



Hello! I'm Kat, a third year Chem Eng-er at Pembroke here to be your "subject rep" – basically a point of contact for all questions chemical engineering or general Pembroke related.

Firstly welcome to Pembroke! You'll soon realise you made an excellent choice of college as everyone is extremely friendly and easy to get along with – plus you're a ten second walk from the Chem. Eng dept. You might be feeling intimidated, excited, overwhelmed, a complete misfit or a mixture of them all, but you've been selected to join Pembroke for a reason by people who know what they're doing and have been choosing students for quite a few years.

Cambridge is a fantastic opportunity so make the most of all your time here.

You're all probably aware of how the course runs but to shed some light from the perspective of someone who has gone through the system. I personally studied Natural Sciences in my first year, however both Engineering and Nat Sci have advantages and disadvantages when you switch to Chemical Engineering.

For the Nat Scis – I took Maths, Physics, Chemistry and Geology. In hindsight I wish I had taken Materials instead as I believe it is of more use later in Chem Eng. My advice – choose what you think you'll enjoy most. First year doesn't contribute to your final mark but it does lay the foundations for Chem. Eng.

For the engineers – I asked other Chem Engs at Pembroke what they thought. Similar to NatSci they said to stick with it especially as its only a year and work as hard as possible on the maths and thermo modules. They found the electronics and computing modules difficult but enjoyed looking into all the different areas of engineering like mechanical, structural, and electrical. The best advice they had was to find a good lab partner: either someone who is really clever or someone who you're friends with and works at a similar pace.

The first year might be frustrating at times, particularly when it's difficult to see how the stuff you're learning relates to chemical engineering. But stick with it , it's surprising how often you use what you learned in first year, particularly the mathematical techniques.

The content of Chem. Eng is made up of three components: lectures and supervision work; labs and reports; and exercises.

You'll attend lectures Mon- Fri for on average 2 – 3 hours a day. From this you'll get set supervision questions (mathematical, chem. eng problems). Each question can take up to 3 hours to solve, so don't expect to churn out work like you did in school. We all struggle but it's hugely satisfying when you work through it. Once the questions are completed you'll attend a supervision (groups of 2-3 of you with one member of staff to discuss the problems and further your understanding).

You'll do a lab practical once every two weeks for the first two terms. During the lab you work with a partner but following practical you each complete a lab report individually. These vary in length but you'll have more information on them nearer the time. Alternatively come talk to me and I'll show you some of mine. The reports are marked and these marks contribute towards your final mark.

Exercises can be extremely interesting and in first year are the closest thing you get to a realistic industrial problem. Each exercise, of which there are six in first year, lasts for 3 weeks and involves a problem which requires the use of various different areas of knowledge you'll be studying in first year. They can be difficult and culminate in a written report detailing, justifying and explaining your overall solution.

The exams take place in Easter term, of which there are four in first year. They're a long way off so bother thinking of them.

Your first year of NatSci or engineering will have a similar structure, except there won't be exercises. NatScis will have Saturday morning lectures but don't have as many lab reports as the engineers.

One of the biggest perks of being a Chem Enger at Cambridge – THE FREEBIES! We are of interest to a lot of large companies so take full advantage of the activities/ free meals they offer, and obviously listen out for working opportunities.

Some people get a sense of comfort by doing some preparation before they arrive. My advice - enjoy your summer. You'll be working hard as soon as you arrive. If you really really want to read something a book to give you a taster is K. A. Solen and J. N. Harb (2010) Introduction to Chemical Engineering: tools for today and tomorrow: Wiley, ISBN 9780470885727. I personally didn't read anything but I understand if you want to.

Enjoy your summer and get excited for four fantastic years of your life!! See you in October! If you want to get in touch before then email me on: ks548@cam.ac.uk.