

THE AMERICAN UNIVERSITY OF PARIS

<u>COURSE TITLE:</u>	Human Computer Interaction	<u>COURSE NO:</u>	CM/CS 348
<u>PREREQUISITES:</u>	IT101 with at least a B, or CS140	<u>SEMESTER:</u>	Fall 2010
<u>PROFESSOR:</u>	Claudia Roda - http://ac.aup.fr/roda/	<u>CREDITS:</u>	4
<u>CLASS SCHEDULE:</u>	Monday and Thursday 12h10 – 13h30	<u>ROOM NO:</u>	G4
<u>OFFICE HOURS:</u>	By appointment	<u>PERIOD (S):</u>	M,R 3
<u>CONTACT:</u>	croda@aup.fr or mailbox at Grenelle. Office:G45, extension 701		

COURSE CONTENT:
(Catalogue description)

This course introduces theories of human-computer interaction and analyses human factors related to the design, development, and use of Information Systems. Students will apply these theories with examples of design, implementation, and evaluation of multimedia user interfaces. The subject of this course is inherently interdisciplinary and the students attending the course normally represent several majors. This allows to create a very stimulating (and real-life like) environment for experimenting with system design. Students will often be required to work in multidisciplinary teams and use methodologies that allow to bridge participants' differences in vocabulary, approach, knowledge, and goals.

Learning Objectives

Students will learn:

- concepts and techniques of HCI including the foundational psychological, sociological, and anthropological knowledge and skills necessary to develop and evaluate interactive systems.
- How to employ user-centered design methods in the design and implementation of interactive software
- How to design, conduct, and analyse empirical studies and usability studies that inform the design of interactive software.
- How to work in a multidisciplinary team, understand different backgrounds and goals, whilst respecting deadlines.
- How to communicate and reason about software design through clearly written documents.

Measurable Outcomes

Upon completing this course students should be able to:

- Describe HCI and discuss the role that psychological, sociological, anthropological knowledge and skills play in interactive systems.
- Understand what usability is.
- Evaluate an interactive product and explain what is good and bad about it in terms of the goals and principles of HCI.
- Explain what is meant by the problem space.
- Understand how to conceptualize interaction.
- Describe what a conceptual model is and explain the different kinds.
- Discuss the pros and cons of using interface metaphors as conceptual models.
- Debate the pros and cons of using realism versus abstraction at the interface.
- Outline the relationship between conceptual design and physical design.
- Understand what mental models are and how they can be elicited and interpreted.
- Describe the main kinds of social mechanisms that are used by people to communicate and collaborate and some of the collaborative systems that have been developed to support this kind of social behavior.
- Understand what expressive interfaces are and the effects they can have on people, the pros and cons of applying anthropomorphism in interface design.
- Assess the believability of different kinds of agents and virtual characters and their persuasive impact (for example in e-commerce).
- Understand various types of lifecycle models and their relations to the process of system design.
- Identify examples of different kinds of requirements from a simple description.
- Select amongst different data-gathering techniques.
- Develop a "scenario," a "use case," and an "essential use case" from a simple description.
- Perform hierarchical task analysis on a simple description.
- Understand prototyping and different types of prototyping activities.
- Produce a simple prototype.
- Produce a conceptual model for a system
- Perform some simple physical design.
- Understand the use of scenarios and prototypes in conceptual design.
- Understand the role of standards, guidelines, and rules in system design.
- Understand how tools may support system design.
- Understand the main principles and the ethnographic-based methods of user-centered design.
- Understand participatory design techniques and pro and cons of this approach.
- Understand the key concepts and terms in system evaluation (including conceptual, practical, and

- ethical issues to be considered when planning evaluation).
- Understand and experiment some evaluation techniques such as think-aloud evaluation, diary studies, interaction logging, interviews, heuristic evaluation, and walkthroughs.
 - Design a simple questionnaire.
 - Collect, analyze, and present data collected by the techniques mentioned above.
 - Select appropriate evaluation technique.
 - Understand user testing, how it differs from an experiment, and how it contributes to usability testing.
 - Design simple experiments.
 - Understand the GOMS model, the Keystroke level model and Fitts' law and when these techniques are useful.
 - Perform a simple keystroke level analysis.
 - Work collaboratively with others to develop a web-based class resource.
 - Use synchronous and asynchronous communication technologies to collaborate with others effectively.

GENERAL EDUCATION: This course fulfills one or more General Education requirement ___ Yes ___X_No
If yes specify:

TEXTBOOKS:
REQUIRED:

Preece J., Sharp H. and Rogers Y., 2002. Interaction Design: Beyond Human-Computer Interaction. Wiley

Course Web pages, which are updated regularly and contain all the lectures "transparencies", assignments, web links and other relevant information, can be accessed at URL : <http://ac.aup.fr/roda/cs348/>. Some further readings and course notes will be distributed in class.

ATTENDANCE: Because the course is based on hands-on experience, students are expected to attend all lectures and participate in class.

HOMEWORK ASSIGNMENTS: The homework assignments will each be designed to develop and test skills and knowledge related to the immediately preceding classes. Homework assignments will be discussed in class immediately after the due date and they will be used to build on ongoing activities therefore **no assignment will be accepted after the due date.** Students should **keep a copy** of all material they submit to the teacher and of all graded assignments. Unless differently stated all assignments must be published in your course site AND emailed to the teacher. Assignments are NOT accepted on paper. You should enquire with the teacher if you have not received a grade for an assignment within a week of submission, after this date no changes will be made to assignments grades (this includes 0 grades for no submission). The online course summary (<http://www.ac.aup.fr/roda/cs348/courseSummary.shtml>) will be periodically updated and students should check it at least once a week for changes of schedule, due assignments, final project deadlines and special announcements.

GRADING:

Participation in class:	10%
Homework assignments and class test:	70%
Final project:	20%

ATTENDANCE POLICY:

Students studying at The American University of Paris are expected to attend ALL scheduled classes. A maximum of four (4) *excused* absences per semester may be requested for all 4-credit courses. Two (2) *excused* absences per semester per 1-credit course may be requested. The French Department has its own attendance policy. Students are responsible for compliance.

Attendance at all exams is mandatory.

Student Affairs will *recommend* that a professor excuse an absence for the following reason only:

Involuntary absences due to illness or personal emergencies, upon presentation of documentary proof of illness or emergency.

Religious and National Holidays:

Due to the large number of nationalities and faiths represented at the University, religious and national holidays (other than those on the academic schedule) will not be excused by Student Affairs.

Academic Affairs will excuse an absence for students' participation in study trips related to their courses.

Lateness to course meetings:

If a student arrives at course meetings more than 10 minutes late without documentation for one of the above scenarios, it will be considered an *unexcused* absence.

All documentation must be submitted to the Office of Student Affairs within ONE WEEK following the first day of the absence.

IN ALL CASES OF MISSED COURSE MEETINGS, THE RESPONSIBILITY FOR COMMUNICATION WITH THE PROFESSOR AND FOR ARRANGING TO MAKE UP MISSED WORK RESTS SOLELY WITH THE STUDENT.

Whether an absence (excused or unexcused) is accepted or not is ALWAYS up to the discretion of the professor or the department. Unexcused absences can result in a low or failing participation grade. In the case of excessive excused and unexcused absences, it is up to the professor or the department to decide if the student will receive an "F" for the course. An instructor may recommend the withdrawal of a student whose absences from any course, *excused or not*, have made it impossible to continue in the course at a satisfactory level. The professor may consult with Student Affairs for additional information.

Students must be mindful of this policy when making their travel arrangements, and **especially during the Drop/Add and Exam Periods.**

ENGLISH LANGUAGE PROFICIENCY STATEMENT: As an anglophone university, The American University of Paris is strongly committed to effective English language mastery at the undergraduate level. Most courses require scholarly research and formal written and oral presentations in English, and AUP students are expected to strive to achieve excellence in these domains as part of their course work. To that end, professors include English proficiency among the criteria in student evaluation, often referring students to the university Writing Lab where they may obtain help on specific academic assignments. Proficiency in English is monitored at various points throughout the student's academic career, most notably during the admissions and advising processes, while the student is completing general education requirements, and during the accomplishment of degree program courses and senior theses.