Course Syllabus

LIT 371—Integrative Programming
3 Credit hours

I. COURSE DESCRIPTION

An overview of integrative programming as related to applications and systems. Topics include inter-systems communication, data mapping and exchange, integrative coding, scripting techniques, software security, and an overview of programming languages.

Pre-requisites: LIT 361 - System Administration and Maintenance or LIT 301- Information Management

II. ACADEMIC MISSION

Oral Roberts University's academic mission is to transform students by the power of the Holy Spirit into whole, competent servant-leaders through liberal arts and professional education that is fully Christian. Within a Spirit-filled healing community, administration, faculty, and staff love and serve students by helping them grow in knowledge, skills, wisdom, character, and spirit.

Student transformation is measured through the evaluation of student expression of University learning outcomes as demonstrated through accompanying proficiencies and capacities.

Spiritually alive	Biblical knowledge; sensitivity to the Holy Spirit; evangelistic capability; ethical behavior
Intellectually alert	Critical thinking; information literacy; global and historical perspectives; aesthetic appreciation; intellectual creativity
Physically disciplined	Healthy lifestyle; physically active lifestyle
Socially adept	Communication skills; interpersonal skills; appreciation of cultural and linguistic differences; responsible citizenship; leadership capacity
Professionally competent	Discipline-specific proficiencies listed under Program Outcomes.

The last page of this syllabus, "COURSE INVENTORY for ORU's Course Objectives," indicates how this course supports ORU's academic mission and ORU's whole-person approach to learning outcomes through its ePortfolio system.

III. PROGRAM OUTCOMES

This course supports the program outcomes of the Bachelor of Science degree in Information Technology. An ORU Information Technology graduate must acquire a skill set that enables him or her to successfully perform integrative tasks, including the following Program Outcomes this course supports, marked below in **bold text** and with an asterisk (*).

1. ***An ability to apply knowledge of computing and mathematics appropriate to the discipline.**
2. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
3. ***An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.**
4. An ability to function effectively on teams to accomplish a common goal.
5. An understanding of professional, ethical, legal, security and social issues and responsibilities.
6. An ability to communicate effectively with a range of audiences.
7. An ability to analyze the local and global impact of computing on individuals, organizations, and society.
8. Recognition of the need for and an ability to engage in continuing professional development.
9. An ability to use current techniques, skills, and tools necessary for computing practice.
10. ***An ability to use and apply current technical concepts and practices in the core information technologies.**
11. ***An ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems.**
12. ***An ability to effectively integrate IT-based solutions into the user environment**
13. ***An understanding of best practices and standards and their application**
14. An ability to assist in the creation of an effective project plan.
15. ***An ability to solve real world problems informed by a Christian worldview.**

IV. COURSE GOALS

The purpose of this course is to provide an understanding of the principles on which the Internet and other distributed systems are based; their architecture, algorithms and design; and how they meet the demands of contemporary distributed applications. The topics addressed in this course will enable the student to:

1. Understand programming interfaces, data mapping schemes, and application integration.
2. Identify the characteristics of distributed systems and the challenges that must be addressed in their design.
3. Develop abstract models for understanding process interaction, failure and security.

Each Course Goal listed above is linked to specific assessments listed below in the "Course Calendar." See the far right "CG*" column.

V. COURSE OBJECTIVES

After successfully completing this course, I should be able to:
1. Design and develop an integrative programming solution.
2. Distinguish the role of data exchange between dissimilar IT systems.
3. Compare programming design patterns and the IT services needed to integrate applications.
4. Recognize different types of architectures for integrating systems.

5. Have knowledge of data representation and exchange techniques and their appropriate use.
6. Understand the use of integrative coding techniques like interface, inheritance and design patterns.

VI. TEXTBOOK AND OTHER LEARNING RESOURCES

Textbook(s) and materials for the course are listed using standard [citation style](#) (APA, MLA, Chicago, Turabian, etc.). Since other styles may be used in disciplines other than the one used in this course or school, the [ORU Citing and Documenting Sources](#) pages offer a collection of styles students may choose from. This course asks that students be consistent in whatever style they use throughout the course.

The ORU Bookstore carries print as well as eTexts of assigned textbooks.
http://www.bkstr.com/oralrobertsstore/home

Required Materials
Textbook:

Johnson, Richard. (2007). *An Introduction to Java Programming and Object-Oriented Application Development,* 1st Edition. Cengage Learning. (ISBN-13: 9780619217464, ISBN-10: 0619217464)

The ORU Bookstore carries print as well as eTexts of assigned textbooks.
http://www.bkstr.com/oralrobertsstore/home

Other required materials:

Downloadable Software
  a. Eclipse Integrated Development Environment (IDE) Neon: https://www.eclipse.org/.
  b. Java Development Kit (JDK):
     http://www.oracle.com/technetwork/java/javase/downloads/index.html
  c. UML Designer by Obeo Version 7.1.0 Neon: http://www.umldesigner.org/download/

Optional Materials
Textbook:

None

Other:

None

VII. POLICIES AND PROCEDURES

A. **University Policies and Procedures**
  1. **Participation:** Participation in each online class through discussion forums, assignments, and all other course activities is mandatory at Oral Roberts University. This counts as your attendance in the course. Excessive absences can reduce a student's grade or deny credit for the course.
  2. **Plagiarism:** The ORU Catalog explicitly addresses the issue of plagiarism. Make sure you know [ORU's policy on plagiarism](#) and [what is considered plagiarism](#).
  3. **Privacy:** By law, students are entitled to privacy regarding their records. The Family Educational Rights and Privacy Act of 1974 (FERPA), as amended and available in the [ORU University Catalog](#), sets forth requirements designed to protect the privacy of student education records.

The law governs access to records maintained by educational institutions and the release of information from those records.

4. **Whole Person Assessment Requirements:**
   a. Specify which, if any, Whole Person Assessment requirements there are for this course.
      None for this course.

B. **School and/or Department Policies and Procedures**
   1. **Class Assignments**
      a. Students need to have the appropriate textbooks, course materials, and other supplies as designated by the professor.
      b. Professors may refuse to accept an assignment if it has inappropriate content, does not meet the assignment's criteria (e.g., not typed, incorrectly documented), is incomplete, is suspected of plagiarism, or is turned in too late.
   2. **Late Work**
      a. The student is responsible for obtaining class assignments and materials, and all work is expected to be completed as scheduled. The professor may not accept late work, or it may result in a lower grade. Computer or Internet malfunctions do not constitute an excuse for late work; students should have their work prepared in time to ensure that they can get it completed, edited, and proofread prior to the instructor's due date. These responsibilities assist the student in professional development.
      b. Generally, assignments missed from a serious sickness or family crises can be made up and the instructor should be notified as soon as possible to reach an agreement on due dates and possible penalties. Each instructor has his or her own late-work policy. Instructors use their own judgment in accepting late work.
   3. **Incompletes**
      On rare occasions, the grade of "I" may be given for work that is incomplete at the time grades are given. It is given only after the instructor and the department chair or college dean approve a petition submitted by the student that his or her work is incomplete for good cause. Good cause typically consists of a catastrophic event in which the student is prevented from completing the course requirements. It is the responsibility of the student to initiate the petition through http://petitions.oru.edu, make up any incomplete work, and ask the instructor to submit a grade change to the registrar. If the work is not completed by the end of the subsequent session, the incomplete will automatically convert to an "F." For graduating seniors, the degree will be awarded in the term that the student completes his or her course work, not the final term of enrollment.

C. **Online Programs Policies and Procedures**
   1. **Communicating with your Instructor:** All email communication between students and faculty will be through their ORU.edu emails.
   2. **Learning Community:** Online learning community is established through active participation in the threaded weekly discussions. The mutual exchange of ideas, information, and experiences is an essential part of the learning process, and students are encouraged to use the discussion forum as virtual classroom platform.
   3. **ADA and Students with Disabilities:**
      • Click here (http://www.brightspace.com/about/accessibility/) to view Desire2Learn's "Accessibility Resources for Students with Disabilities."
      • Students requiring Disability Services from ORU, please click here: https://goo.gl/OGoK4x
      • Desire2Learn (D2L) Accessibility Guidelines and Checklist: https://goo.gl/Ck4RwY
      • D2L Accessibility Policy: https://www.d2l.com/accessibility/
   4. **Useful Links for Online Students:**

- [Student Learning Glossary](#)
- Library: http://library.oru.edu.
- D2L Helpdesk: d2lhelp@oru.edu
- I.T. Student Helpdesk: studenthelpdesk@oru.edu
- [Netiquette and Online Discussions](#): https://goo.gl/f744AY
- Contact the University: please [fill out this online form](#). Please first contact your instructor for assistance with any matter specific to the course.

D. Course Policies and Procedures

  1. Evaluation Procedures: The final grade will be based on forum discussions, projects, and a final exam. The weight of each item is included in the Course Calendar. Extra credit items are not offered in this course

Grade Weight	Category
21%	Forum Discussions
55%	Projects
24%	Quizzes

  2. Evaluation Procedure:
  A=90-100%   B=80-89%   C=70-79%   D=60-69%   F=59% and below.

  3. Other Policies and/or Procedures
  None

VIII. COURSE CALENDAR

The Course Calendar shows the specific learning activities and assessments for this course, along with their respective grade weights. The far right column lists the Course Objectives (CO) that support the corresponding Assessment in column 2. Further descriptions for activities and assessments are in their respective weeks in D2L. When applicable, ¥ Indicates this is a Whole Person Assessment item that is also submitted to the E-Portfolio system. † indicates this is a faith integration item tracked by the program.

Week 1	Java Fundamentals	Hours	Weight	CO
	View/Listen/Read	3	--	--
	Quiz 1: Application Development	1	3%	1
	Quiz 2: Java Fundamentals	1	3%	1
	Forum 1: Programming Languages	4	3%	3
	Project 1: Retail Sales	8	7%	2
Week 2	File Input And Output	Hours	Weight	CO
	View/Listen/Read	3	--	--
	Quiz 3: File I/O	1	3%	1
	Forum 2: Data Files	4	3%	3
	Project 2: Removing Stopwords	6	7%	2
Week 3	Graphical User Interfaces	Hours	Weight	CO
	View/Listen/Read	3	--	--
	Quiz 4: Graphical User Interfaces	1	3%	1
	Forum 3: Abstract Classes	4	3%	3
	Project 3: GUI Shopping Cart	8	7%	2
Week 4	Object-Oriented Application Development, Part I	Hours	Weight	CO
	View/Listen/Read	3	--	--
	Quiz 5: Object-Oriented Application Development	1	3%	1
	Forum 4: Information Hiding	4	3%	3
	Project 4: Object Defining Classes	6	7%	2
Week 5	Object-Oriented Application Development, Part Ii	Hours	Weight	CO
	View/Listen/Read	3	--	--
	Quiz 6: Object-Oriented Application Development	1	3%	1
	Forum 5: Object Overload	4	3%	3
	Project 5: Inheritance	8	7%	2
Week 6	An Introduction to the Uml	Hours	Weight	CO
	View/Listen/Read	4	--	--
	Quiz 7: UML	1	3%	1
	Forum 6: Examining System Models	4	3%	3
	Project 6: Diagramming Exercises	8	7%	2
Week 7	An Introduction to the Unified Process	Hours	Weight	CO
	View/Listen/Read	4	--	--
	Quiz 8: Unified Process	1	3%	1
	Forum 7: Object-Oriented Software Development	4	3%	3
	Project 7: Models for Analysis	10	13%	2
Course Total	Total estimated hours based upon an average of 16 hours per week for 7 weeks	113	100%	

IX. COURSE INVENTORY

For ORU's Course Objectives

LIT 371 Integrative Programming

This course contributes to the ORU course objectives as indicated below:
Significant Contribution – Addresses the outcome directly and includes targeted assessment.
Moderate Contribution – Addresses the outcome directly or indirectly and includes some assessment.
Minimal Contribution – Addresses the outcome indirectly and includes little or no assessment.
No Contribution – Does not address the outcome.

The Student Learning Glossary at http://ir.oru.edu/doc/glossary.pdf defines each outcome and each of the proficiencies/capacities.

	OUTCOMES & Proficiencies/Capacities	Significant Contribution	Moderate Contribution	Minimal Contribution	No Contribution
1	**Outcome #1 – Spiritually Alive** Proficiencies/Capacities				
1A	Biblical literacy			X	
1B	Spiritual Formation		X		
2	**Outcome #2 – Intellectually Alert** Proficiencies/Capacities				
2A	Critical thinking, creativity, and aesthetics	X			
2B	Global & historical perspectives	X			
2C	Information literacy	X			
2D	Knowledge of the physical and natural world	X			
3	**Outcome #3 – Physically Disciplined** Proficiencies/Capacities				
3A	Healthy lifestyle				X
3B	Physically disciplined lifestyle				X
4	**Outcome #4 – Socially Adept** Proficiencies/Capacities				
4A	Ethical reasoning and behavior	X			
4B	Intercultural knowledge and engagement			X	
4C	Written and Oral Communication	X			
4D	Leadership capacity			X	

Last updated: May 16, 2018

This syllabus is subject to change without notice up until the first day of the semester.

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