UCL Chemical Engineering: list of FAQs

1. What is the offer from UCL Chemical Engineering?

We offer a 4-year MEng programme (Chemical Engineering route, Chemical Engineering with Biochemical, Chemistry or Engineering Mathematics route and MEng with study abroad, 5-year MEng including year in industry) and a 3-year BEng (Chemical Engineering Route, 4-year BEng programme including year in industry). Then we offer a number of 1-year MSc courses (including MSc in Chemical Process Engineering, MSc in Global Management of Natural Resources) and PhD opportunities after the graduation.

2. What is the difference between Chemistry and Chemical Engineering?

Chemistry is mostly related to the study of chemical transformations at the lab scale, chemical engineering is related to the study of chemical processes, where both physical and chemical transformations take place and the production scale is very different from the one realised in a lab. One of the most challenging aspects is how to scale-up from the lab scale to the industrial scale, and this is a typical problem in chemical engineering.

3. What is the difference between Chemical Engineering and Mechanical Engineering?

Mechanical Engineering is an engineering discipline applying engineering, physics, engineering mathematics, and materials science principles to mechanical systems. Chemical Engineering applies these principles to chemical systems, and, in particular, to chemical processes where raw materials are changed into useful products (i.e. products you use in your everyday life) in a safe and cost-effective way.

4. How close is Chemical Engineering to Chemistry?

It is indeed very close, because both study chemical transformations, but Chemical Engineering is more focused on industrial processes, and it does involve the study of phenomena at different scales (from the molecule to the unit, plant and enterprise).

5. Does the Chemical Engineering Programme involve a lot of Physics?

It does, as both chemical and physical transformations are involved in Chemical Engineering processes. Thermodynamics in particular is taught in Year 1 Term 2 (show the Programme Leaflet), and it is an important topic in Chemical Engineering.

6. Which are the most important things to consider for a successful application?

Three are the most important elements for a successful UCAS application: good A-level grades (AAA or above); a well written personal statement (the statement should demonstrate

a high commitment to study chemical engineering, and a full understanding of what Chemical Engineering is); good references from school.

7. What is most useful as an A-level in addition to Maths and Chemistry, Physics or Further Maths?

Further Maths is the top choice, and Physics is the runner-up. Both are very important in our programme.

8. If I have a choice in Maths modules, should I chose M1 (mechanics) or S1 (statistics)?

Both are strongly recommended.

9. My school doesn't do M1 (or S1) in Maths – is this a problem?

Not a problem in terms of entry, but you may struggle a bit with Maths in Year 1 without this knowledge so getting hold of the book and reading through before starting is helpful.

10. How much time is spent in the labs?

This can be very different from module to module. There is a full module (Experimentation) which is 100% lab-based, lab components are present in many other modules. Other modules are either theoretical or based on computational activities, and you will have dedicated computational rooms for these. On average, there are about 30 hours of Lectures & Tutorials per week where 4 h are dedicated to experimentation and 4 hours are dedicated to computational activities.

11. Does UCL Chemical Engineering do clearing?

Usually not.

12. What happens if I have an offer but narrowly miss the grades set out in the offer, e.g. get AAB when the offer is AAA?

You will be categorised as "near miss" (applicant with at least one grade below the requirement), and the entry will become very difficult. Applicants with A*AB (B in the third subject) are treated as "equivalents" (i.e. to AAA) and these applicants are more likely to have a place, even if the grade in the third subject is below the requirements.

A contextual offer can be available for students coming from areas which have a high level of financial, social or economic deprivation, under the UCL Access scheme (see https://www.ucl.ac.uk/prospective-students/undergraduate/#tab5)

For students who successfully complete the Access UCL scheme the contextual offer is AAB. In order to take advantage of this reduced offer students must select UCL as their firm choice, complete a Preparation for Academic Study online module and complete an academic assessment.

13. Are the lecturers nice?!

Indeed they are!

14. Are the lab facilities ok?

Teaching labs are equipped with all the required instrumentation and tools to learn the fundamental principles involved in Chemical Engineering (transport phenomena, separation processes, chemical reactors).

Research labs offer the most sophisticated technologies available for the characterisation of chemical phenomena, see for example the 360 Virtual Facility tour: https://www.ucl.ac.uk/prospective-students/open-days/chemical-engineering-open-days

15. Why is Maths and Chemistry required as A-level?

Because our degrees build on this knowledge.

16. Do I need Further Maths as an A-level?

No, although this knowledge will make life easier when you study maths in Years 1 and 2 (our maths courses are based on the standard A-level).

17. Why do you not ask for Physics as a required A-level?

Because relatively fewer girls take this as an A-level, and not all schools offer it, and we do not want to exclude good talent on this basis.

18. What if I don't have Physics as a A-level?

Not a problem, but you might want to get hold of a physics book and read it through the summer before starting (although our courses are not based on the A-level).

19. I'm doing XXX as my third A-level – will you still consider me, even if XX is not a science?

Yes, although a science is preferred as the third subject, but we have students applying with French, Philosophy, etc. Having a science-related third subject is better for the background, and becomes a preferential choice if target student numbers are achieved only with AAA applicants.

20. Is an Extended Project in addition to A-levels useful, or does it count?

Any knowledge is good for you, but it is not required as our entry is based on the A levels. However, experience from chemical or chemical engineering-related projects can be useful when writing the personal statement, which is essential in your UCAS application.

21. Is work experience required, or does it count?

Any experience is good for you, but it is not required as our entry is based on the A levels. However, work experience can be useful when writing the personal statement, which is essential in your UCAS application.

22. What is the proportion of female students?

Currently 29%, which is above our main competitors and above the national average.

23. What is the proportion of overseas students?

Currently around 50%, which is similar to our main competitors, but above national average.

24. Is research involved in the taught programmes?

The UCL Department of Chemical Engineering is a top research department in the UK and an internationally recognised centre of excellence. Research is a major departmental activity with 90% of staff rated as world leading or of internationally excellent quality in the 2014 Research Excellence Framework (REF2014) carried out by HEFCE.

Research is a core activity in the department, and it covers a broad range of scales from the molecular to the complex systems level. We aim to create pioneering breakthroughs in science and technology and seek solutions to Grand Challenges (such as energy, reducing carbon dioxide emissions, materials, sustainable manufacturing, health and environment), based on significant advances in fundamental knowledge. To this end, we collaborate widely with other departments in UCL Engineering, Chemistry and beyond, as well as various academic and industrial research groups. To know more about research please visit our taster lectures playlist on YouTube:
https://www.youtube.com/playlist?list=PL-wrFIJC6x6nq7qUC_oAzp9U888P4JzFS

Research is present throughout the taught programmes and the students will have the opportunity to learn about the exciting research carried out in the department from the very beginning of their study at UCL as part of the IEP and the UCL connected Curriculum framework:
https://www.ucl.ac.uk/teaching-learning/connected-curriculum-framework-research-based-education

MEng students will have the opportunity to undertake a final Research Project (in year 4) under the supervision of a member of the academic staff. The Research Project can be computational, lab-based, or contain elements of both simulation and lab activities.