Programming Graphical User Interfaces

USC Viterbi
School of Engineering

ITP 368 (3 Units)
Spring 2017

Catalogue Description	Programming applications with dynamic graphical user interfaces. Topics include events, controls, resources, data bindings, styles, and user experience.
Prerequisites	CSCI 104 or ITP 365
Instructor	Kendra Walther (kwalther@usc.edu)
Office Hours	Listed on Blackboard under Contacts.
Lab Assistants	Listed on Blackboard under Contacts.
Course Hours	MW 10:00-11:50am
Course Structure	The class meets for one hour and 50 minutes twice a week for a total of 3 hours and 40 minutes. One midterm exam and one final exam will be given. Weekly programming labs and 4-5 larger assignments will be assigned to be completed outside of class time. Access to a computer is required, and ITP holds open lab hours with computers. All course material is available on Blackboard at http://blackboard.usc.edu.
Recommended Textbook	Introduction to Java Programming, Comprehensive Version (10th Edition). By Y. Daniel Liang **ISBN-10:** 0133761312 (**subject to change**)
Grading	The following percentage breakdown is used to determine the final grade.

Final Project   15%
Labs & Assignments (weighted proportionally) 45%
Exam 1   20%
Exam 2   20%
TOTAL POSSIBLE   100%

Grading Scale	The following scale is used to determine the letter grade:

93% and above	A
90 - 92%	A-
87 - 89%	B+
83 - 86%	B
80 - 82%	B-
77 - 79%	C+
73 - 76%	C
70 - 72%	C-
69 - 65	D
64 and below	F

If you are taking the class with a grade of P/NP, you must earn a grade of 70% or higher in order to receive a P. Final grade percentages are calculated to two decimal places and rounded to hundredths. For example, 89.99 is a B+ while 89.995 is rounded to 90 and thus an A-.

Homework	The assignments will be posted on Blackboard under the "Assignments" section. Each assignment will include instructions, a due date, and a link for electronic submission. Assignments must be submitted using this link. All assignments will be digitally submitted through Blackboard except where specifically specified. It is your responsibility to submit assignments **on or before** the due date. Assignments turned in up to 24 hours late will have 15% of the total points deducted from the graded score. Assignments turned in 24-48 hours late will have 30% of the total points deducted from the graded score. Assignments turned in 48-72 hours will have 50% of the total points deducted from the graded score. After three days, submissions will **not** be accepted and you will receive a 0. It is the responsibility of the student to contact the grader when posting late projects.. You are required to keep a copy of all of your assignments. You may save your assignments using a USB flash drive or a website such as http://www.dropbox.com. If available, you will be given one USB flash drive from ITP. You will not be able to save your work on the ITP lab computers. ITP is not responsible for any work lost.
Policies	No make-up exams (except for documented medical or family emergencies) will be offered. A roster will be passed around the room during each lecture session. Please initial by your name for the appropriate week. Do not sign in for another student; doing so is an academic integrity violation. ITP offers open lab use for all students enrolled in ITP classes. These open labs are held beginning the second week of classes through the last week of classes. Hours are listed at http://itp.usc.edu/labs/. The open labs will not have a lab assistant for this specific class. These lab times are there in case you do not have a computer or need extra time to complete an assignment. ITP reserves the right to record classroom spaces and to use recorded material if necessary for academic integrity cases.
Incomplete and Missing Grades	University Grading Handbook, located at http://www.usc.edu/dept/ARR/grades/gradinghandbook/index.html, contains details on incomplete and missing grades, as well as other grading concerns. A grade of Missing Grade (MG) should only be assigned in unique or unusual situations such as for those cases in which a student does not complete work for the course before the semester ends. All missing grades must be resolved by the instructor through the Correction of Grade Process. One calendar year is allowed to resolve a MG. If an MG is not resolved [within] one year, the grade is changed to UW (Unofficial Withdrawal) and will be calculated into the grade point average as zero grade points. A grade of Incomplete (IN) is assigned when work is not completed because of documented illness or other 'emergency' occurring **after the twelfth week of the semester** (or 12th week equivalency for any course scheduled for less than 15 weeks).

Academic Integrity	USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles.

SCampus is USC's Student Guide to Policies and Conduct Code and can be found at http://scampus.usc.edu. Section 11 contains the Behavior Violating University Standards and Appropriate Sanctions and can be found at http://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/. Students will be referred to the Office of Student Judicial Affairs and Community Standards (SJACS) for further review, should there be any suspicion of academic dishonesty. The Review process can be found at http://www.usc.edu/student-affairs/SJACS/.

An academic integrity tutorial can be found at http://www.usc.edu/libraries/about/reference/tutorials/academic_integrity/index.php

Assignments and projects in computer programming course are different from those in some other types of courses. Students **may NOT collaborate**, work together, share code, or in any way exchange solutions for assignments and projects. All assignments are analyzed by software that looks for similarity. Any sharing of ideas or code will be considered a violation of academic integrity (cheating); an SJACS report will be filed with the recommended penalty of an F in the course. Do not share your code with anyone else in this or a future section of the course, as allowing someone else to copy your code carries the same penalty as you copying the code yourself.

If the instructor, a grader, or a lab assistant suspects you of academic dishonesty, it has to be reported to SJACS. Do not share lab assignments with another student. Do not submit another student's work as your own. Do not look at other students' papers during exams. Do not leave the room during an exam without permission. **Do not cheat! As Trojans, we are faithful, scholarly, skillful, courageous, and ambitious.** |
| **Viterbi Honor Code** | Engineering enables and empowers our ambitions and is integral to our identities. In the Viterbi community, accountability is reflected in all our endeavors. Engineering+ Integrity. Engineering+ Responsibility. Engineering+ Community. Think good. Do better. Be great. These are the pillars we stand upon as we address the challenges of society and enrich lives. |

Support Systems	Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* at http://equity.usc.edu/ or to the *Department of Public Safety* at http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us. This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men*, information at http://www.usc.edu/student-affairs/cwm/, provides 24/7 confidential support. The sexual assault resource center webpage at sarc.usc.edu describes reporting options and other resources.
Disability Services	*The Office of Disability Services and Programs*, information at http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html, provides certification for students with disabilities and helps arrange the relevant accommodations. Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. **Please be sure the letter is delivered to your course instructor as early in the semester as possible.** If you need accommodations for an exam, the form needs to be given to the instructor at least two weeks before the exam, but preferably at the beginning the semester.
Emergency Preparedness	If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information*, information at http://emergency.usc.edu/, will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology. Additional information about *Campus Safety and Emergency Preparedness* can be found at http://preparedness.usc.edu.

Course Outline*

Week	Topics
1	Introduction to Java and Object Oriented Design
	Java that is like C/C++, Arrays; Strings
	Scanner class (I/O), Enums, OOP
2	**No class**
	Exception Handling; Testing, OOP and UML
3	Inheritance and Polymorphism; Abstract Classes
	Interfaces and Code Design
4	Generics and Java Collections Framework
	Recursion
5	Java FX Basics
	UI controls and Layouts
6	Layouts
	Binding
7	**No class**
	Event Driven Programming
8	Lambdas
	More UI Controls
9	Demo day & Midterm review
	Midterm EXAM 1
10	Design Patterns Part 1
	Accessibility, Localization, Internationalization
11	Design Patterns Part 2
	JavaFX Multi-media & Animations
12	UI Design
	CSS and FXML
13	Intro multi-threading
	Multi-threading
14	Review
	EXAM 2
15	UI Design
	Wrap-up, final project
Finals	**Final Project Presentations, Monday May 8th, 8am-10am**

* This course outline is for planning purposes and is subject to change.