Lecture 1
Informatics Project Proposal (IPP)
2023/2024
Aurora Constantin

Based on and adapted from earlier versions by Björn Franke
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and

IPP Tutors
Part 1: Overview

1 Your MSc Programme

2 Motivation

3 Goals
Your MSc Programme

• **Taught component (100 credits)**
  • Lectures, tutorials, courseworks, exams
  • Learn established techniques that work

• **Research component (80 credits)**
  • Do something that has never been done before
    • Study a new problem, develop a new method, etc.
    • Probably the most exciting (and hardest) part of MSc
  • *Dissertation* (60 credits, 20-40 pages)

• **Two courses prepare you:**
  • **IRR:** literature review in your broad area of interest (10 credits)
  • **IPP:** write a detailed plan for your specific MSc project (10 credits)
MSc Project Timeline

• **Semester 1 (IRR)**
  • Learn about a relevant area: **explore** research papers
  • Write a 10-page **critical review** of what you learned

• **Project Proposals**
  • **19 Jan 2024**: deadline for all project proposals, including self-proposed projects
  • **26 Jan 2023 – 9 Feb 2023**: Talk to supervisors, pick set of topics
  • algorithmic allocation

• **Semester 2 (IPP)**
  • write a detailed **research plan** for what you’re going to do (CW, 100%)

• **Summer** (provided you progress to the dissertation stage)
  • Work on your **project** (design, build, test, analyse results)
  • Write a **dissertation – end of August 2024 (TBA)**

• **Timetable**: https://opencourse.inf.ed.ac.uk/diss/
Why?
SCQF LEVEL DESCRIPTORS
LEVEL 11

The following descriptions are for guidance only – it is not expected that every point will necessarily be covered.

CHARACTERISTIC 1: KNOWLEDGE AND UNDERSTANDING
- Demonstrate and/or work with:
  - Knowledge that covers and integrates most, if not all, of the main areas of the subject/discipline/sector – including their features, boundaries, terminology and conventions.
  - A critical understanding of the principal theories, concepts and principles.
  - A critical understanding of a range of specialised theories, concepts and principles.
  - Extensive, detailed and critical knowledge and understanding in one or more specialisms, much of which is at, or informed by, developments at the forefront.
  - A critical awareness of current issues in a subject/discipline/sector and one or more specialisms.

CHARACTERISTIC 2: PRACTICE: APPLIED KNOWLEDGE, SKILLS AND UNDERSTANDING
- Apply knowledge, skills and understanding:
  - In using a significant range of the principal professional skills, techniques, practices and/or materials associated with the subject/discipline/sector.
  - In using a range of specialised skills, techniques, practices and/or materials that are at the forefront of, or informed by forefront developments.
  - In applying a range of standard and specialised research and/or equivalent instruments and techniques of enquiry.
  - In planning and executing a significant project of research, investigation or development.
  - In demonstrating originality and/or creativity, including in practices.
  - To practise in a wide and often unpredictable variety of professional level contexts.

CHARACTERISTIC 3: GENERIC COGNITIVE SKILLS
- Apply critical analysis, evaluation and synthesis to forefront issues, or issues that are informed by forefront developments in the subject/discipline/sector.
- Identify, conceptualise and define new and abstract problems and issues.
- Develop original and creative responses to problems and issues.
- Critically review, consolidate and extend knowledge, skills, practices and thinking in a subject/discipline/sector.
- Deal with complex issues and make informed judgements in situations in the absence of complete or consistent data/information.

CHARACTERISTIC 4: COMMUNICATION, ICT AND NUMERACY SKILLS
- Use a wide range of routine skills and a range of advanced and specialised skills as appropriate to a subject/discipline/sector, for example:
  - Communicate, using appropriate methods, to a range of audiences with different levels of knowledge/expertise.
  - Communicate with peers, more senior colleagues and specialists.
  - Use a wide range of ICT applications to support and enhance work at this level and adjust features to suit purpose.
  - Undertake critical evaluations of a wide range of numerical and graphical data.

CHARACTERISTIC 5: AUTONOMY, ACCOUNTABILITY AND WORKING WITH OTHERS
- Exercise substantial autonomy and initiative in professional and equivalent activities.
- Take responsibility for own work and/or significant responsibility for the work of others.
- Take significant responsibility for a range of resources.
- Work in a peer relationship with specialist practitioners.
- Demonstrate leadership and/or initiative and make an identifiable contribution to change and development and/or new thinking.
- Practise in ways which draw on critical reflection on own and others’ roles and responsibilities.
- Manage complex ethical and professional issues and make informed judgements on issues not addressed by current professional and/or ethical codes or practices.
IRR vs IPP

<table>
<thead>
<tr>
<th>IRR</th>
<th>IPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Literature Review</td>
<td>• Your Project Proposal/Plan</td>
</tr>
<tr>
<td>• Coursework – assessed by tutors</td>
<td>• Coursework – assessed by project supervisor</td>
</tr>
<tr>
<td>• Mandatory tutorial groups</td>
<td>• Mandatory tutorial groups &amp; meetings with supervisor!</td>
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</tbody>
</table>
Goals

• Learn skills of **project planning**
• Confirm choice of (research) **project area**
• Scope out your **summer project**
Further IPP Goals

• Knowing **what to work on** is a **big part of research**
  • Motivation is identifying a **void** in the **literature**, or a real-world **problem** that has **not been solved**.
  • Coming up with a **feasible** way to address the problem.
  • Propose **ways of evaluating** the techniques.
  • Present **expected outcomes** succinctly and objectively.

• Important skills
  • For PhD applications
  • For grant writing
  • For industry project proposals
Part 2: Course Organisation

1 Components of IPP

2 Timeline

3 Project Supervisors
Components of the IPP

- 5 lectures – in person in George Square Theatre, room GALT, Gordon Aikman Lecture Theatre
- Open hours – online on Weds 13:10-14:00 on Collaborate
- 6 IPP tutorials, starting from week 4 – in person
- Coursework – due in W14, on Tue 22 Apr 2024, 12:00 (Noon)
- Regular (weekly or fortnightly) meetings with your project supervisor
Components of the IPP

Open hours → Class Collaborate from Learn

Informatics Project Proposal (2023-2024)[SEM2]

Content Calendar Announcements Discussions Gradebook Messages Groups

Course Staff

Aurora Constantin
INSTRUCTOR

Lindsay Seal
INSTRUCTOR

Show more

Details & Actions

Class register
View everyone on your course

Progress Tracking
On

Class Collaborate

Course Content

- Click Here for Teaching Materials
  For all course teaching materials, please follow this link to the course webpage. For all course admin and submission links, please see the items below.

- Course Overview
  Basic course information including coursework and exam balance.

- Course Contacts
  Names, roles, and contact details for everyone involved in teaching the course.

- Course Information
  Includes important course information, learning outcomes, course contacts and help and support. (Click to expand)

Not started
### Timeline

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<thead>
<tr>
<th></th>
<th>W1</th>
<th>W2</th>
<th>W3</th>
<th>W4</th>
<th>W5</th>
<th>FLW</th>
<th>W6</th>
<th>W7</th>
<th>W8</th>
<th>W9</th>
<th>W10</th>
<th>W11</th>
<th>...</th>
<th>W14</th>
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<td>Q&amp;A Live session</td>
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<td>Tutorials</td>
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<td>Coursework (IPP) submission</td>
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**FLW** = Flexible Learning Week

- **2.02.2023**: Students should have registered interest in projects
- **26.01.2023**: Start registering interest & meet with potential supervisors
- **9.02.2023**: Project selection ends
- **23.02.2023**: Project allocation announced
- **19.01.2023, 5PM**: Deadline for all projects proposals (including self-proposed)
- **22.04**: Coursework (IPP) submission
- **2.02.2023**: Students should have registered interest in projects
- **26.01.2023**: Start registering interest & meet with potential supervisors
- **22.04**: Coursework (IPP) submission

**Contact potential supervisors**

**Regular (weekly/fortnightly) meetings with supervisors**

[https://opencourse.inf.ed.ac.uk/diss/](https://opencourse.inf.ed.ac.uk/diss/)
Self-proposed projects

IPP: Informatics Project Proposal

https://opencourse.inf.ed.ac.uk/ipp/self-proposed-projects
<table>
<thead>
<tr>
<th>Week (Start day)</th>
<th>Lecture Topic (Lecturers)</th>
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</thead>
</table>
| W1 (15/01/23)   | Lecture 1: IPP Overview  
Aurora Constantin & Douglas Armstrong |
| W2 (22/01/23)   | Lecture 2: MSc Project Selection Guidance  
Douglas Armstrong & Aurora Constantin |
| W5 (12/02/23)   | Lecture 3: Writing a Research Proposal  
David Caulton |
| W6 (26/02/23)   | Lecture 4: How to write a great research proposal  
Aurora Constantin & Douglas Armstrong |
| W7 (05/03/23)   | Lecture 5: Responsible Research  
Bjorn Ross, Aurora Constantin & Douglas Armstrong |

*Lecture will be held in person, on Tuesdays, at 13:10 BST, in George Square Theatre, room GALT*
IPP Tutorials

• Tutorials focus on **generic project planning** skills and **proposal writing**, not the technical content of your plan
• Tutors are there to help you. Get this opportunity.
• Attendance is mandatory: ignore meetings = fail IPP
• Tutorial group allocation → TTU
• To change your tutorial group, you need to complete a GCRF form direct to TTU:
  
  https://www.edweb.ed.ac.uk/timetabling-examinations/timetabling/personalised-timetables/group-change-request
Coursework

- CW (100%): Writing an IPP – due on 22/04/23, 12:00 PM
  - Students work individually to write a project proposal focused on the project which will be allocated to them towards the end of February 2022.
  - This proposal will guide their summer project.
  - Marked by supervisors – pass/fail
### Degree Project Management Tool (DPMT)

#### MSc Projects - 22/23

<table>
<thead>
<tr>
<th>Date</th>
<th>Project Name</th>
<th>Proposer (popularity)</th>
<th>Difficulty</th>
<th>Popularity</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/12/22</td>
<td>A computational analysis of early word learning data</td>
<td>Frank Mollica (0)</td>
<td>1 - Easy</td>
<td>0</td>
</tr>
<tr>
<td>09/12/22</td>
<td>Code generation optimization guided by physical information</td>
<td>Antonio Barbalace (0)</td>
<td>2 - Moderate</td>
<td>0</td>
</tr>
<tr>
<td>12/12/22</td>
<td>Extracting narratives from stories</td>
<td>Frank Mollica (0)</td>
<td>3 - Hard</td>
<td>0</td>
</tr>
<tr>
<td>09/12/22</td>
<td>FPGA usage with CXL</td>
<td>Antonio Barbalace (0)</td>
<td>3 - Hard</td>
<td>0</td>
</tr>
</tbody>
</table>
Regular Meetings with Project Supervisor

• Start **after project allocation**
• You are in charge to **schedule regular meetings**
  Do not let it slip! Supervisors will not chase you
• **Supervisors mark the technical content** of your report
Relation with your Supervisor

• **Weekly meetings** are a good starting point – fortnightly if your supervisor prefers – but make it short if you have nothing to discuss

• **Do not cancel if you are stuck!**

• **Bad practice**
  • Asking feedback on many versions of your IPP
  • Last minute cancellations

• **Good practice**
  • Show initiative
  • Search and read secondary literature

• **Essential ingredients**
  • Good communication
  • Clarity about expectations