PPLS08002
Introduction to Cognitive Science
Course Guide
2018-2019

Course Organiser:
Dr Hannah Rohde (hannah.rohde@ed.ac.uk)

Course Secretary:
Susan Hermiston (lelinfo@ed.ac.uk)

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School of Philosophy, Psychology and Language Sciences
University of Edinburgh
1. Course Aims and Objectives

Introduction to Cognitive Science (Intro Cog Sci, PPLS08002) is available as a self-contained, one semester, 20 credit course.

Intro Cog Sci introduces students to Cognitive Science, a field at the intersection of several disciplines including philosophy, psychology, linguistics, computer science, human-computer interaction, and neuroscience. The course has two broad aims:

1. To provide a high-level perspective on a set of key questions that the field of Cognitive Science aims to address.
2. To provide hands-on training in computational skills that will serve as a necessary foundation for future related courses in PPLS and Informatics.

In relation to these general aims, the course embodies in its content and components certain specific objectives; students who have participated fully in Intro Cog Sci will:

1. Demonstrate an understanding of the themes and questions encompassed by Cognitive Science across a variety of disciplines
2. Evaluate recent findings in Cognitive Science to identify how they inform long-standing debates in the field
3. Be able to discuss and appreciate the interdisciplinary nature of Cognitive Science
4. Implement concrete tasks in a computer programming language to acquire the transferable skill of writing, testing, and amending computer code

2. Lecture, Lab, and Tutorial Times and Locations

Required lectures take place twice a week throughout semester 1 as follows:

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday</td>
<td>12:10 – 13:00</td>
<td>7 George Square, room F.21</td>
</tr>
<tr>
<td>Thursday</td>
<td>14:10 – 15:00</td>
<td>Meadows Lecture Theatre, Doorway 4, G.07</td>
</tr>
</tbody>
</table>

Required labs take place twice a week throughout semester 1. Each student is assigned one lab session on Wednesdays and one lab session on Thursdays. The first lab meets on Thursday of week 1.

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday</td>
<td>9:00 – 9:50, 10:00 – 10:50, 15:10 – 16:00</td>
<td>Appleton Tower, room 4.02</td>
</tr>
<tr>
<td>Thursday</td>
<td>13:10 – 14:00, 15:10 – 16:00, 16:10 – 17:00</td>
<td>Appleton Tower, room 4.02</td>
</tr>
</tbody>
</table>

Required tutorials take place five times throughout semester 1. Each student is assigned one tutorial session on Fridays. The first tutorial meets on Friday of week 3, with further tutorials every other week.
3. Lecture Content

*Introduction to Cognitive Science* is divided into three themed blocks of teaching. Each theme will be addressed from three perspectives: that of a Philosopher, a Psychologist, and a Linguist. Additional lectures will introduce concepts in computer programming.

- **Nativism & Empiricism**: Basic questions about the degree to which certain cognitive capacities are “native”, or hard-wired, in the human brain from birth or can be learned via empirical evidence during development.

- **Representation**: Principles regarding the types of hypothesized structures and symbols that could be used to represent external reality in the human brain or in a computational model.

- **Situated Cognition**: Fundamental approaches to cognition that incorporate the physical constraints and affordances of the body.

The lectures are at the core experience of this course. You must attend all the lectures. You will be listening face-to-face to world experts in the various areas of Cognitive Science. The lecturers will provide you with the latest view of research in their field and give you the means to interpret the three targeted themes. They will also provide you with the specific flavour of Cognitive Science at the University of Edinburgh – Edinburgh’s particular research strengths and the theoretical positions adopted here.

The notes you take in the lectures will be your best link with the course when you are revising. The lecture slides will be available online but are not a replacement for your own notes taken during the lecture. The slides may contain only very brief indications of what the lecturer talks about; the only other record of the lecture will be your own notes. Taking detailed notes as a lecture unfolds is one of the key skills you will learn at university. Getting those notes into a more readable shape later in the day of the lecture will help embed the content of the lecture in your memory and will help you revise later in the semester.
## 4. Timetable of Lectures

### INTRODUCTION TO COURSE, THEME 1, and COMPUTATION

<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesday Lecture</th>
<th>Wednesday Lab</th>
<th>Thursday Lecture</th>
<th>Thursday Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INTRODUCTION</td>
<td>NO LAB</td>
<td>FRAMING, THEME1</td>
<td>GETTING STARTED</td>
</tr>
<tr>
<td></td>
<td>Alex Doumas</td>
<td></td>
<td>Hannah Rohde</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>COMPUTATION</td>
<td>TAUGHT MATERIAL</td>
<td>COMPUTATION</td>
<td>TEXTBOOK EXERCISES</td>
</tr>
<tr>
<td></td>
<td>Patrick Sturt</td>
<td></td>
<td>Jia Loy</td>
<td></td>
</tr>
</tbody>
</table>

**LABS CONTINUE EVERY WEDNESDAY/THURSDAY THROUGH WEEK 11**

### THEME 1 – Nativism & Empiricism

<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesday Lecture</th>
<th>Thurs Lecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>PHILOSOPHY</td>
<td>LINGUISTICS</td>
</tr>
<tr>
<td></td>
<td>Mark Miller</td>
<td>Rob Truswell</td>
</tr>
<tr>
<td>4</td>
<td>PSYCHOLOGY</td>
<td>LINGUISTICS</td>
</tr>
<tr>
<td></td>
<td>Hugh Rabagliati</td>
<td>Rob Truswell</td>
</tr>
<tr>
<td>5</td>
<td>PSYCHOLOGY</td>
<td>LINGUISTICS</td>
</tr>
<tr>
<td></td>
<td>Hugh Rabagliati</td>
<td>Rob Truswell</td>
</tr>
</tbody>
</table>

### THEME 2 – Representation

<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesday Lecture</th>
<th>Thurs Lecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>LINGUISTICS</td>
<td>PHILOSOPHY</td>
</tr>
<tr>
<td></td>
<td>Rob Truswell</td>
<td>Dave Ward</td>
</tr>
<tr>
<td>7</td>
<td>PSYCHOLOGY</td>
<td>PSYCHOLOGY</td>
</tr>
<tr>
<td></td>
<td>Alex Doumas</td>
<td>Alex Doumas</td>
</tr>
<tr>
<td>8</td>
<td>PSYCHOLOGY</td>
<td>COMPUTATIONAL INTERLUDE</td>
</tr>
<tr>
<td></td>
<td>Alex Doumas</td>
<td>Jia Loy</td>
</tr>
</tbody>
</table>

### THEME 3 – Situated Cognition

<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesday Lecture</th>
<th>Thurs Lecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>FRAMING</td>
<td>PHILOSOPHY</td>
</tr>
<tr>
<td></td>
<td>Hannah Rohde</td>
<td>Mark Miller</td>
</tr>
<tr>
<td>10</td>
<td>PHILOSOPHY</td>
<td>PSYCHOLOGY</td>
</tr>
<tr>
<td></td>
<td>Mark Miller</td>
<td>Martin Pickering</td>
</tr>
<tr>
<td>11</td>
<td>PSYCHOLOGY</td>
<td>LANGUAGE SCIENCES</td>
</tr>
<tr>
<td></td>
<td>Martin Pickering</td>
<td>Hannah Rohde</td>
</tr>
</tbody>
</table>
The PPLS Undergraduate Student Handbook has more information on Student Support and academic guidance; late coursework and plagiarism; illness and disability adjustments, and useful sources of advice.

The Handbook can be found [http://students.ppls.ed.ac.uk/handbooks/](http://students.ppls.ed.ac.uk/handbooks/)

### 6. Labs and Tutorials

**Labs:** Two one-hour labs will be held each week on Wednesdays and Thursdays. Tutors will be present in the lab to help guide students through exercises in computer programming. The first lab is Thursday of week 1.

**Tutorials:** Tutorials are held on alternating Fridays starting in week 3. Tutors will guide a discussion on topics related to lecture content.

You are expected to attend all lectures, and **attendance at labs and tutorials is compulsory.** You must notify your tutor if you are unable to attend your lab or tutorial. In addition, you should inform your Personal Tutor as soon as you possibly can of any illness or problem that prevents you from attending classes for more than three days. (Alternatively, if you are a student within PPLS, you may contact one of the School’s Student Support Officers instead of your Personal Tutor if you prefer: ppls.sso@ed.ac.uk, Dugald Stewart Building room G.03.)

If illness has seriously affected your written work or class attendance, or made you unable to attend one of the Exams, then you **must** supply the course secretary with written medical evidence as soon as possible. You should also notify your Personal tutor and discuss with them about submitting a Special Circumstances Form.

### 7. Assessment Information

There are four items of assessment for *Introduction to Cognitive Science*: two essay assignments, two programming assignments, participation in research, and one exam.

- Essay coursework will address material covered in the three themes in lectures and in readings.
- Programming coursework will cover skills learned in lab.
- Research participation will consist of either 2 hours of participation in advertised research experiment session(s) or attendance at an advertised research meeting.
- An exam at the end of semester 1 will consist of essay questions on the material of semester 1.

In session 2017-2018, the details for coursework and research participation are as follows (type of assignment, percentage of overall course mark, and deadline). Note that the first two pieces of coursework are practice assignments for which you will only receive feedback and a hypothetical mark.

- Coursework #1 (Programming, 0%): **week 5, Thursday 18 October 2018, noon**
- Coursework #2 (Essay, 0%): **week 6, Thursday 25 October 2018, noon**
• Coursework #3 (Programming, 28%): week 10, Thursday 22 November 2018, noon
• Coursework #4 (Essay, 30%): week 11, Thursday 29 November 2018, noon
• Research participation (2%): last day is Thursday 6 December 2018

The Final Mark for Intro Cog Sci is calculated on the basis of the four marked items of assessment, 60% coursework and research participation and 40% exam. To pass the course, a Final Mark of 40% (Grade D) or above is needed. Should you fail an item of assessment, it is possible to compensate for this by doing well enough in the other items of assessment for the course; if the average of your marks for the five items of assessment is at least 40%, you will still pass the course. You will be notified of your Final Mark for the course by University Registry.

If your Final Mark for the course is below 40%, you will be required to take the resit exam in August, covering the material from the entire course (see below).

7.1 Coursework Requirements
During the semester you will be asked to submit four pieces of coursework.

An electronic copy must be submitted through Learn by the deadline, along with an own work declaration confirmation form. Essays are to be submitted via TurnItIn. Programming assignments will use an alternative submission via Learn. The electronic submission allows us to check for plagiarism and word count. Late submissions should be handed into the Teaching Office on the ground floor of the Dugald Stewart Building along with a Late Submission form.

Penalties for late submission
The submission deadline must be observed. Failure to comply with the deadline without good reason will incur mark penalties as follows:
- Up to 5 working days, 5 marks per working day will be deducted
- More than 5 working days late a mark of zero will be given

Coursework return
Marks and feedback will be returned within 3 weeks. The Course Secretary will email if the date changes.

IMPORTANT
1. Plagiarism, the unacknowledged use of others’ work, is a serious offence, and may be a disciplinary matter. It is essential that you read the section on plagiarism in the PPLS Undergraduate Student Handbook to avoid this.

2. You are expected to submit work on time. This is not only considerate to staff and fellow students but also an ability valued by employers, who typically ask about this when requesting a reference for a graduate.

To avoid late submission:
- start working on assignments as early as possible. All deadlines are given above so you can plan ahead. Bear in mind you may have more than one deadline around the same time.
- complete the assignment at least 48 hours before the deadline to allow time for proof-reading, possible problems in printing and electronic submission. Bear in mind that demand on computers and printers is often high around the time of a deadline.
- save your work frequently and back it up.
Your teachers and tutors will be happy to advise on all matters relating to your written work. You are strongly urged to take every opportunity to ensure that your work is of appropriate content and quality.

7.2 Research participation requirements
During the semester you will be asked to fulfil the research participation component of the course. This can be done in two ways. One option (recommended) is to participate in 2 hours of experiment sessions. Each hour of experiment participation is worth 1%. Another option (if you prefer not to be a subject in an experiment) is to attend 1 research meeting (e.g. Psychology talk series, Linguistic Circle, Institute for Language, Cognition and Computation etc.) and then write up and submit a description of the event. Attendance at a research meeting plus writeup is worth 2%.

The deadline for completing either option will be Thursday of revision week.

Full details if you choose the recommended experiment participation option:

- Complete the SONA Participant tutorial: http://materials.ppls.ed.ac.uk/tech-support/sona/
- Only sign up for your course(s) (and Volunteering/Paid pool if you wish)
- Ensure credits are assigned to the correct course (My Schedule/Credits)
- Ensure credits have been passed to the teaching office
- Participants' credits are set to zero at the end of each semester, when total accrued credits have been passed to the teaching office
- Participants are deleted from the system at the end of each academic year
- Participants cannot accrue credits prior to the start of the semester

7.3 Examination
There is an exam for Intro Cog Sci at the end of Semester 1 (in December).

7.4 Resit exams
For those who have failed the course (i.e. have achieved an average mark of less than 40% over the whole relevant assessment), a resit examination is held in August. The resit exam is three hours long and will cover the content of the whole course; details of the structure of the resit exam will be made available in due course. It is the student’s responsibility to check the resit timetable on the Registry’s website http://www.ed.ac.uk/schools-departments/student-administration/exams/exam-diets, find the time and location of the resit exam and ensure they are present for that resit. No formal registration is necessary and students will not be individually notified of the resit date and location of resit exams. If you take the resit exam, your final mark will be calculated using the mark from the resit exam only.

7.5 Visiting Undergraduates
The assessment arrangements for visiting undergraduates are the same as for all other students.

8. Learn
You should regularly check your university email and check for announcements on the course Learn page, which can be assessed from your MyEd page via http://www.myed.ed.ac.uk/
The course Learn page will provide information concerning:
• General information and announcement about the course
• Lecture notes and PowerPoint slides
• Tutorial arrangements
• Information about assessment arrangements

9. Staff Contact Details

If you have a query regarding lecture content, you can post questions on the discussions board in Learn. We encourage students to use this means of communication rather than email whenever the answer to your question may be of interest to other students on the course. For anything else, you’re of course welcome to contact any of us by e-mail. Most lecturers also have an office hour when you can drop by with questions, or else you can make an appointment with them. Your tutor is also likely to be able to clarify course issues for you or direct you to the appropriate person.

The discussions board on Learn can also be used to post questions for the course organisers, and again we encourage you to use the discussions board rather than email for questions whenever the response might be useful to other students. For anything that is more personal, you should of course email us instead. Our contact details are as below:

Course Organiser:

Dr Hannah Rohde
Room 2.06, Dugald Stewart Building
tel. (0131) 650 3962
hannah.rohde@ed.ac.uk

If you have questions not specifically about lecture content, you should speak to the Course Secretary, Susan Hermiston, whose office-hours and other contact details are as below:

Office: Room G.06, Dugald Stewart Building
Telephone: (0131) 650 3440
E-mail: Susan.Hermiston@ed.ac.uk
Office-hours: 9.30am to 4.30pm, Monday to Friday

Contact details of tutors will be made available on Learn (under ‘General Course Information’). Learn will also be used to make course-related information and resources to you. You can access Learn through MyED (under the tab called ‘Teaching’).

Contact details of Lecturers:

<table>
<thead>
<tr>
<th>Dr Alex Doumas</th>
<th>7 George Square S5</th>
<th><a href="mailto:alex.doumas@ed.ac.uk">alex.doumas@ed.ac.uk</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Alistair Isaac</td>
<td>DSB 6.08</td>
<td><a href="mailto:a.m.c.isaac@ed.ac.uk">a.m.c.isaac@ed.ac.uk</a></td>
</tr>
<tr>
<td>Prof Martin Pickering</td>
<td>7 George Square S12</td>
<td><a href="mailto:martin.pickering@ed.ac.uk">martin.pickering@ed.ac.uk</a></td>
</tr>
<tr>
<td>Dr Hugh Rabagliati</td>
<td>7 George Square G28</td>
<td><a href="mailto:hugh.rabagliati@ed.ac.uk">hugh.rabagliati@ed.ac.uk</a></td>
</tr>
<tr>
<td>Dr Hannah Rohde</td>
<td>DSB 2.06</td>
<td><a href="mailto:hannah.rohde@ed.ac.uk">hannah.rohde@ed.ac.uk</a></td>
</tr>
</tbody>
</table>
### 10. Common Marking Scheme

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
<th>Description</th>
</tr>
</thead>
</table>
| **A1** | 90-100 | Excellent
*Outstanding in every respect, the work is well beyond the level expected of a competent student at their level of study.* |
| **A2** | 80-89 | Excellent
*Outstanding in some respects, the work is often beyond what is expected of a competent student at their level of study.* |
| **A3** | 70-79 | Excellent
*Very good or excellent in most respects, the work is what might be expected of a very competent student.* |
| **B** | 60-69 | Very Good
*Good or very good in most respects, the work displays thorough mastery of the relevant learning outcomes.* |
| **C** | 50-59 | Good
*The work clearly meets requirements for demonstrating the relevant learning outcomes.* |
| **D** | 40-49 | Pass
*The work meets minimum requirements for demonstrating the relevant learning outcomes.* |
| **E** | 30-39 | Marginal fail
*The work fails to meet minimum requirements for demonstrating the relevant learning outcomes.* |
| **F** | 20-29 | Clear fail
*The work is very weak or shows a decided lack of effort.* |
| **G** | 10-19 | Bad fail
*The work is extremely weak.* |
| **H** | 0-9 | Bad fail
*The work is of very little consequence, if any, to the area in question.* |

The marking scheme used for all course work and for degree and resit examinations is the University Common Marking Scheme. The principal grades and descriptors, as approved by the School of PPLS, of the University’s Extended Common Marking Scheme, are as follows:

**A1 90-100 Excellent**

*Outstanding in every respect, the work is well beyond the level expected of a competent student at their level of study.* It…

- shows creative, subtle, and/or original independent thinking
- demonstrates breadth of knowledge and deep understanding of the subject matter
- draws on a wide, relevant literature base
• demonstrates an excellent standard of synthesis and evaluation and a critical and insightful analysis of the literature
• is well focused, with concentration on the main issues to be addressed
• presents a compelling case by means of clear logically structured argument or debate, well supported with evidence
• is written with flair
• has, where appropriate, complete and correct referencing
• Is flawless in grammar and spelling

A2 80-89 Excellent
Outstanding in some respects, the work is often beyond what is expected of a competent student at their level of study. It…
• shows original, sophisticated independent thinking
• demonstrates a thorough understanding of the subject matter
• draws on a wide, relevant literature base
• demonstrates critical and insightful analysis of the literature
• is well focused, with concentration on the main issues to be addressed
• presents a strong case by means of clear, logically structured argument or debate, supported with evidence
• shows a good standard of academic writing
• has, where appropriate, complete and correct referencing
• shows a high standard of grammar and spelling

A3 70-79 Excellent
Very good or excellent in most respects, the work is what might be expected of a very competent student. It…
• explores the topic under discussion fully
• shows some complex and/or sensitive independent thinking Complexity and or sensitivity is reflected in the argument
• demonstrates a sound understanding of the subject matter
• draws in a wide relevant literature base
• demonstrates critical analysis of the literature
• is well focused, with concentration on the main issues to be addressed
• presents a good case by means of clear logically structured argument or debate, supported by evidence.
• shows a competent standard of fluent academic writing
• has, where appropriate, complete and correct referencing
• shows a good standard of grammar and spelling

B 60-69 Very Good
Good or very good in most respects, the work displays thorough mastery of the relevant learning outcomes. It…
• demonstrates a good understanding of the area in question
• draws on adequate references
• demonstrates good synthesis, analysis, reflection and evaluation of the literature
• concentrates on the main issues to be addressed
• presents an adequate case by means of clear, well structured, logical argument supported with evidence.
• has, where appropriate, complete and correct referencing of sources
• shows a good standard of grammar and spelling

C 50-59 Good
The work clearly meets requirements for demonstrating the relevant learning outcomes. It...
• shows evidence of sufficient knowledge and understanding of the material
• uses references appropriately to support the argument, though they may be limited in number or reflect restricted reading.
• demonstrates limited critical analysis and evaluation of sources of evidence.
• addresses the area in question clearly and coherently
• has satisfactory structure, presentation, and expression
• has, where appropriate, complete referencing of sources, though there may be minor flaws in referencing technique

D 40-49 Pass
The work meets minimum requirements for demonstrating the relevant learning outcomes. It...
• demonstrates a sufficient level of knowledge and understanding but at a basic level, and there may be minor inaccuracies
• lacks detail, elaboration or explanation of concepts and ideas.
• displays limited synthesis and analysis of the literature
• presents a highly descriptive account of the topic with no real critical analysis
• presents a weak argument which is not logically structured or which lacks clarity or is based on unsubstantiated statements
• has, where appropriate, complete referencing of sources, though there may be flaws in referencing technique.
• has largely satisfactory expression, though there may be minor spelling or grammatical errors

E 30-39 Marginal fail
The work fails to meet minimum requirements for demonstrating the relevant learning outcomes. It...
• does not demonstrate a sufficient level of knowledge and understanding
• utilises only limited reference sources and offers poor analysis of them
• may not adequately address the area in question, because its content is too limited or because there are some inaccuracies
• presents a poorly structured, poorly developed, or incoherent argument, or no argument at all
• has an awkward writing style or poor expression of concepts
• has incomplete or inadequately presented references
• shows a lack of attention to spelling and grammar

F 20-29 Clear fail
The work is very weak or shows a decided lack of effort. It...
• displays very poor or confused knowledge and understanding
• does not address the area in question.
• presents no argument or one based on irrelevant and erroneous content
• displays an unacceptable academic writing style and/or presentation
• has incomplete or inadequately presented references, if any

G 10-19 Bad fail
The work is extremely weak. It...
• displays no knowledge or understanding of the area in question
• presents incomplete, muddled, and/or irrelevant material
• provides no coherent discussion of the area in question
• has incomplete or inadequately presented references, if any
11. Students on a Tier 4 Visa

As a Tier 4 student, the University of Edinburgh is the sponsor of your UK visa. The University has a number of legal duties to manage our sponsorship of your visa. These include:

• monitoring your attendance on your programme and
• reporting to the Home Office where you suspend or withdraw from your studies, complete them early, fail to register or are repeatedly absent to the point of being excluded from studies.

As a student with a Tier 4 visa sponsored by the University of Edinburgh, the terms of your visa require you to, (amongst others):

• Ensure you have a correct and valid visa for studying at the University of Edinburgh, which, if a Tier 4 visa, requires that it is a visa sponsored by the University of Edinburgh;

• Attend all of your University classes, lectures, tutorials, etc where required. This includes participating in the requirements of your course including submitting assignments, attending meetings with tutors and attending examinations. If you cannot attend due to illness, for example, you must inform your School. This includes attending Tier 4 Census sessions when required throughout the academic session.

Please note that any email relating to your Tier 4 sponsorship, including census dates and times will be sent to your University email address - you should therefore check this regularly.

Further details on the terms and conditions of your Tier 4 visa can be found in the “Downloads” section at www.ed.ac.uk/immigration

Information or advice about your Tier 4 immigration status can be obtained by contacting the International Student Advisory Service, located at the International Office, 33 Buccleuch Place, Edinburgh EH8 9JS

Email: immigration@ed.ac.uk