Board of Studies
Course Proposal Template

PROPOSED COURSE TITLE: The Human Factor: Working with Users

PROPOSER(S): Maria Wolters
DATE: February 13, 2017

SUMMARY
This template contains the following sections, which should be prepared
roughly in the order in which they appear (to avoid spending too much
time on preparation of proposals that are unlikely to be approved):
1. Case for Support
û To be supplied by the proposer and shown to the BoS Academic Secretary
prior to preparation of an in-depth course description

1a. Overall contribution to teaching portfolio
1b. Target audience and expected demand
1c. Relation to existing curriculum
1d. Resources
2. Course descriptor
- This is the official course documentation that will be published if the
course is approved, ITO and the BoS Academic Secretary can assist in its
preparation

3. Course materials
- These should be prepared once the Board meeting at which the proposal
will be discussed has been specified

3a. Sample exam question
3b. Sample coursework specification
3c. Sample tutorial/lab sheet question
3d. Any other relevant materials
4. Course management
- This information can be compiled in parallel to the elicitation of
comments for section 5.
4a. Course information and publicity
4b. Feedback
4c. Management of teaching delivery
5. Comments
- To be collected by the proposer in good time before the actual BoS
meeting and included as received
5a. Year Organiser Comments
5b. Degree Programme Co-Ordinators
5c. BoS Academic Secretary

SECTION 1 û CASE FOR SUPPORT
[This section should summarise why the new course is needed, how it fits with the existing course portfolio, the curricula of our Degree Programmes, and delivery of teaching for the different years it would affect.]

1a. Overall contribution to teaching portfolio

The course is an existing course that is being delivered as PPLS11007 and would move under the auspices of Informatics. Currently, there is a clear lack of courses for students who are interested in Human Computer Interaction, despite proposed new hires and interest in Human-Centred Computing and Human Robot Interaction. (see 1c)

1b. Target audience and expected demand

Student background: This course is suitable for all students that have a basic background in HCI. It is primarily intended as a UG4/Masters level course, following the usual pattern of Informatics Masters courses. While it is particularly suitable for students in Design Informatics or Cognitive Science. All Informatics students can benefit, and I am happy to open the course to exceptional undergraduates in Year 3. The course is highly interdisciplinary, as students from all Masters courses are also welcome.

The course is assessed through online assessments and a final essay only - there is no exam, and there is no coding. This gives students practice in writing longer pieces for their dissertation, and emphasises the further development of skills in user requirements eliciation, interface design, evaluation, and interdisciplinary teamwork, thus building on the HCI course.

Student demand: There is a high demand for coursework-only courses in the second semester among Informatics students. Likewise, many students in the cohort wish to develop user experience / interface design skills. I expect a course size of about 1/3 of the HCI course, plus an additional 10-20 students who were unable to take HCI in Semester 1 for scheduling reasons and 15 students from PPLS, for a total class size of 50-60. This is in line with current growth.

Employer demand: Skills in user interface design and creating a good user experience are key for students seeking employment as front end developers. There is also a clear market for user experience professionals, and previous students on this course have applied for positions in the area.

1c. Relation to existing curriculum

Currently, there are only two courses that are directly relevant to students wishing to acquire skills in Human Computer Interaction, the HCI course itself (Semseter 1), and Adaptive Learning Environments (Semester 2). This course is a Semester 2 option that can be taken by students who have already completed HCI in Semester 1 or a stand-alone introduction (albeit from a very different angle) that can be taken by those who have not had the chance to take HCI in Semester 1. All students who want a basic grounding in user experience and/or human factors can benefit from this course. Since there is a section on Human-Data Interaction, this will also make it relevant for data science / ML students.

1d. Resources

The resources for each week are written up and documented in a blog (http://blog.inf.ed.ac.uk/thehumanfactor), with online and essay assessment through LEARN and further online interaction through TopHat. Course growth can be accommodated through developing more online activities for delivery through TopHat, and through automating formative feedback and including peer assessment.

Lecturing: 9-10 highly interactive lecturing sessions of 2 hours each. Students are expected to prepare using the textbook and online materials.

Tutoring: interaction through the blog and TopHat inbetween lectures.

Course Team: 1 lecturer with a background in HCI. Currently, this is Maria Wolters, but the course can also be handed over to other faculty with an interest or background in HCI, such as new hires in Human-Centred Computing and Human Robot Interaction. I require 1 marker / tutor per 40 students on the course, and can do without as long as the number is smaller than 40.

Since the course is not obligatory, it can be offered if and when resourcing is available. There are no set up costs, but there may be scaling costs. Also, the textbook on which the course is based (Ritter/Baxter/Churchill 2014) might need to be changed in 3-5 years' time if there is no new edition. Up until then, it provides a solid introduction to basic theory.

SECTION 2 û COURSE DESCRIPTOR
2a. Course Title [Name of the course.]:

The Human Factor: Working with Users
2b. SCQF Credit Points:

10

SCQF Credit Level:

11

Normal Year Taken: 4/5/MSc

Also available in years: 3

2c. Subject Area and Specialism Classification:

Computer Science, Software Engineering, Cognitive Science, Design
Informatics

Appropriate/Important for the Following Degree Programmes:

appropriate for all MSc, UG4, and MInf programmes
important for MSc in Design Inforamtics programmes

Timetabling Information:

Should be offered in Semester 2, traditionally offered Wednesdays 11-13

2d. Summary Course Description:

This is an introduction to the fields of Human Factors and User
Experience with an emphasis on developing practical skills that are
grounded in a strong knowledge of theory.

Course Description:

"If the user can't use it, then it doesn't work at all." (Susan Dray)
When technical systems that have been crafted in years of painstaking
work fail in practice, more often than not this is due to a lack of fit
between the complex system, the people who interact with it, and the
contexts in which it is used. In the best case, failure is just annoying,
in the worst case, it costs lives.

In this course, we will look at the art and craft of building technical
systems that people can actually use successfully. To this end, we will
draw on relevant findings from anthropology; behavioural, cognitive and
social psychology; human-computer interaction; and sociology. The course
will be taught using a flipped classroom - before class, you will work
through materials; in class, we will work on activities designed to
review the material and deepen your learning.

Pre-Requisite Courses:

None

Co-Requisite Courses:

None

Prohibited Combinations:

None

Other Requirements:

None

Available to Visiting Students: Yes

2e. Summary of Intended Learning Outcomes (MAXIMUM OF 5):

* understand how relevant aspects of context affect the interaction
between people and technical systems, with a particular emphasis on
anthropometric, behavioural, cognitive, and social factors (ABCS)
* assess the usability of a technological artefact, including both
hardware and software, given a particular context of use
* integrate user experience and human factors into the process of
designing or improving a technological artefact
* ensure that systems are resilient and learn from user errors

Assessment Information

40% online assessments, which may include multiple choice quizzes drawn
from a bank of questions validated in previous iterations of the course,
comments on readings, or a very brief case study.

60% Usability Report Essay (2000 words)

Assessment Weightings:
  Written Examination: ___%
  Practical Examination: ___%
  Coursework: 100%

Time spend on assignments:

18 hours on essay, 12 hours on online assessments.

Academic description:
[A more technical summary of the course aims and contents. May include
terminology and technical content that might be more relevant to
colleagues and administrators than to students.]

This course allows Informatics students to deepen their knowledge of
human factors and user experience research, delve more deeply into the
underpinning psychological and sociological theory as well as relevant
HCI contents, and develop additional analytic skills. The course does not
require any HCI background and can be used as a standalone introduction.
Tasks and readings are provided that cater to students with different
levels of prior knowledge and skills.

Syllabus:

Topics covered include:
* theories and practical definitions of usability and user experience
* a practical introduction to ergonomics and anthropometric aspects of usability
* detailed discussions of fundamental aspects of hearing, vision, touch, memory, attention, and cognition
* accessibility and inclusion
* sociological aspects of user-centred work, such as the digital divide
* computer-supported cooperative work
* human-data and human-information interaction

Relevant QAA Computing Curriculum Sections:

I140 Human-computer interaction
I410 Speech & natural language processing
I500 Health informatics

Graduate Attributes, Personal and Professional skills:

* A critical understanding of the principal theories, concepts and principles relating to Human Factors and User Experience, with some background specialist theories

* Apply knowledge, skills and understanding in using a few skills, techniques, practices and/or materials that are specialised, advanced and/or at the forefront of a subject/discipline/sector; in executing a small defined project of research, development or investigation and in identifying and implementing relevant outcomes.

* 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.

* 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.

* Exercise substantial autonomy and initiative in professional and equivalent activities.
* Take responsibility for own work and/or signi cant responsibility for the work of others.

Reading List:

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

Tullis, Tom; Albert, Bill (2013): Measuring the User Experience. 2nd edition. Morgan Kaufman.

Cooper, Alan; Reimann, Robert; Cronin, David; Noessel Christopher (2014): About Face: The Essentials of Interaction Design 4th edition, Wiley

Preece / Sharp / Rogers: Interaction Design. 4th Edition. Wiley

Breakdown of Learning and Teaching Activities:
[Total number of lecture hours and tutorial hours, with hours for coursework assignments.]
  [The breakdown of learning and teaching activities should only include contact hours with the students; everything else should be accounted for in the Directed Learning and Independent Learning hours.
   The total being 10 x course credits. Assume 10 weeks of lectures slots and 10 weeks of tutorials, though not all of these need to be filled with actual contact hours. As a guideline, if a 10-pt course has 20 lecture slots in principle, around 15 of these should be filled with examinable material; the rest should be used for guest lectures, revision sessions, introductions to assignments, etc. Additional categories of learning and teaching activities are available, a full list can be found at: http://www.euclid.ed.ac.uk/Staff/Support/User_Guides/CCAM/Teaching_Learning.htm]

  Lecture Hours: _20_ hours
  Seminar/Tutorial Hours: _0_ hours
  Supervise practical/Workshop/Studio hours: __0_ hours
  Summative assessment hours: _20_ hours
  Feedback/Feedforward hours: _2__ hours
  Directed Learning and Independent Learning hours: __158_ hours
  Total hours: _100 hours

You may also find the guidance on æTotal Contact Teaching HoursÆ and æExamination & Assessment InformationÆ at: http://www.studentsystems.ed.ac.uk/Staff/Support/User_Guides/CCAM/CCAM_Information_Captured.html

Keywords:
[A list of searchable keywords.]

human factors; ergonomics; cognitive science; human-computer interaction; design informatics

SECTION 3 - COURSE MATERIALS

3a. Sample exam question(s)
[Sample exam questions with model answers to the individual questions are required for new courses. A justification of the exam format should be provided where the suggested format non-standard. The online list of past exam papers gives an idea of what exam formats are most commonly used and which alternative formats have been http://www.inf.ed.ac.uk/teaching/exam_papers/.]

n/a

3b. Sample coursework specification

This is the current specification of the final usability report.

Choose a web site, a piece of software, an app, or a small gadget of your choice, and choose what aspect of usability you want to focus on, and how you will measure it. Measure this aspect, discuss your findings, and suggest improvements. (If you need participants, asking two people will be sufficient)

Word Count: 2000, excluding references. Shorter submissions are fine, too, but do not go over the word count by more than 200 words. The word count excludes the front matter, captions, text in tables and figures, and references.

3c. Sample tutorial/lab sheet questions
n/a

3d. Any other relevant materials

SECTION 4 - COURSE MANAGEMENT

4a. Course information and publicity
[Describe what information will be provided at the start of the academic year in which format, how and where the course will be advertised, what materials will be made available online and when they will be finalised. Please note that University and School policies require that all course information is available at the start of the academic year including all teaching materials and lecture slides.]

University and School policies will be adhered to. The course materials will be available on a blog, while announcements and assessments will be made through Learn, with further interaction both during and outside of course hours on TopHat.

4b. Feedback
[Provide details on feedback arrangements for the course. This includes when and how course feedback is solicited from the class and responded to, what feedback will be provided on assessment (coursework and exams) within what timeframe, and what opportunities students will be given to respond to feedback.

The University is committed to a baseline of principles regarding feedback that we have to implement at every level, these are described at http://www.docs.sasg.ed.ac.uk/AcademicServices/Policies/Feedback_Standards_Guiding_Principles.pdf.
Further guidance is available from http://www.enhancingfeedback.ed.ac.uk/staff.html.]

Formative feedback will be provided during class discussions, through peer assessment, or through appropriate online tasks via TopHat (if the class size requires it).
Summative feedback on assessments will be provided in line with current Informatics guidelines.
Feedback from students will be sought at every lecture - the first part of each lecture consists of activities and further explanations based on student feedback on difficult or tricky concepts.

4c. Management of teaching delivery
[Provide details on responsibilities of each course staff member, how the lecturer will recruit, train, and supervise other course staff, what forms of communication with the class will be used, how required equipment will be procured and maintained. Include information about what support will be required for this from other parties, e.g. colleagues or the Informatics Teaching Organisation.]

Lecturer: deliver interactive lectures
Markers / Tutors: recruited from Informatics, Psychology, and Health in Social Science PhD student populations
ITO: set up final essay assignment in LEARN, provide infrastructure for transferring marks for online assignments from LEARN / Top Hat (all I need is a form)
Forms of communication: Blog post comments, TopHat open questions. No Piazza, as I want to keep the number of platforms the students and I need to keep track of as small as possible, and the Learn discussion forums are not fit for the purpose of open chat and discussion that I am looking for.

SECTION 5 - COMMENTS
 [This section summarises comments received from relevant individuals
prior to proposing the course. If you have not discussed this proposal
with others please note this].

5a. Year Organiser Comments
[Year Organisers are responsible for maintaining the official Year Guides
for every year of study, which, among other things, provide guidance on
available course choices and specialist areas. The Year Organisers of all
years for which the course will be offered should be consulted on the
appropriateness and relevance on the course. Issues to consider here
include balance of course offerings across semesters, subject areas, and
credit levels, timetabling implications, fit into the administrative
structures used in delivering that year.]

5b. BoS Academic Secretary
[Any proposal has to be checked by the Secretary of the Board of Studies
prior to discussion at the actual Board meeting. This is a placeholder
for their comments, mainly on the formal quality of the content provided
above.]