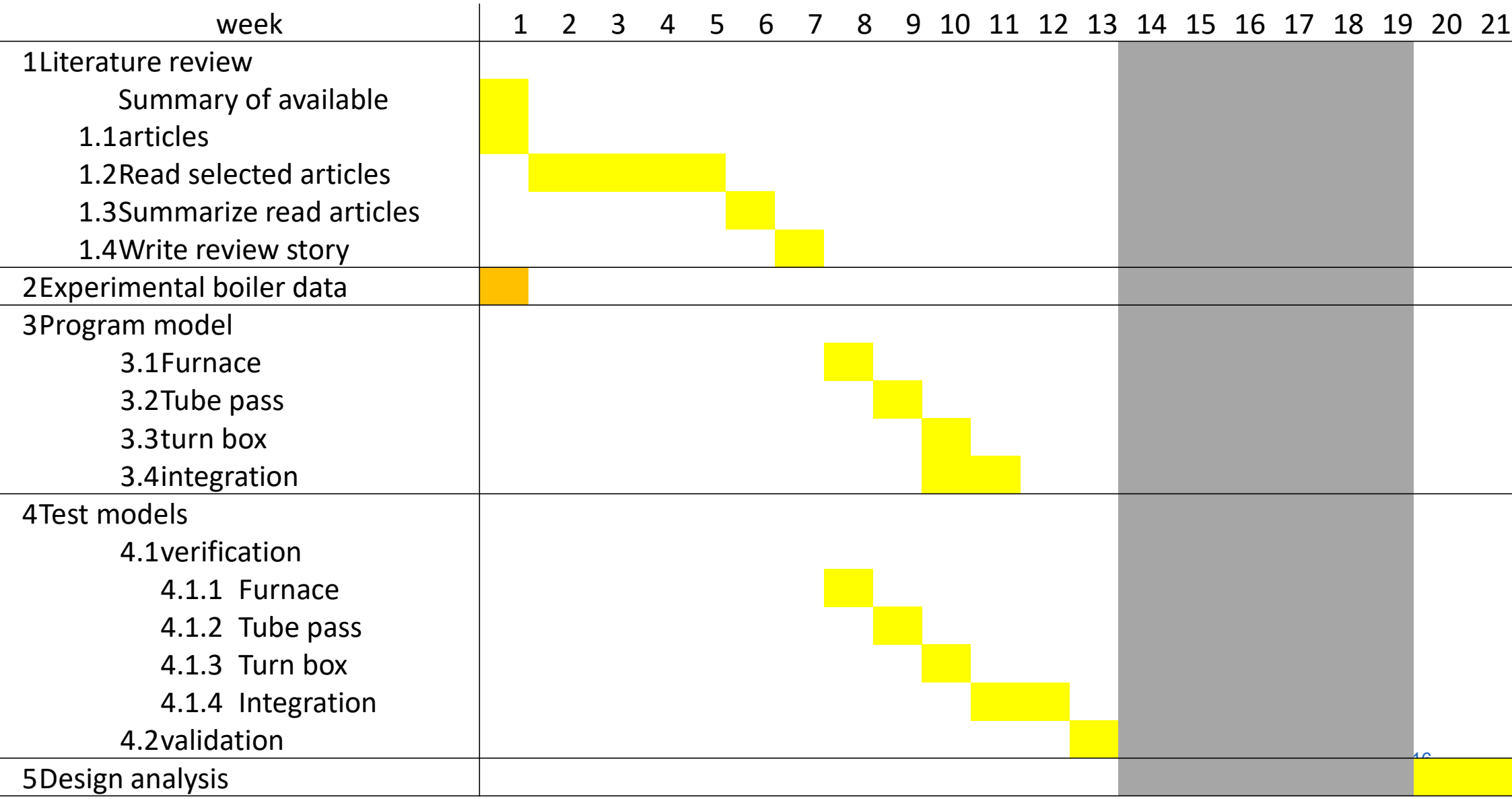
week
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
1 Literature review
Summary of available
1.1 articles
1.2 Read selected articles
1.3 Summarize read articles
1.4 Write review story
2 Experimental boiler data
3 Program model
3.1 Furnace
3.2 Tube pass
3.3 turn box
3.4 integration
4 Test models
4.1 verification
4.1.1 Furnace
4.1.2 Tube pass
4.1.3 Turn box
4.1.4 Integration
4.2 validation
5 Design analysis

SUMMARY

- Project phasing — *Divide and conquer*
- Work Breakdown structure — *Ownership and duration*
- Network planning — *Identify logical task sequence*
- Identify critical path — *Find path with longest duration*
- Scheduling: Gantt chart — *When will I do what*

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SOME FINAL ADVISE

- Planning is a tool, not a goal
- Include contingency in your planning
- Start roughly, refine as you come closer

The worst plan is no plan at all

The second worst plan is a plan that cannot change

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