School of Informatics Teaching Course Proposal Form

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Proposal

Course Name: The Human Factor: Working with Users
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Course Year: 4
Names of any courses that this new course replaces :
   none

Course Outline

Course Level: 11
Course Points: 10
Subject area: Informatics
Programme Collections:
   Software Engineering, Artificial Intelligence, Computational Linguistics, Cognitive Science.

Teaching / Assessment

Number of Lectures: 10
Number of Tutorials or Lab Sessions: 0
Identified Pre-requisite Courses: none
Identified Co-requisite Courses: none
Identified Prohibited Combinations: none

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

Description of Nature of Assessment:

In a slight change from the current version, assessment will consist of three parts: 5 weekly reports about readings for Weeks 3, 4, 6, 7, and 8 (50-100 words each), which add up to 10%; two quizzes (Week 5 and Week 9), worth 15% each, and a final usability report (1500 words), worth 60%, due Week 12. This structure has proved to be useful in keeping students engaged throughout the course and to provide regular and fast feedback to both instructor and class.

The questions about readings are graded pass / fail, and each pass counts for 2% - if students submit a meaningful answer, they pass. Questions can range from "what is the key takeaway of this paper for you" or "identify a problem with this paper". If the class grows beyond 30/40 people, this is a candidate for peer marking. These questions both keep students engaged and give me very useful feedback about the cohort's issues, abilities, and preferences.

Quizzes are delivered through LEARN and graded automatically. They consist of multiple choice and true/false questions that have now been tested by two cohorts. Students have 20 minutes to complete each quiz, and only one attempt is possible.

The final essay allows students to apply their knowledge to a usability problem that they have experience with or that is relevant to them. Students are encouraged to use topics that fit in with their masters thesis

or other courses / interests. It tests their ability to identify a problem, search for the relevant literature, and apply their skills. Submission is through LEARN.

Course Details

Brief Course Description:

The main aim of the course is to bring home the message "If the user can't use it, it doesn't work at all". It's an interdisciplinary course open to Informatics, Design Informatics, and PPLS MSc students and would also be suitable for curious Informatics UG4 students. The chosen textbook also focusses on human factors and practical user-centred design.

It complements the Human Computer Interaction related courses offered in Informatics and Design Informatics. Whereas the current 2016/2017 iteration of HCI focuses on basic concepts and methods, The Human Factor looks in depth at who the user of an IT solution is, and what context they work in. Students who have previously taken the new HCI module will be provided with additional readings designed to extend their knowledge.

The syllabus of the course is flexible enough to be adaptable to students' research interests and the overall research profile of the Institute. In past years, for example, the course has covered applications of speech and language processing in more detail, or added a focus on IT literacy.

In the course, we look at the theoretical basis behind human factors and ergonomics, and give students the skills to use the theory discussed in the readings and materials in actual, practical assessment of IT solutions. Therefore, the emphasis of class time is on practice and discussion, not on delivering materials that students might as well have read in the textbook.

The course is taught using a flipped classroom philosophy, where students prepare by reading the textbook, and working through provided papers and other materials before class, and class / contact time is then dedicated to practical work, questioning, and guided discussion. Unusually for a flipped classroom, the course does not use pre-recorded videos, instead focusing on traditional readings, explanatory text, web sites, and sometimes linking out to other people's professionally prepared videos. This has worked well in previous years, and as the course continues to grow, I intend to add a series of podcasts. Thus, the flipped classroom is designed so that students can access materials on the go, even with a low bandwidth or low quality internet connection.

In 2016/2017, course delivery is changing - materials and online discussion moves to a blog, which is accessible for everyone, and only assessment, administration, and announcements remain on LEARN. LEARN is best suited for supporting continuous assessment and works well for all Colleges of the University.

The course has begun as an in-person version of a course to be delivered using Online / Distance Learning, and I anticipate that in 2018, after a successful move to Informatics, I will be able to open an online version. The course is designed to fit in with the online MSc in Data Science.

It is unusual to propose a 10 credit course now that the University encourages a focus on 20 credit courses. As part of the proposed move online in 2018, I plan to submit a proposal for a 20 credit version of this course that adds an online component where students have to perform a formal literature review in the area of human factors, ergonomics, and human computer interaction. Students learn what goes into a formal, publishable review of the evidence on a topic, and the basic skills developed in the Informatics Research Review, for example, are presupposed.

Detailed list of Learning Objectives:

1: understand how a range of factors, including anthropometric, perceptual, cognitive, and social, affect how people interact with technical systems. This includes software and hardware.

2: evaluate whether an IT solution is useful and usable in a given context

Syllabus Information:

https://blog.inf.ed.ac.uk/thehumanfactor/ note in particular the course handbook. previous iterations of the course are on LEARN

Recommended Reading List:

Ritter, Frank E.; Baxter, Gordon D; Churchill, Elizabeth F. (2014): Foundations for Designing User Centred Systems. Springer (main textbook)

Preece / Sharp / Rogers: Interaction Design. 3rd Edition. Wiley

Any additional case for support information:

I propose to bring a course that has been successfully taught within the School of Philosophy, Psychology, and Language Sciences, PPLS11007, over to Informatics. http://www.drps.ed.ac.uk/16-17/dpt/cxppls11007.htm

I created, designed, and taught the course. It has been delivered through PPLS up until now, because PPLS was flexible enough to let me propose it. The PPLS course organisers have served as moderators for the marks and provided an interface to the PPLS External Examiner. They were not otherwise involved in delivering the course. The PPLS Directors for the two MSc programmes whose students have been taking the course, Rob Trueswell and Simon King, support a move to Informatics, as do the former and present PPLS course organisers for the course, Adam Moore and Hannah Rohde.