

<b>Course Number</b>	<b>CS 484</b>	<b>Course Title</b>	<b>User Interface Design and Development</b>				
<b>Semester Hours</b>	<b>3</b>	<b>Course Coordinator</b>	<b>Tong Shu</b>				
<b>Catalog Description</b>	Problems and processes in the design of highly usable systems. Understanding stakeholders, requirements, tasks, prototyping, evaluation, guidelines and design process and heuristics. Interactive software concepts and implementation considerations. A group project is an integral part of this course.						
<b>Textbooks</b>							
SP18							
LaViola, J. J. Jr., Kruijff, E., McMahan, R. P., Bowman, D. & Poupyrev, I. P. (2017). <i>3D User Interfaces: Theory and Practice</i> . Addison-Wesley Professional, 2 <sup>nd</sup> Edition. ISBN: 978-0134034324.							
<b>References</b>							
Noble, J. (2012). <i>Programming Interactivity: A Designer's Guide to Processing, Arduino, and OpenFrameworks</i> . O-Reilly Media, 2 <sup>nd</sup> Edition. ISBN: 9781449311445.							
<b>Course Learning Outcomes</b>							
<ul style="list-style-type: none"> <li>• To learn about usability and the value of involving users in an iterative incremental development process.</li> <li>• To be able to apply prototyping and evaluation skills to interaction design.</li> <li>• To be able to understand and apply common design notations to interaction design problems.</li> <li>• To be able to apply and appreciate design heuristics and usability testing to interaction design problems.</li> <li>• To gain experience and appreciation of team development work.</li> </ul>							
<b>Assessment of the Contribution to Student Outcomes</b>							
SP20							
<b>Outcome →</b>	1	2	3	4	5	6	7
<b>Assessed →</b>	X	X	X	X	X	X	
<b>Prerequisites by Topic</b>							
CS 306 with a grade of C or better or graduate standing.							

**Major Topics Covered in the Course**

1. Introduction to Interaction and Usability {3 classes}
2. Frameworks and Styles of Interaction {3 classes}
3. Processes for Interaction Design {4 classes}
4. Discovering Requirements {4 classes}
5. User & Task Analysis {3 classes}
6. Guidelines and Standards for Interface Design {4 classes}
7. Prototyping {4 classes}
8. Evaluation and Usability Testing {3 classes}
9. Constructing User Interface Software {3 classes}
10. Design Techniques and Heuristics {3 classes}
11. Design Models and Metrics {3 classes}
12. Patterns in HCI/ID, Future Directions etc. {3 classes}

NOTE: When course is taken as 500-level credit (CS 591 “Special Topics”), there will be additional requirements such as a research project.