MSc AI Orientation

2021–2022

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Welcome to the MSc AI!

This talk:

- my role;
- degree structure and overall timetable;
- choosing modules;
- degree classification regulations;
- miscellanea and general advice.

The MSc AI noticeboard has lots of information about your degree.

The noticeboard also links to even more information you will find useful.

Please read it in detail!
My role: MSc AI coordinator

To answer questions and give advice about your degree as a whole:

• degree structure;
• timings;
• how your degree class (distinction, merit, pass) will be determined;
• advice (and decisions) on lateness of CW, etc.;
• a large pile of other issues...
• ...and general advice about the MSc and your time here.

As a rule: if you have a question which isn’t obviously for someone else, just ask me.
How to get in touch with me

If you have a question or a problem I can help with:

- use the general MSc AI edstem board—
  - I monitor this closely and try to reply quickly;
  - it helps other people who might have the same question;
  - another student might know the answer or be able to give advice.
- email me, on robert.craven@imperial.ac.uk;
- drop in to Huxley 306—I’m often around;
- make an appointment for a video call—
  - I don’t have ‘office hours’, but this is because I’m happy to have a call any time I’m free.
Degree structure: components

The degree has eleven bits.

- Ten ‘taught’ modules:
  - Five compulsory:
    - Introduction to Machine Learning
    - Introduction to Symbolic AI
    - Python Programming
    - MSc AI Software Engineering and Group Project
    - Ethics, Privacy, AI in Society
  - Five others, chosen by you (‘selective’ or ‘optional’):
    - Choose at most one ‘optional’.

- Individual project

(For the list of modules, see here, low down the page. Module names link to pages about them.)
Autumn term (October–December):

• Three compulsory modules:
  ▪ Introduction to Machine Learning
  ▪ Introduction to Symbolic AI
  ▪ Python Programming

• Some free-choice modules—normally, two.

• Examinations for all these modules, except Python. (TRAs: timed remote assessments.)

• Preliminaries on the Group Project:
  ▪ introductory talk (early November);
  ▪ group formation and project selection (late November);
  ▪ initial meeting with supervisors (before end of term).
Degree structure: term-by-term

Spring term (January–March):

- **Week 1:**
  - *Python* test;
  - extra-curricular *C++* short course;
  - extra-curricular *Prolog* short course.

- **Compulsory modules:**
  - SE lectures for the *Group Project*, work on the project itself;
  - Most of the *Ethics* module.

- **Remaining free-choice modules.**

- **Examinations for modules this term. (Not the *Group Project* or *Ethics.*)**

- **Individual project:**
  - introductory talk (early January);
  - project selection (end of January).
Degree structure: term-by-term

Summer term and after (April–September):

• Group project deadline and presentations.
• Finish off the Ethics module (inc. in-class test).
• Individual project—deadline and presentations in early September.

And then...the end!
Is it possible to take modules not-for-credit?

If the module is an option on the MSc in AI (see the list here):

- this is straightforward: subscribe at level 2 and you will get access to all lectures, tutorials—as well as be able to submit coursework and get graded for it.

If the module is not an option on the MSc in AI:

- this may be possible, but you should email the lecturers for the module. (Find them by searching for the module on teachdb.)

As noted, attendance in person might be limited—ask the module lecturer.
Choosing modules (2)

How necessary is *Mathematics for Machine Learning*?

Decide for yourself. Material in it is presupposed by:

- Deep Learning
- Natural Language Processing
- Probabilistic Inference

If you’re not familiar with the material in chapters 6–10 of *the book, Mathematics for Machine Learning*, and want to do one of the modules listed, you might need to take the MML module.

Feel free to write to the module lecturers to check.
What’s the difference between:
Robotics
Robot Learning and Control?

Briefly:

• **Robotics** is an introduction to mobile robotics. Topics include sensing, localisation, robot movement.
  - No pre-requisites (beyond those for the MSc AI, and Python).
• **Robot Learning and Control** involves the application of ML to the control of robotic bodies.
  - It includes advanced material on reinforcement learning—so Reinforcement Learning is a formal pre-requisite. (You have to register at level 3, and take the exam.)
  - You do *not* need to have taken Robotics, though it might help to some degree.
These are the rules for whether you pass, and with merit or distinction. The official document is on the MSc AI Noticeboard.

To pass the MSc:

1. an average of at least 50% on the 10 taught courses;
2. normally, at least 50% on each of the 10 taught courses (some marks in the range 40–49 may be ‘condoned’, at the discretion of the Board of Examiners, but no mark below 40% is acceptable);
3. at least 50% on the individual project.
Degree regulations (2)

To pass **with distinction**:  
1. pass the MSc;  
2. an average of at least 70% on the 10 taught courses;  
3. at least 70% on the individual project.

To pass **with merit**:  
1. pass the MSc (but without distinction);  
2. an average of at least 60% on the 10 taught courses;  
3. at least 60% on the individual project.
At your earliest convenience this week, you should complete the (non-credit) **Introduction to Remote Learning** module.

To find out what to do:

i. Log in to **CATe**.

ii. Navigate to the Autumn Term modules for the MSc AI (aka ‘t5’), by hitting the **t5 - AI** button (under PGT).

iii. Scroll to the bottom and find the **COMPM0101 - Introduction to Remote Learning** row.

iv. Download the tutorial spec by clicking **Working With DoC Systems**.

You ought already to have been sent various guides on how to use DoC systems.
Working with each other is important:

- you learn from each other;
- it keeps motivation and ambition up;
- makes the degree more fun;
- useful for the group project.

This year, you’ll have opportunities to meet people in person. But in order to boost the social side, I’d encourage you to be pro-active.
Working together (2)

Some ways of being social I’d love to see:

- Whatsapp/facebook groups, for your cohort and for other MScs, etc.
- Personal tutor meetings! (First at 10:10am, Tuesday 5th, probably.) Find your tutor on your teachdb entry: they should be in touch.
- Reading group(s)—e.g., the AGI Safety reading group.
- Regular meetings for the entire cohort to get together, online and in-person.

Also:

- MSc AI Social, **5pm today, Huxley 341/342**. Nibbles and drinks will be served!
Some of the more informal advice in this talk is a partial distillation of feedback from last year’s cohort. They have been eager to help you out even more.

The MSc AI parenting scheme semi-formalizes this. So far, 35/47 of you have signed up.

There are still a few more places available—the queue for them is FIFO. Email me—robert.craven@imperial.ac.uk—if you want to take part!
AGI Safety reading group

Weekly meetings to discuss recent literature on long-term AI safety.

For further information, see the AGI Safety reading group page, or email Rhys and Henrik:

francis.ward19@imperial.ac.uk (Rhys)
c.aslund19@imperial.ac.uk (Henrik)
The pace and intensity over the term varies considerably.

Sometimes you will have more than one assessed coursework due—sometimes large ones—at the same time. It can heap up.

- consolidate the lecture material early, rather than waiting until a later point in the term;
- don’t focus on ‘large’ pieces of coursework exclusively, to the detriment of ‘small’—since
  - often the difference in the marks involved is not enormous;
  - lack of organisation is not a reason for coursework deadline extensions.
- many pieces of assessed CW are due at 7pm, but some are not! (Always double-check the submission deadline!)
Your cohort has a diversity of academic and career backgrounds.

This is a strength: you’ll learn from each other, and bring different skills to bear in your collaborative work.

You may find that others know a bit more than you at the outset—particularly in the non-bespoke modules, where you sit beside other degrees.

This will level out gradually, and is not a cause for concern.

It is absolutely fine to know nothing about AI or CS at the beginning of the degree. (The MSc AI is a ‘conversion’ degree and teaches from scratch.)
Thank you. Questions?