# School of Informatics Teaching Course Proposal Form

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### Proposal

Course Name:	Informatics Large Practical	
Proposer's Name:	Stephen Gilmore	
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Course Year:	3	
Names of any courses that this new course replaces :		
CSLP, SELP and AILP.		

# **Course Outline**

Course Level:9Course Points:20Subject area:InformaticsProgramme Collections:XComputer Science, Software Engineering, Artificial Intelligence, Cognitive Science.

# Teaching / Assessment

Number of Lectures:	8
Number of Tutorials or Lab Sessions:	Optional lab sessions, as arranged
Identified Pre-requisite Courses:	Inf2A OR Inf2B
Identified Co-requisite Courses:	None.
Identified Prohibited Combinations:	IRR, IPP

# Assessment Weightings:

Written Examination:0%Assessed Coursework:100%Oral Presentations:0%

### **Description of Nature of Assessment:**

Coursework - 100%. One large design, implementation and evaluation project, done in two parts.

1. The first part consists of a project plan outlining the problem area, and proposing a solution technique and application design considering both functional and non-functional requirements on the project (25% of course total).

2. In the second part, students fully implement their application design, and submit both their implementation and a report that presents and analyses their specification, design, implementation and tests (75% of course total).

# **Course Details**

### **Brief Course Description**:

The Informatics Large Practical gives students experience in developing a non-trivial software system and reporting on the end product. In this way, the practical provides an introduction to the issues and

requirements of the more demanding fourth-year project. In particular, the student gains practical experience of:

- Reading technical material and identifying the important content
- Identifying and formalising project requirements
- Identifying computational problems and inventing algorithmic solutions
- Constructing a detailed design which does not over-commit to implementation detail
- Implementing and testing a software application which realises the design
- Experimenting with the implementation to explore the solutions to the computational problems
- Writing a report which documents the solutions and the implementation
- Managing a software project using a source-code repository.

#### **Detailed list of Learning Objectives:**

- On completion of the Informatics Large Practical, the student will be able to:
- 1. Read technical material and extract relevant information
- 2. Present a convincing proposal for a software development project
- 3. Consider alternative algorithm designs and data structures for tackling a given problem
- 4. Show awareness of the difference between design and implementation in software development
- 5. Implement and debug a software system of medium to large size
- 6. Design and carry out experiments and tests, and explain the methodology involved
- 7. Demonstrate proficiency with modern software development platforms and frameworks
- 8. Write a well-structured report providing clear and concise documentation for a software project
- 9. Exhibit the ability to manage a medium- to large-scale software development project
- 10. Plan and manage their time and resources in completing a large project.

#### Syllabus Information:

- Introduction to the problem domain and the coursework specification. (1 lecture)
- Introduction to the software used on the course. (1 lecture)
- Project planning and management including source code control. (1 lecture)
- Introduction to software testing, and building dependable systems. (1 lecture)
- Problem-domain specific material as appropriate to the practical. (3 lectures)
- Documentation and report writing. (1 lecture)

#### **Recommended Reading List:**

None.

#### Any additional case for support information:

This is a proposal for a single unified large practical to replace the three separate large practicals which are currently offered in UG3. The three large practicals have a lot of academic goals in common and the present system of having three separate practicals has a number of disadvantages:

(i) student enrolment cannot be automatic since the practicals are not compulsory;

(ii) students are sometimes enrolled on the wrong practical by their personal tutors;

(iii) students sometimes take a long time to decide which of the practicals to do, and change late in the semester;

(iv) there is perceived to be a difference in the level of difficulty between the large practicals, whereas they should really all be at the same level.

Replacing the three practicals with a single one would address these problems and make student course administration simpler and more lightweight.