**CS-486 Human computer interaction**

Pu Faltings Pearl

<table>
<thead>
<tr>
<th>Cursus</th>
<th>Sem.</th>
<th>Type</th>
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<tbody>
<tr>
<td>Data Science</td>
<td>MA2, MA4</td>
<td>Opt.</td>
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<tr>
<td>Humanités digitales</td>
<td>MA2, MA4</td>
<td>Opt.</td>
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<tr>
<td>Informatique</td>
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<td>Mineur STAS Chine</td>
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<td>Opt.</td>
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<td>SC master EPFL</td>
<td>MA2, MA4</td>
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<tr>
<th>Language</th>
<th>English</th>
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<tbody>
<tr>
<td>Credits</td>
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<tr>
<td>Session</td>
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<td>Semester</td>
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<td>Exam</td>
<td>During the semester</td>
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<td>Weeks</td>
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<td>Hours</td>
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<td>Lecture</td>
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<td>Exercises</td>
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<tr>
<td>Project</td>
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**Summary**

This course starts with a simple premise: if a piece of software is useful, joyful and easy to use, people will want it. We thus teach methods for engaging user experience design.

**Content**

**Basic concepts of human-computer interaction**

- Introduction to HCI: its aims and goals
- Design thinking
- Qualitative research
- User modeling: persona and empathy diagram
- Task analysis
- Visual design

**Basic concepts of cognitive science**

- How people reason and mental models
- How people learn to use software products
- How people perceive the world
- How people process information

**Prototyping methods for HCI design**

- Storyboarding
- Wireframe prototyping
- Interactive prototyping
- Video prototyping

**Evaluation techniques**

- Cognitive walkthrough
- Heuristic evaluation

**Keywords**

User experience design, design thinking, usability, design for engaging users, rapid prototyping techniques, evaluation with users, design challenge

**Learning Prerequisites**

**Required courses**

- Introduction to Visual Computing
Recommended courses
Open to students enrolled in the Master and PhD programs in IC.

Important concepts to start the course
Design software for joyful user experience

Learning Outcomes
• Interview users and elicit their needs using the goal-directed design method
• Design interfaces and interactions
• Project management: set objectives and devise a plan to achieve them
• Group work skills: discuss and identify roles, and assume those roles including leadership
• Communication: writing and argumentation skills
• Design and implement interfaces and interactions

Teaching methods
Lectures, hands-on practice, design review

Expected student activities
Reading, case studies, peer discussions

Assessment methods
Individual project, group project, presentation

Supervision
Office hours  Yes
Forum  Yes

Resources
Virtual desktop infrastructure (VDI)
No

Bibliography
About Face 3: The Essentials of Interaction Design by Alan Cooper et al. (available as e-book at NEBiS)
100 Things Every Designer Needs to Know about People by Susan Weinschenk (available as e-book at NEBiS)

Ressources en bibliothèque
• About Face 3 / Cooper
• 100 Things Every Designer Needs to Know about People / Weinschenk