

Information for Y2 students (Term 1)

Dear Y2 student,

Welcome back! The Department of Mathematics is determined to provide you with a rich and rewarding learning experience, despite all the challenges that this academic year may bring.

This document contains information about the 2nd year mathematics modules you will be taking in the department in Term 1:

MATH0013 Analysis 3

MATH0014 Algebra 3 [This module is not taken by Mathematics & Physics students and Mathematics & Statistics students]

MATH0015 Fluid Dynamics [This module is only taken by Mathematics and Mathematics with Mathematical Physics students]

MATH0016 Mathematical Methods 3 [This module is not taken by Mathematics & Statistics students]

Week numbers 1-10 refer to the ten teaching weeks of Term 1, from 4 October until 17 December, excluding Reading week 8-12 November.

Lectures

All lectures are pre-recorded and uploaded on Moodle on a weekly basis.

Tutorials and large classes

Apart from the lectures, students also have one class per week in each module. Classes are face-to-face for students on campus and online for students who have chosen remote study in Term 1.

Classes alternate between tutorials (small classes with about 20 students) and large classes (taught by the lecturer in groups of roughly 100 students).

For students attending *in person*, the days of the classes are as follows:

- **Tuesday - large classes:**
Analysis 3 (odd weeks), Algebra 3 (even weeks).
- **Wednesday - large classes:**
Fluid Dynamics (odd weeks), Mathematical Methods 3 (even weeks).
- **Thursday - tutorials:**
Analysis 3 (even weeks), Algebra 3 (odd weeks).
- **Friday - tutorials:**
Fluid Dynamics (even weeks), Mathematical Methods 3 (odd weeks).

For students studying *online*, the days of the classes are as follows:

- **Tuesday - large classes:**
Fluid Dynamics (odd weeks), Mathematical Methods 3 (even weeks).
- **Wednesday - large classes:**
Analysis 3 (odd weeks), Algebra 3 (even weeks).

- **Thursday - tutorials:**
Analysis 3 (even weeks), Algebra 3 (odd weeks).
- **Friday - tutorials:**
Fluid Dynamics (even weeks), Mathematical Methods 3 (odd weeks).

Large classes.

In each week in which there are large classes, the lecturer will run several large classes covering the same material. Students will be informed which groups they should attend and about the time and venue of their large classes.

For students studying remotely, the large classes will be taught on zoom. The zoom links will be available on the moodle page for the module.

Tutorials

Tutorials are classes of roughly 20 students. In most cases, students will be in the same tutorial group for each mathematics module they are taking.

Students will be contacted by their tutors in each module and informed about the time and venue of the tutorials. Students should also be able to see the time of the tutorials on their UCL timetable. Tutorials start on the week of 4 October and run until the end of term on 17 December. There are no tutorials during Reading Week 8-12 November.

In each tutorial apart from those in weeks 1, students give short presentations on questions which they have prepared in advance. Each tutorial group is further divided into 5 mini-groups of roughly 4 students, labelled A,B,C,D,E. Students within each mini-group should work together to jointly prepare the presentations. At the start of term, tutors will let students know which mini-group they are in, and students should get in touch with their mini-group peers.

For students attending in person, the tutorial groups will be face-to-face in a classroom. For students attending remotely, the tutorials will be held on zoom and the tutor will send a zoom link to the students.

Attendance in tutorials is compulsory, and will count towards a student's final mark in each of the four modules.

It may be that a student who would normally attend in person is required to attend tutorials online one week; this could be due to self-isolation, being sick or for other legitimate reasons. To make this possible, each module has an extra online tutorial (the "replacement tutorial") for those who have chosen face-to-face study but are not able to attend face-to-face temporarily. Students should start attending their regular face-to-face groups as soon as they are able to.

Coursework

In each module, students complete weekly coursework in weeks 2-10. The coursework consists of 3 problem sheets (written coursework) and 6 online quizzes written on the STACK platform.

- **Analysis 3**
Problem sheets: weeks 3, 5, 9
Quizzes: other weeks
- **Algebra 3**
Problem sheets: weeks 2, 4, 6

Quizzes: other weeks

- **Fluid Dynamics**

Problem sheets: weeks 3, 7, 9

Quizzes: other weeks

- **Mathematical Methods 3**

Problem sheets: weeks 2, 4, 8

Quizzes: other weeks

The written coursework is to be completed and submitted individually by each student. It will be marked by the tutor for the tutorial group, so that students will have an opportunity to discuss their feedback.

The online quizzes should also be attempted individually by students.

Presentations

Each mini-group should prepare a 5 minute presentation for each tutorial, to be delivered by one of the students in the mini-group. The presentations are based on 'presentation questions' handed out the week before. The presentation questions will be labelled A,B,C,D, E so that the mini-group can identify which question they should work on.

In a face-to-face tutorial, a presentation can usually be done by writing on a whiteboard and explaining the solution of the assigned question. In an online tutorial, the presenting students may either share handwritten/typed notes as an image file and talk through them, or share their writing live on a tablet.

To obtain full marks on a module, a student is required to attend the tutorials and give at least one presentation (see the section on Assessment below).

Quizzes

Students may attempt each online quiz up to three times during the week, with only their highest mark being counted. As some questions are randomized, the questions in a second attempt may be different from a first attempt.

Most of the online quiz questions are written in the STACK system, which allows students to enter mathematical formulae as their answers. Students should familiarise themselves with STACK syntax using [STACK: Information for students](#) and, in particular, [answer input](#) webpages.

Although the STACK Team has been working very hard to prepare and debug the quizzes, some bugs are likely to remain. If a student experiences a bug, they should discuss it with their tutor (within the quiz, the student can click on 'Review' and their responses and feedback received will come up).

Assessment

Each of the four modules will be assessed as follows:

- 85% exam
- 15% coursework and participation. This is further subdivided as 9% written coursework, 4% online quizzes, 1% presentation, 1% attendance.

A student gets a full mark for the presentation component if they complete at least one presentation, and they get a full mark for the attendance component if they miss at most one tutorial, zero otherwise.

The exams in Analysis 3 and Mathematical Methods 3 will take place during the first week of Term 2. The exams in Algebra 3 and Fluid Mechanics will take place during the main exam period in May.

Office hours

The lecturers are available to answer questions during office hours (on Zoom, via the links from modules' Moodle pages). It is not compulsory to attend office hours but they provide a good opportunity to talk to the lecturer and ask questions. The office hours take place on Monday at the following times:

- Mathematical Methods 3: 9-10am
- Analysis 3: 10-11am
- Fluid Dynamics: 11am-12pm
- Algebra 3: 12-1pm

Contact

If you have any questions you are welcome to contact the following people:

- Your tutors
- The year 2 tutor : Dr. Yusra Naqvi
- The lecturers for the modules:

Analysis 3:	Prof. Alex Sobolev
Algebra 3:	Dr Isidoros Strouthos
Fluid Dynamics:	Prof. Ted Johnson
Mathematical Methods 3:	Prof Robb McDonald

- The year 2 coordinator is Dr Richard Hill
- Departmental tutor Dr Mark Roberts