1. **Course number and name**
   CptS 443: Human-Computer Interaction

2. **Credits and contact hours**
   3 credits, 3 lecture hours

3. **Instructor’s or course coordinator’s name**
   Chris Hundhausen

4. **Textbook, title, author, and year**

5. **Other supplemental materials**
   - D. Kieras. 1993. *Using the Keystroke-Level Model to estimate execution times.* <https://emailwsu-my.sharepoint.com/:b:/g/personal/hundhaus_wsu_edu/EYdYvOM6cDZMu_R2z5TuTy8BIsAnfsQt5PWkZLCRcLE5RQ?e=U5LSrd>.

6. **Specific course information**
   - *Catalog description:* Concepts and methodologies of engineering, social and behavioral sciences to address ergonomic, cognitive, social and cultural factors in the design and evaluation of human-computer systems.
   - *Prerequisites or corequisites:* Certified major in CptS, CE, EE, or SE. Junior standing.

6. **Specific goals for the course**
   By the end of the course, students will be able to
   - Design and evaluate interactive software by applying appropriate design principles and concepts (2a, 2b, 6a, 6b).
   - Employ user-centered design methods in the design and implementation of interactive software (1e, 2a, 2c, 2e, 2f, 2g, 6a)
   - Design, conduct, and analyze empirical studies that inform the design of interactive software (1b, 2e, 6b, 6c)
   - Apply analytical methods to the evaluation of interactive software (2e, 6a).
   - Communicate about, reason about, and critically review user interface designs through sketching, oral discussions, peer reviews, and well-written documents (3a, 3b, 3c, 3d, 3e, 3f).
7. **Brief list of topics to be covered**
   - Norman’s design concepts (feedback, constraints, affordances, signifiers, natural mappings)
   - Cognitive walkthrough
   - Principles of human perception
   - Principles of human memory
   - Principles of human learning
   - Principles of human decision-making
   - Principles of human motor control and responsiveness
   - Human errors
   - Human-centered design
   - Early data gathering techniques
   - Low fidelity prototyping
   - Predictive modeling (GOMS and KLM)
   - Heuristic evaluation
   - Usability testing
   - Experiment design and analysis