



INFORMATION FOR CHEMISTRY FRESHERS 2018

Corpus Christi College
Oxford

This brief note is intended to give you an idea of what to expect when you arrive in October.

1. **The Chemistry Course.** All Chemistry undergraduates study *Physical Chemistry*, *Organic Chemistry*, *Inorganic Chemistry*, and *Mathematics for Chemistry* in their 1st year.

2. **Lectures.** There are 10 lectures a week, 2 or 3 in each of the 4 parts of the course. Lectures last a little less than an hour. They take place between 9 and 11 a.m., Mondays to Fridays, and are held in the Science area, in one of the three Chemistry Laboratories. The lectures scheduled for Michaelmas term are:

	<i>Number of Lectures</i>
<hr/> <i>Inorganic Chemistry</i> <hr/>	
Atomic Structure and Periodic Trends	6
Ionic Model and Structures of Solids	10
<hr/> <i>Organic Chemistry</i> <hr/>	
Introduction to Organic Chemistry	7
Introduction to Organic Spectroscopy	2
Orbitals and Mechanisms	7
<hr/> <i>Physical Chemistry</i> <hr/>	
Foundations of Physical Chemistry: Chemical Thermodynamics	13
Physical Basis of Chemistry: Classical Mechanics	4
Physical Basis of Chemistry: Properties of Gases	4
Physical Basis of Chemistry: the Role of Charge I	4
<hr/> <i>Mathematics for Chemistry</i> <hr/>	
Calculus of one and two Variables	20
Introduction to Vectors	2

For the most part, the lectures are not synchronised with tutorials or practicals.

3. **Practical work.** During your first year you will carry out practical work in the new Chemistry Teaching Laboratories. Practicals occupy one or two days a week (11 a.m. to 5 p.m., with a break for lunch). It is necessary to have completed a certain number of experiments by the end of the year.

4. **Tutorials.** Your Chemistry tutors will be:

Prof Peter Hore (Physical Chemistry)
Dr Rachel Quarrell (Organic Chemistry)
Dr Mark Wormald (Inorganic Chemistry)

Prof Hore is Fellow and Tutor in Chemistry at Corpus; Dr Quarrell is a College Lecturer in Chemistry at Corpus (and also at Balliol and Worcester Colleges); Dr Wormald is Fellow and Tutor in Chemistry and Biochemistry at Corpus.

During your first year, you will have one Chemistry tutorial a week. Tutorials last an hour, take place either in Corpus (Physical and Inorganic) or in Balliol College (Organic) and usually consist of one tutor and two undergraduates. Typically, at the beginning of each week, your tutors will give you a set of work comprising the topics you will need to find out about, a reading list, and a set of problems. You will normally be asked to hand in your work (solutions to the problems, essay, notes, or any

combination of these) before the tutorial, so that the tutor can assess it and make written comments. The tutorial itself is an opportunity for you to discuss the week's work and ask questions about topics you found puzzling, difficult or particularly interesting. The ideal tutorial is one in which the undergraduates talk as much as the tutor. Tutorials are not mini-lectures.

There will also be weekly classes in Mathematics. These are designed to tie in closely with the lectures and are used to go over problems set by the lecturers.

A typical week's workload for a Chemistry undergraduate might look something like this: lectures (10 hr); practicals (10 hr); preparing for and attending tutorials and classes (24 hr), of which: Chemistry (20 hr); Mathematics (5 hr). Total: roughly 45 hours. Our experience is that undergraduates who do less than this rapidly fall behind.

Tutorials in Michaelmas, Hilary and the first half of Trinity are normally organised in 2-week blocks of Physical, Inorganic and Organic Chemistry. There will be some revision classes in Trinity Term to help you prepare for the Preliminary Examinations.

Your first batch of tutorial work in Physical Chemistry will cover the elements of *Chemical Thermodynamics*. You will find it helpful to have a look at one or more of the following:

Foundations of Physical Chemistry by C. Lawrence, A. Rodger and R. Compton

Basic Chemical Thermodynamics by E. B. Smith

A Physical Chemistry book you will probably use quite a lot is:

Atkins' Physical Chemistry by P. Atkins, J. de Paula and J. Keeler, 11th ed., Oxford University Press, 2018.

If you do buy any Chemistry books, keep the receipts: you should be able to claim part or all of the cost from the College during the first year.

Please work through the accompanying document on the use of units and quantity calculus. The importance of units in dealing with physical quantities is often overlooked at A-level and confusion over units is a common cause of errors for first-year students.

When you come to Corpus in the autumn you will meet your tutors during 0th week (week beginning 1 October) to discuss the course and learn about the arrangements for tutorials, classes, lectures and practicals. You will be notified of the time and place of this meeting when you arrive. There will also be plenty of opportunities to talk to the other Chemistry undergraduates in College who will be pleased to help you settle in.

Please feel free to contact me if any of this is unclear or if you would like further information (peter.hore@chem.ox.ac.uk). You could also contact our Chemistry undergraduate 'Subject Ambassador', Lauren Parsons (chemistry.student@ecc.ox.ac.uk), who will be able to answer questions about the course, the College and student life in general.

I hope you enjoy the summer and look forward to seeing you in October.

P. J. Hore
July 2018