Department of Computer Applications
National Institute of Technology-Tiruchirappalli

1. COURSE OUTLINE TEMPLATE			
Course Title	Object-Oriented Analysis and Design		
Course Code	CA728	No. of Credits	3
Department	Computer Applications	Faculty	Dr.S.R.Balasundaram Mr.K.Vignesh
Pre-requisites Course Code	CA716,CA729		
PAC-Chairman	Dr.Michael Arock		
Other Course Teacher(s)/Tutor(s) E-mail	blsundar@nitt.edu vigneshk@nitt.edu	Telephone No.	9994291420 0431-2504652 9940033292
Course Type	Core course		

2. COURSE OVERVIEW

Object – Oriented analysis and design (OOAD) is a popular technical approach for analyzing,designing an application, system, or business by applying the object – oriented paradigm and visual modeling throughout the development life cycles to foster better stakeholder communication and product quality and let the students expertise in java programming

3. COURSE OBJECTIVES

- To learn the concepts of Objects Oriented Analysis and Design, exposing the development of OOAD based applications.

4. COURSE OUTCOMES (CO)

- Define the fundamentals of OO approach
- Design OO Application using design patterns
- Solve real world problems by applying OOAD principle
- Acquire expertise in Java Programming

5. COURSE OUTCOME (CO)	Aligned Programme Outcome (PO)											
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12
Define the fundamentals of OO approach	H						H					
Design OO Application using design patterns	H	H	H					M				

Solve real world problems by applying OOAD principle		H	H	H	H		H	M			M	
Acquire expertise in Java Programming	H				H							

6. COURSE TEACHING AND LEARNING ACTIVITIES			
Week	No.of Classes	Topic	Mode of Delivery
1	Class I	Introduction of OOAD	Talk, Chalk
	Class II	Evolution of the object model, Elements of the Object model	Power point presentation
	Class III	Nature of a classes and object, Relationships among classes and objects	Power point presentation
2	Class I	Classification, Identification of classes and objects	Talk, Chalk & PPT
	Class II	Key abstractions and mechanisms	Talk, Chalk & PPT
	Class III	Basic and Advanced modeling techniques	Talk, Chalk & PPT
3	Class I	Methodology, Modeling and UML	Talk, Chalk & PPT
	Class II	Rambaugh's Method, Booch Method	Talk, Chalk & PPT
	Class III	Jacobson Method and its comparisons, UML	Talk, Chalk & PPT
4	Class I	Static and Dynamic Models	Talk, Chalk,
	Class II	Diagrams and Usecases	Talk, Chalk, Power point presentation
	Class III	Process of Design, design principles, architectural patterns, design document	Talk, Chalk, Power point presentation
5	Class I	Difficulties and risks in design, reusable subsystem	Talk, Chalk, Power point presentation
	Class II	Design Patterns-singleton, observer, adapter	Talk, Chalk, Power point presentation
	Class III	Façade, Proxy with examples	Talk, Chalk, Power point presentation

6	Class I	Pattern Categories, Relationships between patterns, design document	Talk, Chalk
	Class II	Patterns based Application, Object oriented database	Power point presentation
	Class III	Introduction to java, Features, Structures	Talk, Chalk, Power point presentation
7	Class I	Elements of Java, Array, String	Power point presentation
	Class II	String Buffer, Vectors	Talk, Chalk, Power point presentation
	Class III	Object Oriented features, classes , objects	Talk, Chalk, Power point presentation
8	Class I	Constructors, Package, inheritance	Talk, Chalk
	Class II	Interface, Abstract Class	Talk, Chalk, Power point presentation
	Class III	Special type of Classes	Talk, Chalk
9	Class I	Applet Programming	Talk, Chalk, Power point presentation
	Class II	AWT, Graphics	Talk, Chalk, Power point presentation
	Class III	Event Handling, Exception Handling	Talk, Chalk, Power point presentation
10	Class I	Utilities and Collections, I/O Streams	Talk, Chalk, Power point presentation
	Class II	Multithreaded Programming	Talk, Chalk, Power point presentation
	Class III	Swings, J2EE Architecture	Talk, Chalk, Power point presentation
11	Class I	Sample Programs, Discussion	Talk, Chalk, Power point presentation

7. COURSE ASSESSMENT METHODS				
S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Test 1	6th week	60 Minutes	20%
2	Test 2	12th week	60 Minutes	20%
3	Assignment/Seminar	7th week to 10th Week	6 days	10%
4	Semester Exam	ovember	180 Minutes	50%
			Total	100

8. ESSENTIAL READINGS : Textbooks, reference books, etc

REFERENCES:

1. Grady Booch et al, "Object-Oriented Analysis and Design with Applications", 3rd Edition, Pearson Education, 2007.
2. Michael Blaha and James Rumbaugh, "Object-Oriented Modeling and Design with UML", 2nd Edition, Pearson Education,2005
3. PatricNaughton , Herbert Schildt, "Java 2 Complete Reference", Tata McGraw Hill, 1999.

4. Joshua Bloch, "Effective Java", Addison-Wesley; 2nd Edition, 2008
5. Bruce Eckel, "Thinking in Java", Prentice Hall; 4th Edition, 2006
6. Erich Gamma, Richard Helm, Ralph Johnson & John Vlissides, "Design Patterns: Elements of Reusable Object-oriented Software", Pearson Education India, 2004

9. COURSE EXIT SURVEY (mention the ways in which the feedback about the course is assessed and indicate the attainment also)

1. The students through the class rep may give their feedback at any time to the course coordinator which will be duly addressed.
2. The students may also give their feedback during Class Committee meeting.
3. 'Course Outcome Survey' form will be distributed on the last working day to all the students and the feedback on various rubrics will be analyzed.
4. The COs will be computed after arriving at the final marks.

10. COURSE POLICY (including plagiarism, academic honesty, attendance, etc.)

At classes:
Interactive and productive interactions are anticipated. Abusive terms are highly restricted. Attendance is noted for every class. Appreciate if they are willing to prepare for placement and participating social services after informing properly to the department.

Exam Policy:
Exams are equal to all the students. No privileges will be given to any one at any cost. Absentees on cycle tests won't be allowed for end semester examinations. Assignments are mandatory and should be submitted by the notification of the teacher.

Basic Policies on dishonest or Misconduct:
Students are encouraged to come with notebooks and encouraged to note down from teachers lecture. Asked to avoid electronic gadgets and unwanted notes at the time of examinations. Copying and re using existing notes for assignments are not appreciable.

11. ADDITIONAL COURSE INFORMATION

The students can get their doubts clarified at any time with their faculty member with prior appointment.

For Senate's Consideration

S.R.Balasundaram
Dr.S.R.Balasundaram
Course Faculty

Mr.K.Vignesh
Course Faculty

Dr.Michael Arock
PAC-Chairperson

S.R.Balasundaram
Dr.S.R.Balasundaram
HOD