

ROWAN UNIVERSITY CURRICULUM PROPOSAL

(K)

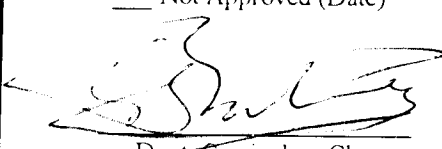
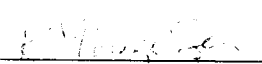
PROPOSAL TITLE: Object Oriented Design

CHECK APPROPRIATE: UNDERGRADUATE GRADUATE 3 SEMESTER HOURS

SPONSOR(S): Ganesh R. Baliga

DEPARTMENT/TELEPHONE # Computer Science / 3890

CHECK ONE: COURSE MINOR PROGRAM CONCENTRATION SPECIALIZATION
 ACHIEVEMENT CERTIFICATE CERTIFICATION PROGRAM MAJOR PROGRAM

Step #1 (Department)	Step #2 (Receipt)	Step #3 (School)
<input checked="" type="checkbox"/> Approved (Date) <u>10/24/97</u> <input type="checkbox"/> Not Approved (Date)  Dept. Curriculum Chr. <u>10/24/97</u> Reviewed (Date) <u>Don C. Smith</u> Dept. Chr.	SCC# <u>97-98-106</u> <u>10-24-97</u> Date Received Senate _____ Senate Curriculum Chr.	Reviewed Date: <u>11/7/97</u> <input checked="" type="checkbox"/> Recommend to Approved <input type="checkbox"/> Recommend NOT to Approve Forward for Open Hearing: <input checked="" type="checkbox"/> WITHOUT Reservations <input type="checkbox"/> WITH Reservations: Comments:  School Committee Chr.

Step #4 (Academic Dean): Recommended NOT Recommended Conditionally Recommended (See Comments)

Comments:

Dean Signature/Date: _____

Step #5 (Senate Curriculum Committee): Open Hearing Date: 2/20/98 Approved by Curriculum Committee Date: _____

Returned to Sponsor(s) for the following reason:

Step #6 (Senate) Date announced/voted on at Senate: 2/25/98 If voted on: Approved NOT Approved

Date forwarded to Executive Vice President/Provost: 2/25/98

Senate Curriculum Committee chair Signature/Date: 2/25/98

07/11/21

Rowan University
Department of Computer Science

Course Proposal

Object Oriented Design

1. Details

A. Course Title	Object Oriented Design
B. Sponsor	Ganesh R. Baliga, Department of Computer Science.
C. Credit Hours	3
D. Course Level	Junior/Senior
E. Curricular Effect	Restricted elective (Advanced Computer Science course) for computer science majors
F. Prerequisites	Data Structures and Algorithms (0704.222) and Computer Laboratory Techniques (0701.205).
G. Suggested Time	One section per year
H. Resources	Faculty, advanced lab facilities and library resources are adequate

2. Rationale

Object-oriented design focuses on organizing a software solution to a real-world problem around real-world concepts. The object classes resulting from sound object oriented design tend to be reusable across software projects, thereby reducing the release time for new software products. In addition, debugging and functionality enhancement becomes easier. Thus, many organizations are adopting object-oriented programming paradigms thereby making exposure to object oriented thinking an important job skill.

3. Essence of the course

a) Objectives in relation to student outcome

Students will

- be able to utilize the object-oriented programming concepts such as inheritance and polymorphism
- be able to analyze a real-world problem and model it using classes that correspond to realistic concepts
- be able to identify design patterns that are applicable in typical design situations
- be able to design and implement an object-oriented solution to a reasonable sized real-world problem.

b) Topic outline

- Inheritance
- Polymorphism
- Design Patterns
- A formal notation for specifying and evaluating object-oriented design such as the Unified Modeling Language (UML) notation
- Design Evaluation
- Object-oriented design for real-world problems

c) Evaluation and grading procedure for students

Students will be evaluated based on homework, assignments and one or more tests.

d) Course Evaluation

The department curriculum committee will evaluate this course.

4. Results of consultation

The consultation is internal to the Computer Science Department.

5. Catalog Description:

0704.3## Object Oriented Design 3 s.h.

(Prerequisites: 0704.222 Data Structures and Algorithms and 0701.205 Computer Laboratory Techniques)

This course will introduce important concepts such as inheritance and polymorphism, which are crucial tools needed for crafting object-oriented solutions to real-world problems. Design patterns that commonly occur in design situations will be covered. A formal notation for describing and evaluating object-oriented designs such as the Unified Modeling Language (UML) will be taught. Students will apply the concepts to design and implement object oriented solutions to one or more reasonably sized real-world problems.