# CPE/CSC 581-S07 Usability and Knowledge Management Schedule

The following table provides an outline for the course schedule. It lists the topic for a particular week, together with references to the respective entries in the reading list, and to the assignments with their due dates. Material will be made available as the course proceeds, so some links will be broken initially.

Due to the special circumstances this quarter combining aspects of CSC 486 and 581, the schedule below is tentative. In particular, the topics addressed and their sequence may undergo some changes.

*Note: The table is generated via XML, and may not display properly on some browsers. You can also use the PDF version, but it may not follow hyperlinks, and is more likely to be out of date.*

| Week | Date | Topic | Description | Speaker | Topic | Assignment | Project | Due | Student Presentation | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | April 3 | Introduction | An overview of the course. Knowledge and humans: benefits, problems. Knowledge and computers: knowledge representation, reasoning. Dealing with large accumulations of knowledge: libraries, other repositories. Computer support for dealing with knowledge: storage, retrieval, evaluation, visualization. | John Keller; Adam Gray | *Mars Sonification, NOAA Large Astronomical Data Sets; Ontological Mapping* | Assignment 1: KM Tools | Team formation; brainstorming of ideas; previous team projects | | Name/Topic: | Name/Topic: |
| | April 5 | | | | | | Identify potential topics | | _____ | _____ |
| 2 | April 10 | Knowledge Acquisition, Representation and Manipulation | Basic principles and methods to enable computers to deal with knowledge: Transfer of knowledge from humans to computers, extraction of knowledge from data collections ("data mining"), representation of knowledge in computers (rules, frames, scripts, meta-data, RDF), generating new knowledge from existing knowledge (inference, reasoning). | | | Presentation and Paper | Select topic | | _____ | _____ |
| | April 12 | | | | | | Milestone Week 2: Requirements, Testing and Evaluation Plan; teams established; project definition | Paper topic proposal | Brett Bojduj, Dennis Taylor: NN for OO for Function Approximation | _____ |
| 3 | April 17 | Usability and Knowledge | Computer support to make the utilization of knowledge easier and more effective for humans: Balance of conflicting requirements (e.g. levels of abstraction vs. access to specific details); selection of suitable knowledge organization and presentation methods. | | | Assignment 2: KM Body of Knowledge | Requirements definition, tentative schedule | | John Vu: Adobe Bridge | _____ |
| | April 19 | | | | | | | Reviewer feedback to paper topic proposal | Jason Anderson: Knowledge Discovery in Data Bases | _____ |
| 4 | April 24 | Knowledge Organization | Establishing relations among knowledge items: explicit vs. implicit relations; special relations such as similarity, part-of, contains, ... Methods for organizing knowledge: hierarchies, categorization schemes, descriptors, ontologies, metadata, Semantic Web. | | | | Milestone Week 4: Prototype 1 (alpha) | | _____ | _____ |
| | April 26 | | | | | | | | Ryan MacConnell, Ben Woskow: Human Factors in Scientific Visualization | _____ |
| 5 | May 1 | Knowledge Retrieval | Finding and retrieving relevant knowledge items from large collections: Information retrieval, search engines, relevance ranking. | | | Assignment 3: Knowledge Presentation and Visualization | | | Scott Griffin, Clay Schenkel: Content Management System Drual | _____ |
| | May 3 | | | | | | | Paper draft version | _____ | _____ |
| 6 | May 8 | Knowledge Presentation | Presentation of identified relevant knowledge items to the human user: Text, graphics, animation; visualization techniques, alternative presentation methods (e.g. audio); Human-Computer Interface (HCI) and usability aspects. | Brett Johnson ?? | *Knowledge Management from a Verity Perspective* | | Milestone Week 6: Prototype 2 (beta) | | Educause Conference | Educause Conference |
| | May 10 | | | | | | | Reviewer feedback to draft version | _____ | _____ |
| 7 | May 15 | Knowledge Exchange | Sharing knowledge between computers and humans: Knowledge exchange languages, internal representation of knowledge vs. sharing, levels of abstraction, details. Computer-computer vs. computer-human knowledge exchange. | | | Assignment 4: Knowledge Usability Evaluation | | | _____ | _____ |
| | May 17 | | | | | | | | Dustin Anderson: Data Mining | Benjamin Koonce: DSpace |

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| **8** | *May 22* | ***User Interaction*** | Processes and methods that help humans utilize computer-based knowledge more effectively, especially in interactive sessions: Delphi method, process modeling, Semantic Web, RSS, Wiki. | | Milestone Week 8: Final Version | Final version paperDue | Jeff LaBarge: Emergency Response | _____ |
| | *May 24* | | | | | Final version paper | _____ | _____ |
| **9** | *May 29* | ***Constrained Access*** | Dealing with knowledge under constrained access conditions, such as mobile devices, voice-only, limited attention, or disabilities. | | Peer evaluation of project final version | | _____ | _____ |
| | *May 31* | | | | | Reviewer feedback to paper final version | _____ | _____ |
| **10** | *June 5* | ***Ethical and Social Dimensions of Knowledge*** | Consequences on societies and individuals of access (or lack thereof) to knowledge; intellectual property and copyright issues; case studies and trends of computer-based knowledge management in different contexts: commercial, educational, informally organized (e.g. Web communities) | | Project Presentations, Final Documentation | | Project Presentations | Project Presentations |
| | *June 7* | | | | | | Project Presentations | Project Presentations |





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