

**Rowan University
Glassboro, New Jersey**

Course Title	Object-Oriented Programming and Data Abstraction
Course Number	CS 04.114
Department/Program Affiliation	Computer Science
Credits	4
Semester Weeks	15
Instructor	Mr. Jack Myers
Email	myersjac@rowan.edu
Office Hours	Available in Starfish (log in to Banner Self Service)
Department Secretary	Ms. Debi Coughlin
Location	Robinson 3
Telephone	856-256-4805

Course Description: Objects and data abstraction continues from Introduction to Object-Oriented Programming to the methodology of programming from an object-oriented perspective. Through the study of object design, this course also introduces the basics of human-computer interfaces, graphics, with an emphasis on software engineering. A second operating system/programming platform is introduced.

Course Outline:

Brief Review

- Objects and Classes (Chapter 1)
- Class Definitions (Chapter 2)
- Object interactions (Chapter 3)
- Grouping Objects (Chapter 4)
- Using documentation and Java classes (Chapter 5)
- Well-behaved objects: testing and debugging (Chapter 6)
- Designing Classes: coupling and cohesion (Chapter 7)

In-depth Review

- Class inheritance, polymorphism, and wrapper classes (Chapter 8)
- More on inheritance and polymorphism (Chapter 9)

New topics:

- UML and Visio
- Abstraction Techniques (Chapter 10)
- Building GUI (Chapter 11)
- Exceptions and Error Handling (Chapter 12)
- File Access (Chapter 12)
- Design Patterns (Chapter 13)
- Lambda Expressions
- Introduction to UNIX and LINUX operating systems
- Recursion
- Abstract Data Types (time permitting)

Course Materials:

- Required book: "Objects First with Java", David Barnes and Michael Kölling
- IDE: Eclipse
- Modeling tool: Microsoft Visio Professional 2010, available on the Rowan cloud <http://www.rowan.edu/cloud/cloud.html>
- Students are encouraged to bring a USB flash drive to every lab period.

Grading:

Your final grade will be composed according to the following breakdown:

Grading Measure	% of final grade
Assignments and Labs	20%
Quiz Average	30%
Class project	20%
Attendance / Class participation	5%
Final Exam	25%

The final grading scale is as follows:

90 and above	A
87 to 90	A-
84 to 87	B+
80 to 84	B
77 to 80	B-
74 to 77	C+
70 to 74	C
67 to 70	C-
64 to 67	D+
60 to 64	D
57 to 60	D-
Less than 57	F

THE RULE OF 50: To achieve a grade of C- or better, students must demonstrate competence in all aspects of the course:

1. The Assignments/Labs
2. The Quizzes
3. The Class project
4. The Final Exam

Competence will be defined liberally – receiving an average of 50 per aspect. Students who do not achieve this level of competence will receive no more than a D in the course, **regardless of the overall average grade.**

Note that a grade of C- or better is required for this course in order to meet the graduation requirements for a BS in Computer Science and to proceed to Data Structures and Algorithms.

Descriptions of Gradable Items:

Assignments/Labs: Assignments may be short programming projects or written/oral homework. Labs will generally consist of programming projects. If you miss a class/lab in which work is assigned, you are still responsible for handing in the work by the due date. Each assignment/lab will be due by the beginning of the lecture/lab period.

The primary goal of assignments is for giving you a chance to practice the skills you've learned in class. I will grade some, but not all, of this work. However, please note that quizzes may draw directly on homework assignments. Hence all homework must be completed by the prescribed due date.

For certain labs, you will be allowed to work in groups. Each group will submit a single set of solutions, and will be graded as a group. When working as a group each member of the group is expected to contribute. Members of the group who do not contribute will receive 0 points for the assignment. Submitted code is expected to be documented using Javadoc standards. UML diagrams will frequently be required.

Quizzes: Quizzes will frequently be unannounced and will emphasize the material that was covered during recent lecture and lab sessions. Make up quizzes will only be given if the instructor was notified in advance of a reasonable absence or in extenuating circumstances.

Project: Each student will be assigned a team design project that will incorporate all elements of this course. There will be weekly (brief) team reports, and a final set of peer and self-evaluations. There will be an interim

submission of the UML class diagram, and a final class presentation where working code will be demonstrated and the project design will be explained using a pre-defined template.

Exam: The final exam will most likely consist of both a written portion (i.e. pen and paper) and a lab portion.

Class participation/Attendance: Attendance is mandatory. The attendance/class participation portion of the course grade will be computed based on the number of missed classes and student's contribution to class discussion. See official Rowan University Attendance policy at:

<http://www.rowan.edu/open/provost/policies/documents/AttendancePolicy-FacultyandStudentsResponsibilities-webrevS2009.pdf>

Class Policies

Late Assignment Submission Policy: Assignments not submitted on time will receive zero as a grade. However, most professors are reasonable people. If for some reason, you believe you will not be able to turn in homework on time, let me KNOW AHEAD OF TIME and I MAY give you an extension.

Policy on Plagiarism: Plagiarism is a form of academic dishonesty which includes but is not limited to submitting someone else's work as your own and working on the individual assignments in groups. It is college policy that students who commit an act of academic dishonesty may be subject to failure in the course, suspension from the College, or both. See the official Rowan University Academic Integrity Policy at:
http://www.rowan.edu/open/provost/policies/documents/AcademicIntegrityPolicy_RAIVForm_AIVProcessOverviewFlowChart.pdf

If you use materials that you've obtained on the Internet, from a book, etc., for example as part of a programming assignment, you must include an appropriate reference. To use such materials without proper attribution is a form of plagiarism. Students who copy homework, cheat on tests, or plagiarize material for any test or assignment in this course will receive a **failing grade for the test or assignment**.

More on attendance: It is unlikely that you'll be able to complete the assignments and pass the exams without regular attendance. Since many quizzes will be unannounced, you may miss a quiz if you miss a class. Please inform the instructor in advance, preferably by email, if you will be absent from a class or lab session.

Missing exams or class due to illness: It is important to get a note from student health services, or your personal doctor, or other form of documentation if you miss a class or a lab meeting. If you are not feeling well on a given day, please email or call me ahead of time. In this case, if you miss a quiz, I may let you make that quiz up. If you have to miss an exam (and I hope you will not), re-tests will be given only in cases of extreme hardship as defined by the rules of Rowan University, and I require documentation of the reasons for your absence.

Email: E-mail is a primary form of communication with me outside the class periods and official office hours. I will send email messages to the class to make important course announcements (e.g., changes in the due dates, additional assignments, etc.). I will send course email announcements to the Rowan University Web Email account. You should read this email daily. The Rowan Web Email system will allow you to automatically forward your email to another account so you can read your mail somewhere else more frequently.

Class Websites: I will be using a class website (<http://jackmyers.info/oopda>) to maintain course information such as the class schedule, assignment due dates, useful information, etc. Blackboard (<https://rowan.blackboard.com/>) will be used to upload all assignments.

Classroom Decorum: In order to show proper respect for the instructor and for your fellow students, please observe the following:

- Be on time! Class will begin promptly at the scheduled time. Allow yourself enough time to park and get to class, ready to learn, before the period begins. Quizzes will be given at the start of the class so if you are late you may miss a quiz.
- Do not eat in class.
- Do your best to remain in the room during the period. Exiting and entering during the period breaks the concentration of your fellow students, and makes it hard for you to get the full value of the class.
- Turn off all cell phones, pagers, and anything else that would cause a distraction to yourself or others around you.
- Students are permitted to use computers/laptops during class for note-taking and other class-related work only. Those using computers/laptops during class for work not related to that class (like e-mailing, instant messaging, game playing or internet surfing) will be asked to leave the classroom for the remainder of the class period.

Key Dates: Please visit the Registrar page at <http://www.rowan.edu/provost/registrar/courseschedule.html> for a list of key dates for the semester. These dates include the full academic calendar as well as the last days to withdraw from this class with and without a refund.

Free tutoring is available, at your request, at the Tutoring Center in Savitz Hall, and often by our ACS club.

Homework: This is a 4 semester-hour class, which means that for success in this class you should expect to be spending 8-12 hours a week outside of class on homework assignments, readings, etc.

Section 504 Accommodations: Please be aware that Rowan University is committed to providing Section 504 accommodations for all persons with disabilities. If you have specific physical, emotional, or learning disabilities and require accommodations, please contact the Office of Equity and Diversity at 856-256-4294 as soon as possible to ensure that such accommodations can be implemented in a timely fashion.

Academic Issue: If at any time a student has an academic problem in any course with a grade or any other issue, the student's first course of action to resolve the matter should be to make an appointment with the instructor to discuss the issue.

For your information:

**I reserve the right to amend, alter or change the information in this course guide at my discretion.
All terms and interpretations will be defined by me and are final.**