Course Outline

1. Document Information

Degree Program	Computer Science
Course Number	CS 484
Course Title	User Interface Design and Development
Semester Hours	3
Course Coordinator	Tong Shu
Revision Term	Spring 2020
Latest Revision	Spring 2020

2. Catalog Description

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.

3. Textbooks

- LaViola, J. J. Jr., Kruijff, E., McMahan, R. P., Bowman, D. & Poupyrev, I. P. (2017). 3D User Interfaces: Theory and Practice. Addison-Wesley Professional, 2nd Edition. ISBN: 978-0134034324.

4. References

- Noble, J. (2012). Programming Interactivity: A Designer's Guide to Processing, Arduino, and OpenFrameworks. O-Reilly Media, 2nd Edition. ISBN: 9781449311445.

5. Course Learning Outcomes

- To learn about usability and the value of involving users in an iterative incremental development process.
- To be able to apply prototyping and evaluation skills to interaction design.
- To be able to understand and apply common design notations to interaction design problems.

- To be able to apply and appreciate design heuristics and usability testing to interaction design problems.
- To gain experience and appreciation of team development work.

6. Assessment of the Contribution to Student Outcomes

Outcome	1	2	3	4	5	6
Assessed	X	X	X		X	X

7. Prerequisites by Topic

CS 306 with a grade of C or better or graduate standing.

8. 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}