

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

This course outline template acts as a guide for writing your course outline. As every course is different, please feel free to amend the template/ format to suit your requirements.

COURSE OUTLINE TEMPLATE			
Course Title	Basics of Programming		
Course Code	CSIR 11	No. of Credits	3
Department	Computer Applications	Faculty	Dr.R.Siva Shankar
Pre-requisites Course Code	NIL		
Course Coordinator(s) (if, applicable)	Dr.A.Vadivel., Head of the Department, Computer Applications		
Other Course Teacher(s)/Tutor(s) E-mail	sivashankar@nitt.edu arjunshankar@gmail.com	Telephone No.	+91-9965004666
Course Type	<input checked="" type="checkbox"/> Core course <input type="checkbox"/> Elective course		
COURSE OVERVIEW			
<p>Basics of Prgramming gives complete outline of basic computing, Hardwares and sowftwares, architecture and characteritics. It clarifies needs of computation and languages in it. C program will give how to write algorithm, find the problem and fix them up with procedural and functional concepts.</p>			
COURSE OBJECTIVES			
<ul style="list-style-type: none"> → To know basics of the computers and programming → Procedural approach towards the programming in Engineering streams → Conversion of real world objects in programs for deserved results → Develop the skill of Program development and problem finding → Implement C programming concepts in Engineering environment 			
COURSE OUTCOMES (CO)			
<ul style="list-style-type: none"> → Students will know the principles of programming and Computations → Could able to convert the real world entities to programmable objects → Any engineering stream problems are analysed by algorithms and flow charts → C programming can give an easier start and it can be further developed to any platforms. 			
COURSE TEACHING AND LEARNING ACTIVITIES			

S.No.	Week	Topic	Mode of Delivery
1	First Week	Introduction to Computing, Need of Computing and Impact of Computing in Engineering Fields, Computer Organization and Work flow of Computers, Modes of Operation in Computers, Hardware and Software. Types of Programming,	Talk, Chalk
2	Second Week	Developing a program, Structure of a program, flow chart of a program, algorithm, Principles of Structured programming, Sequential programming, selective structures and Repetitive structures,	Talk, Chalk, Power point presentation
3	Third Week	Introduction to C, Character set of "C", Identifiers and Keywords , Data types and Constants. Variable Declarations,	Talk, Chalk, Power point presentation
4	Fourth Week	Expressions and Statements, Use of Operators and types of operators, Library functions	Talk, Chalk, Power point presentation

5	Fifth Week	Input/output Functions in C, gets and puts functions. Control statements and Branching. Nested control structures, switch, goto and break Statement.	Talk, Chalk, Power point presentation
6	Sixth Week	Modular Programming, Functions and Procedures Parameter passing methods	Talk, Chalk, Power point presentation
7	Seventh Week	Need of Arrays, Defining an array, Processing an array, Multidimensional arrays, Matrices and functions in matrices	Talk, Chalk, Power point presentation
8	Eighth Week	Defining a function, Accessing function, Function prototypes and Passing arguments, Passing arrays to a function	Talk, Chalk, Power point presentation
9	Ninth Week	Pointer operators, Pointer expressions. Pointers and one-dimensional arrays	Talk, Chalk, Power point presentation
10	Tenth Week	Passing pointers to a function, Recursion, Using Arrays, Matrices in Functions and Pointers	Talk, Chalk, Power point presentation

S.No.	Week/Session	Theme for Lab/ Lab Activity	Mode of Delivery/Lab
1	First Week	Develop a Program with basic input and output functions, variable declarations in different modes	Lab / Programming
2	Second Week	Develop programs with conditional statements and switch statement	Lab / Programming
3	Third Week	Programs with loops, nested loops	Lab / Programming
4	Fourth Week	Programs with basic mathematical functions used in real world. Ex: building estimation, measurement analysis.	Lab / Programming
5	Fifth Week	Programs using all types of Operators.	Lab / Programming
6	Sixth Week	Program using Methods, do simple operations using methods	Lab / Programming
7	Seventh Week	Program for Arrays and Matrices. One dimensional and Multi Dimensional arrays	Lab / Programming

8	Eighth Week	Program using functions using arrays and matrices. Passing by values and references	Lab / Programming
9	Ninth Week	Program using pointers for arrays and functions	Lab / Programming
10	Tenth Week	Programs using recursive functions supporting pointers and arrays.	Lab / Programming

COURSE ASSESSMENT METHODS for Theory

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Test 1	4 th week	60 Minutes	20%
2	Test 2	8 th week	60 Minutes	20%
3	Assignment/Seminar	2 nd week to 10 th Week	60 Minutes	10%
4	Semester Exam	November	180 Minutes	50%

COURSE ASSESSMENT METHODS for Lab practicals

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Lab Test 1	4 th week	60 Minutes	20%
2	Lab Test 2	8 th week	60 Minutes	20%
3	Observation	2 nd week to 10 th Week	60 Minutes	10%
4	Semester Lab Exam	November	180 Minutes	50%

ESSENTIAL READINGS : Textbooks, reference books Website addresses, journals, etc

1. Byron Gottfried, "Programming with C", 3rd Edition, McGraw Hill, 2010.
2. Yashwant Kanetkar, "Let us C", 5th and Above Editions, BPB Publications, 2014.
3. G.Booch, Benjamin Cummings, "The C Programming Language", 2nd Edition., Prentice Hall Inc, 1998.

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

Students may give their feedback to the teacher himself and at the time of class committee meeting in the department. Initiative for new thoughts and materials from students are encouraged. Students are asked to try for Visit towards real time implementation on software towards Object Oriented approach by the approval and guidance of the senior professors in the department.

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. Sharing resources are encouraged and innovative objectives are discussed in the class. Appreciate if they are willing to prepare mini projects and participating social and academic 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. Seminars are optional, in order to find potential improvement and feed back for students from themselves.

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.

ADDITIONAL COURSE INFORMATION

eg.: The Course Teacher is available for consultation at times. Queries may also be emailed to the Course Faculty at arjhunshankar@gmail.com

FOR SENATE'S CONSIDERATION

Course Faculty:

R. Siva Shankar
R. SIVA SHANKAR

HOD:

Dr. A. V. Adivel

Pac-Chairperson:

M.P. Anuradha
(Dr. M.P. ANURADHA)

Dr. A. VADIVEL