**Programming Graphical User Interfaces**

ITP 368 (3 Units)

Spring 2018

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**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 12:00-1:50pm | TuTH 12:00-1:50pm

**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 several in class quizzes will be given. Programming labs and several larger assignments will be assigned to be completed outside of class time. Access to a laptop computer during class is required. ITP does have a laptop loaner policy for students enrolled who do not have a personal laptop. All course material is available on Blackboard at [http://blackboard.usc.edu](http://blackboard.usc.edu).

**Textbook**
Selected books from Safari Books online including: Learn JavaFX: Building User Experience and Interfaces with Java 8 (by Kishori Sharan) and Core Java (by Cay Horstmann)

**Grading**
The following percentage breakdown is used to determine the final grade.

- Final Project 15%
- Labs & Assignments (weighted proportionally) 45%
- Quizzes (5 total, lowest score dropped) 20%
- Exam 20%

**TOTAL POSSIBLE** 100%

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

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

**Late Add**
Per university policy, students are allowed to add the course until the end of week 3. Any students wishing to add the course should plan on attending the course from the beginning of the semester. Upon adding the course after week 1, the student should email the instructor immediately to make sure there is a plan for completion of work and learning missed materials. Any missed work is required to be completed and submitted according to the schedule provided by the instructor.
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. 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. Each student will be allowed ONE 24 hour late assignment for “free”, which may not be used on final project, and you must indicate that you are using your free late in the comments when you submit the assignment.

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. ITP is not responsible for any work lost.

Policies

No make-up exams or quizzes (except for documented medical or family emergencies) will be offered. The lowest quiz will be dropped.

Attendance may be taken during lecture sessions electronically, verbally, or via a roster passed around the room. Do not sign in for another student; doing so is an academic integrity violation. Attendance is not mandatory, but you are responsible for any announcements made during lecture time and understanding material covered in class. Your work will be graded on the assumption that you have mastered material from class.

Do not reproduce, distribute, or post any lecture material, assignments, or exams publicly without my written consent. You may take notes and make copies of course materials for your own use. You may not post my course materials on sites such as CourseHero. Doing so is a copyright violation and an academic integrity violation that will be dealt with accordingly.

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 at https://itp.usc.edu/current-students/open-lab-schedule/. In addition, ITP has a laptop loaner program for students who may need temporary use of a laptop in order to complete an assignment.

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.
**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.

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” [https://policy.usc.edu/scampus-part-b/](https://policy.usc.edu/scampus-part-b/). Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, [http://policy.usc.edu/scientific-misconduct](http://policy.usc.edu/scientific-misconduct).

Academic integrity tutorials can be found at [https://libraries.usc.edu/research/reference-tutorials](https://libraries.usc.edu/research/reference-tutorials).

Examples of behavior violating University standards:

- The submission of material authored by another person but represented as the student's own work, whether that material is paraphrased or copied in verbatim or near-verbatim form.
- Obtaining for oneself or providing for another person a solution to homework, a project or other assignments, or a copy of an exam or exam key without the knowledge and expressed consent of the instructor.
- Unauthorized collaboration on a project, homework or other assignment.
- Fabrication: Submitting material for lab assignments, class projects or other assignments which is wholly or partially falsified, invented or otherwise does not represent work accomplished or undertaken by the student.

If the instructor, a grader, or a lab assistant suspects you of academic dishonesty, it has to be reported to SJACS ([https://sjacs.usc.edu](https://sjacs.usc.edu)). Do not share lab assignments with other people. Do not submit another person’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.**

**Disability Services**

*The Office of Disability Services and Programs,* information at [http://dsp.usc.edu](http://dsp.usc.edu) 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 of the semester.

**Emergency Preparedness**

If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information,* information at [http://emergency.usc.edu/](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.
<table>
<thead>
<tr>
<th>Support Systems</th>
<th>Discrimination, sexual assault, and harassment are not tolerated by the university.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Counseling Services (SCS)</strong> - (213) 740-7711 – 24/7 on call</td>
<td>Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. <a href="https://engemannshc.usc.edu/counseling/">https://engemannshc.usc.edu/counseling/</a></td>
</tr>
<tr>
<td><strong>National Suicide Prevention Lifeline</strong> - 1-800-273-8255</td>
<td>Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <a href="http://www.suicidepreventionlifeline.org">http://www.suicidepreventionlifeline.org</a></td>
</tr>
<tr>
<td><strong>Relationship and Sexual Violence Prevention Services (RSVP)</strong> - (213) 740-4900 - 24/7 on call</td>
<td>Free and confidential therapy services, workshops, and training for situations related to gender-based harm. <a href="https://engemannshc.usc.edu/rsvp/">https://engemannshc.usc.edu/rsvp/</a></td>
</tr>
<tr>
<td><strong>Sexual Assault Resource Center</strong></td>
<td>For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <a href="http://sarc.usc.edu/">http://sarc.usc.edu/</a></td>
</tr>
<tr>
<td><strong>Office of Equity and Diversity (OED)/Title IX Compliance</strong> – (213) 740-5086</td>
<td>Works with faculty, staff, visitors, applicants, and students around issues of protected class. <a href="https://equity.usc.edu/">https://equity.usc.edu/</a></td>
</tr>
<tr>
<td><strong>Bias Assessment Response and Support</strong></td>
<td>Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. <a href="https://studentaffairs.usc.edu/bias-assessment-response-support/">https://studentaffairs.usc.edu/bias-assessment-response-support/</a></td>
</tr>
<tr>
<td><strong>Student Support and Advocacy</strong> – (213) 821-4710</td>
<td>Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. <a href="https://studentaffairs.usc.edu/ssa/">https://studentaffairs.usc.edu/ssa/</a></td>
</tr>
<tr>
<td><strong>Diversity at USC</strong></td>
<td>Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. <a href="https://diversity.usc.edu/">https://diversity.usc.edu/</a></td>
</tr>
<tr>
<td><strong>USC Emergency Information</strong></td>
<td>Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible, <a href="http://emergency.usc.edu">http://emergency.usc.edu</a></td>
</tr>
<tr>
<td><strong>USC Department of Public Safety</strong> – 213-740-4321 (UPC) and 323-442-1000 (HSC)</td>
<td>for 24-hour emergency assistance or to report a crime. Provides overall safety to USC community. <a href="http://dps.usc.edu">http://dps.usc.edu</a></td>
</tr>
</tbody>
</table>
## Course Outline*

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

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics (Weekly Readings assigned on Blackboard)</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to Java&lt;br&gt; OOP Classes. Using Eclipse. Scanner class (I/O). Arrays</td>
<td>Introduction HW&lt;br&gt; Scanner HW</td>
</tr>
<tr>
<td>2</td>
<td><strong>No Monday class</strong>&lt;br&gt; OOP, UML, Inheritance, Enums</td>
<td>OOP HW.</td>
</tr>
<tr>
<td>3</td>
<td>Testing and Debugging, Interfaces, Java Collections&lt;br&gt; Classes, Exceptions&lt;br&gt; <strong>Quiz.</strong>&lt;br&gt; Code Design and Design Patterns&lt;br&gt; Design Patterns, cont’d.</td>
<td>OOP HW w/Design Patterns.</td>
</tr>
<tr>
<td>4</td>
<td>Functional Programming. Lambdas. Streams.&lt;br&gt; <em>Project code design checkpoint.</em></td>
<td>OOP Project cont’d</td>
</tr>
<tr>
<td>5</td>
<td>Java FX Basics. <em>Project Work</em>&lt;br&gt; <strong>Quiz.</strong> UI Design. FX Basics, Shapes.&lt;br&gt; Java FX Basics. Project Work</td>
<td>Shape HW&lt;br&gt; Code Review</td>
</tr>
<tr>
<td>6</td>
<td>UI controls and Layouts&lt;br&gt; Properties. Events. Event Handling.</td>
<td>Sample FX Layout</td>
</tr>
<tr>
<td>7</td>
<td><strong>No Monday Class</strong>&lt;br&gt; <strong>Quiz.</strong>&lt;br&gt; Key &amp; Mouse Events. Listeners. Binding.</td>
<td>Simple UI with functionality HW (multiple checkpoints)</td>
</tr>
<tr>
<td>8</td>
<td>Multimedia, Animations (Transition)&lt;br&gt; Keyframes and Animation Timer.</td>
<td>Animation HW</td>
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<tr>
<td>9</td>
<td>Demo Day&lt;br&gt; <strong>Midterm</strong></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Listeners. Gestalt. UI Design.&lt;br&gt; SceneBuilder. Lists&lt;br&gt; Lists, MVC + list in-class lab.&lt;br&gt; MVC + list in-class lab.</td>
<td>List HW</td>
</tr>
<tr>
<td>11</td>
<td><strong>Quiz.</strong>&lt;br&gt; Localization. Internationalization&lt;br&gt; Accessibility.</td>
<td>I18n HW&lt;br&gt; Mini game</td>
</tr>
<tr>
<td>13</td>
<td><strong>Quiz.</strong>&lt;br&gt; Miscellaneous Topics.</td>
<td>Final Project Workshop.</td>
</tr>
<tr>
<td>14</td>
<td>Final Project Workshop.&lt;br&gt; Final Project Workshop.</td>
<td>Final Project Workshop.&lt;br&gt; Final Project Workshop.</td>
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</tbody>
</table>

### Spring Break

**Final Project Presentations, during class exam period**