ENG-411
Concurrent Engineering of Space Missions

Source: ESA

Lecture 6 - Final discussion

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EPFL Space Center

Education

Wrap up

So far…

1. You know the **process** and the **resources** at your disposal;
2. You know the **scope & objective(s)** of this study;
3. You know the **schedule** and the **tasks**.
4. You need to know your assigned specialty domain…

Sources: NASA

Just checking…

Who is not sure if they will keep the course or drop out before Friday ?

Timing is a bit weird for us…

How - roles

Team

You will be ALL part of the same **team.**

This is a **cooperative challenge**.

There are no right or wrong solutions.

Main goal is working together **concurrently**

We propose this distribution so almost everyone has their 1st or second choice

Discipline	Name(s)
Systems engineering	Aubin Mercier + Alexandre Aires
Propulsion	William Martin
C&DH	Samuel Wahba
AOCS	Jules Simon Streit
Configuration	Aurélien Genin
Thermal	Daniel Gann
Structures & Mechanisms	Jehan Corcelle + Alexis Ruprecht
Power	Maximilian Bonvin
Trajectory analysis	Alexandre Corbaz + Adam Lecroart
Sustainability	Martin Lemaire

How

Structure

7 weeks (first half of the semester)

2 sessions of theory / introduction (today and next week)

In **CM 0 13**

5 afternoons of assisted concurrent design sessions with your team

In **PPH 332** (CDF)

Mid-study presentation with experts

Final presentations with experts

Space Center staff always available during sessions.

Week	Date	Topic (1:15pm - 5pm)	Room
1	19.02	Introduction Concurrent Engineering theory Introduction to COMET Help with installation	~~GC A3 31~~ **CM 0 13**
2	26.02	The challenge (mission to be designed) - intro by customers Demonstration on COMET and playing around System engineering preparation (all together) Define roles for the design sessions COMET by subsystems External testimony → Moved to April 16th (5pm)	~~GC A3 31~~ **CM 0 13**
3	05.03	Design session - iteration 1	**PPH 332**
4	12.03	Design session - iteration 2	**PPH 332**
5	19.03	Design session - iteration 3	**PPH 332**
6	26.03	Design session - iteration 4	**PPH 332**
7	02.04	Design session - iteration 5	**PPH 332**

… Deadline for the report TBD

How

Structure

5x 4 hours-long design sessions.

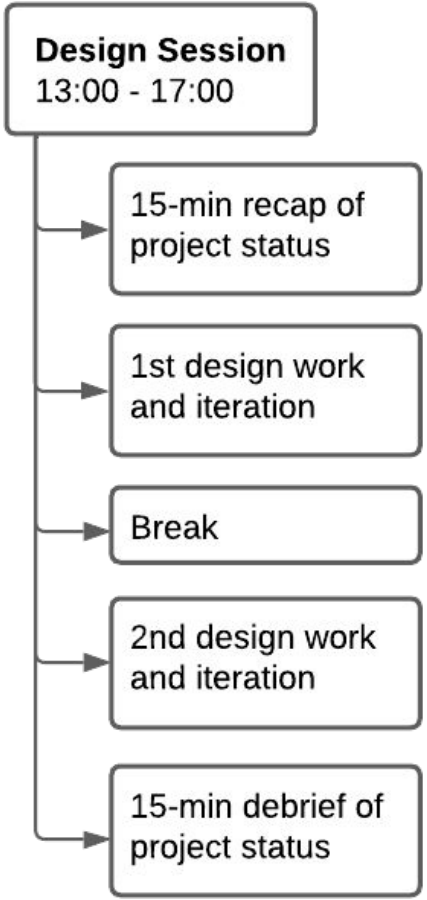
Each design session should be kicked off by a recap of the project status and wrapped up by a debrief of work done during the day.

Attendance to your team's design sessions is **mandatory**.

(Partially) missed sessions should be adequately justified and will be penalising the grade.

Every person counts. No show negatively affects your team.

Online attendance of a design session is only possible if adequately justified and as an exception.



Now, more time for handling COMET

- Advanced modelling
  - State dependencies
  - Catalogue
- Subsystems' element definitions and parameters