# Informatics 2A 2018–19

## Lecture 1

## Introduction and Course Administration

Mary Cryan
Shay Cohen

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## Subject of the course

The official title of the course is:

Informatics 2A – Processing Formal and Natural Languages

The course is about ways of describing, specifying and processing both computer languages and human languages.

Remarkably, many important ideas and methods are common to both of sorts — but there are also major differences.

Lecture 2: Overview / roadmap of intellectual content of course.

## Course prerequisites (in practice)

- Basic working knowledge of the Java programming language (ESSENTIAL).
- Basic knowledge of Haskell (recommended but not essential).
- Understanding of mathematical notation: sets, functions, relations etc. (seek help if you're struggling).

## Course staff

Lecturers:

- Mary Cryan (mcryan@inf.ed.ac.uk)
  Drop-in time: Thu 14:00–15:00, Informatics Forum, 5.18

- Shay Cohen (scohen@inf.ed.ac.uk)
  Drop-in time: Mon 12:00–13:00, Informatics Forum, 4.26

Drop-in times held from Week 2 onwards.

Informatics 2 Year Organiser:

- Rik Sarkar (rsarkar@inf.ed.ac.uk)

Course Secretary:

- Kendal Reid, ITO (ito@inf.ed.ac.uk, Appleton Tower 6.05)

## Communication mechanisms

Course website: `http://www.inf.ed.ac.uk/teaching/courses/inf2a/`
Main anchor point for all course information and material.
Bookmark it now!

Email list: `inf2a-students@inf.ed.ac.uk`
Important administrative announcements (e.g. changes to deadlines) will be posted here.

Discussion forum (Piazza):
For discussion of course content, lectures, assignments etc.
Linked from the course website (main page).

Course reps: `ug2-reps@inf.ed.ac.uk`
For feedback from you to course staff.

It's your responsibility to check (especially) your email and the website and to stay in touch with what's going on.

## Lectures

- Mondays 15:10–16:00, 50 George Square, G.03
- Wednesdays 14:10–15:00, 50 George Square, G.03
- Fridays 14:10–15:00, Appleton Tower, Lecture Theatre 4

Last lecture: Tuesday of Week 11 (revision lecture).

## Lecture materials

The website contains links to the slides for each lecture.

These links will become live immediately after (or just before) the lecture takes place.

For those who wish to see the material in advance (e.g., students with an adjustment schedule), last year's slides are available via a link at the top of the page.

If you want printed copies of lecture slides, please print them off yourself if you need them, bearing in mind the cost to the planet. (E.g., use the 4up option.)

## Tutorials

Tutorials for Inf2a start in Week 3 (beginning Monday 1 Oct). So Tutorial $n$ happens in Week $n + 2$.

Each tutorial will cover material from the previous week's lectures. A *tutorial sheet*, consisting of problems to be discussed in Tutorial $n$, will be released (on the course website) by the Friday of Week $n + 1$.

You should have received an email from Kendal Reid, advertising the preliminary allocation of students to tutor groups. If you can't make the time of your allocated group, please email Kendal suggesting some groups you could manage. Or if you need to change tutor groups for any other reason, please let Kendal know (important!).

*NB. If you miss two tutorials in a row, your PT will be notified and you may be chased up!*

## Python and Lab Sessions

In parallel with the lecture material, you will be learning the programming language (Python), and learning to use the associated Natural Language Toolkit (NLTK). These skills will be needed for the second assessed course assignment.

This can be done with the help of worksheets, available via the website, which you can work through at the Lab Session to which you have been assigned (or a different one, or on your own).

The purposes of the lab sessions are: assistance in learning Python/NLTK; assistance with coursework assignments; additional feedback on assignment 1. Lab Demonstrators will be on hand at these sessions to offer help.

Lab sessions start in Week 3.

## Assessed coursework

There will be two assessed coursework assignments, carrying equal weight. Each is worth 12.5% of the course mark.

Assignment 1: issued by Fri 12 Oct, due in Tue 30 Oct, 4pm
Assignment 2: issued by Fri 09 Nov, due in Fri 30 Nov, 4pm

Both assignments will be machine-based, and are to be submitted online from DICE machines. Assignment 1 is in Java and Assignment 2 is in Python (using NLTK).

Marks and feedback on assignments will be available for collection 2 weeks after the submission deadline.

All assessed work must be your own individual work. See the School's guidelines on academic conduct and plagiarism (linked from course web page).

## Grammar writing exercise (not assessed)

Lecture 24 will be devoted to an in-class exercise. You will work in groups of $\leq 3$ to write a natural language grammar and make it generate grammatical sentences.

The grammars will compete with each other on precision (generating only grammatical sentences) and recall (generating many sentences). Prize for the winning team.

Lecture 24 is expected to have a second (optional) hour. But you're more than welcome to start working on your grammar before then. Details at

`http://www.inf.ed.ac.uk/teaching/courses/inf2a/cgw.html`

(linked from course webpage).

## Inf2A exam

Main exam in December 2018.
Resit in August 2019.

Exam dates are set by central administration, not us. We'll let you know once they are announced.

The exam is pen-and-paper, and lasts 2 hours. It consists of:

- 5 compulsory short questions (10% each), and
- a choice of 2 out of 3 longer questions (25% each).

The total 100% contributes 75% to the course mark.

To pass the course, you must achieve an overall course mark of 40%. (No separate exam or coursework hurdles.)

## Recommended reading

The following textbook is recommended for this course and many other Natural Language courses in later years:

- D. Jurafsky and J. Martin, Speech and Language Processing (2nd edition), Prentice-Hall, 2009.

For the formal language side, suitable texts include:

- D. Kozen, Automata and Computability, Springer, 2000.
- M. Sipser, Introduction to the Theory of Computation (3rd edition), Cengage Learning, 2012.

Lectures will stick closely to the terminology and notation of the Jurafsky & Martin and Kozen texts.

## Other resources

- Lecture recordings (audio + projector at least) using the University's system.

  Instructions for replaying the recordings to follow soon. Recordings should be available immediately after each lecture.

- Discussion forum for the course hosted on Piazza. Follow the link on the course website to join and get started. Use this for questions and discussion of course material (but obviously not sharing of solutions). Feel free to contribute and help others!

## Formative feedback

Assessed coursework provides you with summative feedback on the course.

*Formative feedback* is feedback on non-assessed parts of the course. This helps your understanding and serves as *feedforward* towards future assessed components (e.g., the exam). Formative feedback provided in Inf2A includes:

- Self-assessment and challenge questions in lectures.
- Feedback from tutors in tutorials.
- Feedback from demonstrators in lab sessions.
- Feedback from lecturers at drop-in hours.

## Needing help?

- If you are suffering from personal circumstances that may be adversely affecting your work, contact your PT.
- If you wish to apply for a coursework deadline extension (for a good reason!), contact the Informatics Teaching Organization, *not* the lecturers. Except in exceptional circumstances, extensions will only be granted if applied for *prior to* the coursework deadline.
- If you are having difficulties understanding the course material, possible sources of help are: your class mates, the discussion forum, your tutor, the lecturers.
- If you wish to anonymously raise any issue about the course material or delivery, contact `ug2-reps@inf.ed.ac.uk`

**Enjoy the course!**

Lecture 2 on Wednesday: Overview and roadmap of the intellectual content of the course (MC+SC).

Any questions?