



## **PARTNERS ACADEMIC SUMMER SCHOOL 2025**

### **Syllabus for Chemical Engineering**

#### **Subject Area**

This syllabus is for PARTNERS applicants seeking to progress to the degrees of:

- H810 BEng Hons Chemical Engineering
  - H813 MEng Hons Chemical Engineering
  - H815 MEng Hons Chemical Engineering with Year in Industry
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#### **Aims**

To allow students to demonstrate their potential to succeed in specified degree programmes by showing a grasp of entry-level subject-specific knowledge, understanding, cognitive and subject-specific skills.

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#### **Learning Outcomes**

A good knowledge and understanding of ...

- The block flow diagram (BFD) for a chemical engineering process.
- Converting a word description of the chemical process into a simple Block Flow Diagram (BFD)
- Formulating and solving basic mass balance for unit operation and the whole processes based on BFD
- Use professional flow-sheeting software (HYSYS) to solve mass balance for simple process,

The ability to apply this knowledge and critical understanding to...

- Reading BFD and using it to solve mass balances for units and the whole process involving recycles
- Create simple HYSYS simulation for the process

Competence in...

- The appreciation of how chemical engineering unit operations fit together to form a process
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## **Summer School Syllabus**

Chemical Engineering 1: Intro & chem eng diagrams: Lecture to learn to read and create block flow diagram (BFD)

Chemical Engineering 2: chem eng basic calculations - Lecture to introduce mass balances including recycle Chemical Engineering Quiz - tutorial to solve mass balances for chemical process

Chemical Engineering 1: Computing labs - Practical to introduce HYSYS basics

Chemical Engineering 2: Computing labs - Practical to create HYSYS simulation for simple process

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## **Activities for Personal Study**

Canvas quizzes

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## **On-Campus Teaching:**

Wednesday 2nd (PM only) Thursday 3rd & Friday 4th July

## **Online Teaching:**

Monday 30th June, Tuesday 1st July

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## **Formative Assessment Details**

Online quizzes and submission of file during session

More details will be given during the event by your Academic Strand Lead.

## **Hand-in Method**

Digital

## **Assessment deadline**

Friday 11<sup>th</sup> July