

COURSE OUTCOMES AND PROGRAM OUTCOMES

3.1. Establish the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs)

List of PSO's

List of Program Outcomes

PSO1	To analyze, design and develop computing solutions by applying foundational concepts of Computer Science and Engineering.
PSO2	To apply software engineering principles and practices for developing quality software for scientific And business applications.
PSO3	To adapt to emerging Information and Communication Technologies (ICT) to innovate ideas and solutions to existing/novel problems.

List of Program Outcomes

PO1	Engineering Knowledge: Apply knowledge of mathematics and science, with fundamentals of Computer Science & Engineering to be able to solve complex engineering problems related to CSE.
PO2	Problem Analysis: Identify, Formulate, review research literature and analyze complex engineering problems related to CSE and reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences
PO3	Design/Development of solutions: Design solutions for complex engineering problems related to CSE and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety and the cultural societal and environmental considerations
PO4	Conduct Investigations of Complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern Tool Usage: Create, Select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to computer science related complex engineering activities with an understanding of the limitations
PO6	The Engineer and Society: Apply Reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the CSE professional engineering practice
PO7	Environment and Sustainability: Understand the impact of the CSE professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of, and need for sustainable development
PO8	Ethics: Apply Ethical Principles and commit to professional ethics and responsibilities and norms of the engineering practice
PO9	Individual and Team Work: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary Settings

PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large such as able to comprehend and with write effective reports and design documentation, make effective presentations and give and receive clear instructions.
PO11	Project Management and Finance: Demonstrate knowledge and understanding of the engineering management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multi disciplinary environments
PO12	Life-Long Learning: Recognize the need for and have the preparation and ability to engage in independent and life-long learning the broadest context of technological change

3.1.1. Course Outcomes (Cos) (SAR should include course outcomes of one course from each semester of study, however, should be prepared for all courses and made available as evidence, if asked) (05)

Course Name: C2 02 (CS6301 Programming and Data structures – II)Year of Study:2016-2017

C202.1	Explain the fundamentals of Object Oriented Programming
C202.2	Demonstrate the concepts of data abstraction, encapsulation and inheritance
C202.3	Outline the concepts of Exception handling and templates
C202.4	Summarize about tree preliminaries and other tree structures
C202.5	Demonstrate different graph data structure algorithms
C202.6	Critically analyse the various algorithms

Course Name:C2 12(CS6551 Computer Networks) Year of Study: 2016-2017

C212.1	Explain the components requirement of networks and link layer service
C212.2	Classify the Media Access Control Protocols and different Internetworking
C212.3	Demonstrate various types of routing techniques
C212.4	Outline the mechanisms involved in transport layer
C212.5	Experiment with different application layer protocols
C212.6	Trace the flow of information from one node to another node in the network

Course Name:C3 02 (CS6501- Internet Programming) Year of Study: 2016-2017

C302.1	Explain the concepts of Control Statements, I/O Applet and Threading
C302.2	Develop a basic website using HTML and Cascading Style Sheets
C302.3	Compare and contrast the Java Script programming for client and server along with its event handling mechanisms
C302.4	Build a simple web page in PHP with XML data format
C302.5	Explain web services and client presentation using AJAX
C302.6	Design and implement server side programs using Servlets and JSP

Course Name:C3 11(CS6601- Distributed Systems)

Year of Study: 2016-2017

C3 11.1	Explain the basic concepts of distributed systems.
C3 11.2	Outline the inter process communication in distributed systems.
C3 11.3	Explain the file accessing model and various services in distributed system.
C3 11.4	Demonstrate concurrency control and properties of transaction in Distributed systems.
C3 11.5	Discuss resource and process management in distributed system
C3 11.6	Apply Remote Method Invocation and objects

Course Name:C4 03(CS6703-Grid and Cloud Computing)

Year of Study: 2016-2017

C4 03.1	Outline the concept of grid and cloud Architectures.
C4 03.2	Illustrate the data intensive grid service models and grid computing techniques
C4 03.3	Demonstrate the concept of virtualization in cloud.
C4 03.4	Experiment with the programming model for Hadoop and globus toolkit.
C4 03.5	Apply grid computing techniques to solve large scale scientific problems
C4 03.6	Interpret the security models in the grid and cloud environment.

Course Name:C412(CS6008 Human Computer Interaction)

Year of Study: 2016-2017

C412.1	Interpret the computer devices and HCI models.
C412.2	Demonstrate the interactive design basics and HCI software process
C412.3	Identify the stake holders requirements and choose the appropriate Models.
C412.4	Develop mobile HCI using mobile elements and tools by considering mobile eco system.
C412.5	Design meaningful user interface.
C412.6	Design effective HCI for individuals and persons with disabilities

CLASS: II year

Regulation: 2013

Course Name: C202/CS6301/Programming and Data Structures – II Year of Study: 2017-2018

C202.1	Explain the fundamentals of object oriented programming.
C202.2	Demonstrate the concepts of data abstraction, encapsulation and inheritance.
C202.3	Outline the concepts of Exception handling and templates.
C202.4	Summarize about tree preliminaries and other tree structures.
C202.5	Demonstrate different graph data structure algorithms.

CO-PO Attainment:

COs	POs											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C202.1	✓	✓	✓	✓	✓	-	-	-	-	-	-	✓
C202.2	✓	✓	✓	✓	✓	-	-	-	-	-	-	✓
C202.3	✓	✓	✓	✓	✓	-	-	-	-	-	-	✓
C202.4	✓	✓	-	-	-	-	-	-	-	-	-	-
C202.5	✓	✓	✓	✓	✓	-	-	-	-	-	-	✓

CLASS: II year

Regulation: 2013

Course Name: C212/CS6551/Computer Networks

Year of Study: 2017-2018

C212.1	Explain the components requirement of networks and link layer service
C212.2	Classify the Media Access Control Protocols and different Internetworking
C212.3	Demonstrate various types of routing techniques
C212.4	Outline the mechanisms involved in transport layer
C212.5	Experiment with different application layer protocols.

CO-PO Attainment:

COs	POs											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C212.1	✓	✓	✓	✓	-	-	-	-	-	-	-	✓
C212.2	✓	✓	✓	✓	✓	-	-	-	-	-	✓	✓
C212.3	✓	✓	✓	✓	✓	-	-	-	✓	✓	✓	✓
C212.4	✓	✓	✓	✓	-	-	-	-	-	-	✓	✓
C212.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

CLASS: IIIyear

Regulation: 2013

Course Name: C305/CS6504/Computer Graphics

Year of Study: 2017-2018

C305.1	Explain the various output primitives and graphics systems
C305.2	Discuss various 2D transformations, viewing and clipping techniques
C305.3	Explain the 3D objects and projections.
C305.4	Explain basic illumination and color models
C305.5	Discuss various animation sequences and graphics realism

CO-PO Attainment:

COs	POs											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C305.1	✓	✓	✓	✓	✓	✓	-	-	-	-	✓	-
C305.2	✓	✓	✓	✓	✓	✓	-	-	-	-	✓	-
C305.3	✓	✓	✓	✓	✓	✓	-	-	-	-	✓	-
C305.4	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	-
C305.5	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓

CLASS: III year

Regulation: 2013

Course Name: C311/CS6601/Distributed Systems

Year of Study: 2017-2018

C311.1	Explain the basic concepts of distributed systems
C311.2	Outline the inter process communication in distributed systems.
C311.3	Explain the file accessing model and various services in distributed system.
C311.4	Demonstrate concurrency control and properties of transaction in Distributed systems.
C311.5	Discuss resource and process management in distributed system

CO-PO Attainment:

COs	POs											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C311.1	✓	✓	✓	-	-	✓	-	-	-	-	-	-
C311.2	✓	✓	✓	✓	-	-	-	-	-	-	-	-
C311.3	✓	✓	✓	✓	-	-	-	-	-	-	-	-
C311.4	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	-	✓
C311.5	✓	✓	✓	-	-	✓	✓	-	-	-	-	✓

CLASS: IV year

Regulation: 2013

Course Name: C401/CS6701/Cryptography and Network Security Year of Study: 2017-2018

C401.1	Explain the basics of number theory and compare various encryption techniques.
C401.2	Summarize the functionality of public key cryptography.
C401.3	Apply various message authentication functions and secure algorithms.
C401.4	Demonstrate different types of security systems and applications.
C401.5	Discuss different levels of security and services.

CO-PO Attainment:

COs	POs											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C401.1	✓	✓	✓	✓	✓	-	-	-	-	-	-	✓
C401.2	✓	✓	✓	✓	✓	-	✓	-	-	-	-	✓
C401.3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
C401.4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
C401.5	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	✓

CLASS: IV year

Regulation: 2013

Course Name: C411/CS6801/Multi-core Architectures and Programming Year of Study: 2017-2018

C411.1	Explain the SIMD and MIMD systems
C411.2	Design program for parallel processors
C411.3	Explain the concept of OpenMP Execution
C411.4	Describe MPI execution
C411.5	Compare and contrast programming for serial processors and programming for parallel processors

CO-PO Attainment:

COs	POs											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C411.1	✓	✓	✓	✓	✓	-	-	-	✓	✓	✓	✓
C411.2	✓	✓	✓	✓	✓	-	-	-	-	✓	✓	✓
C411.3	✓	✓	✓	✓	✓	-	-	-	✓	✓	-	✓
C411.4	✓	✓	✓	✓	✓	-	-	-	✓	✓	-	✓
C411.5	✓	✓	✓	✓	✓	-	-	-	✓	✓	✓	✓

CONTENT BEYOND THE SYLLABUS FOR THE ATTAINMENT OF POS AND PSOS

CAYm1(2016-2017)

S.No.	Gap	Action taken	Date Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
1	Latex- The documentation software	Workshop	15-07-16 & 16-07-16	Mr.Krishna Sankar Freelancer, Chennai.	94	PSO2,PO5
2	Data Analytics	Guest lecture	01-09-16	Mr.Pari Sairam Mohan, Associate, CTS	96	PSO1,PS03,PO1, PO2,PO3,PO4, PO5
3	Machine Learning	Guest Lecture	24-06-17	Mr.S.Dinesh Kannan, Infosys.	94	PSO1,PS03,PO1, PO2,PO3,PO4, PO5
4	IOT	Guest Lecture	22-03-17	Dr.Jothilakshmi Annamalai University.	95	PSO1,PS03,PO1, PO2,PO3,PO4, PO5
5	CCNA	Value added Course	Throughout semester	Mr.D.Arun (Certified Trainer) Asst. Professor.	80	PSO1,PS03,PO1, PO2,PO3,PO4
6	JAVA	Value added Course	Throughout semester	Mr.J.Ganesh, Assistant Professor.	60	PSO1, PSO2,PO1, PO2,PO3,PO4
7	Pattern Recognition using Machine Learning	Special Lecture	24-03-17	Dr.Kalaimani Shanmugam	95	PO1,PO5, PSO3
9	ISA, RISC and CISC architecture is not covered under syllabus	Content Beyond Syllabus	25-03-17	Mr.C.M.Muthukumar	98	PO1, PO3

10	Programming skills for Real Time Applications using C++	Additional Lab Experiment	3-04-17	Mrs.T.Veni Priya	100	PSO1,PO1, PO2,PO3,PO4
11	Big data	Content Beyond Syllabus	9-04-17	Mr.P.Deepan	98	PO1, PO5
12	STRUTS Frame Work in Internet Programming	Special Lecture	12-04-17	Mr.S.Venkateswaran	98	PS01,PO1, PO5
13	Introduction to Android OS	Special Lecture	8-04-17	Mrs.R.Sudha	95	PS01, PS02,PO1, PO5
14	Fuzzy Logic	Content Beyond Syllabus	19-04-17	Dr.R.Rajavignesh	98	PS01, PS02,PO1, PO5
15	Ad-hoc Sensor Networks	Special Lecture	24-04-17	Mr.J.Ganesh, Assistant Professor.	95	PS01, PS02,PO1, PO5

CAYm2(2015-2016)

S.No.	Gap	Action taken	Date Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
1	Awareness Program on Mobile App. Development	Guest lecture	24-07-15	Mr.M.Kannan, MD Thivim Solutions.	98	PS01, PS02,PO1, PO5
2	Python and R-programming	Guest lecture	10-08-16	Mr.M.Ganesh Ram, Senior Software Developer, Sify Technologies	95	PS01, PS03,PO1, PO5
3	Object -Oriented Thinking and Programming Seminar	Guest lecture	13-08-16	Mr.D.Arun (Certified Trainer) Asst. Professor.		PS01, PSO2,PO1, PO2,PO3,PO 4
4	CCNA	Value added Course	Throughout semester	Mr.D.Arun (Certified Trainer)	80	PSO1,PS03, PO1, PO2,PO3,PO 4
5	JAVA	Value added Course	Throughout semester	Mr.J.Ganesh, Assistant Professor.	60	PSO1, PSO2,PO1, PO2,PO3,PO 4
6	Cloud Computing	Guest lecture	12-09-16	Mr.S.Dilip Kumar	98	PSO1, PSO3,PO1, PO2,PO5

7	Information Retrieval with Machine Learning Techniques	Special Lecture	21-10-16	Dr.Kalaimani Shanmugam	95	PSO1, PO1, PO2,PO3,PO5
8	STRUTS Frame Work in Internet Programming	Tutorial Hour	28-10-16	Mr.S.Venkateswaran	98	PSO1,PO1, PO5
9	ISA, RISC and CISC architecture is not covered under syllabus	Content Beyond Syllabus	30-10-16	Mrs.N.Vijaya	95	PO1, PO3
10	Programing skills for Real Time Applications using C++	Additional Lab Experiment	10-04-16	Mr.J.Ganesh		PSO1,PO1, PO2,PO3,PO4
11	Big data	Content Beyond Syllabus	12-04-16	Dr.Kalaimanishanmugam		PO1, PO5

CAYm3(2014-2015)

S.No.	Gap	Action taken	Date Month-Year	Resource Person with designation	% of students	Relevance to POs, PSOs
1	Higher studies in abroad	Guest lecture	18-02-17	Mr.E.Gurumoorthy, Project Manager, Inautix Technologies.	95	PO12
2	Skills and trips in Programmin g Domain	Guest lecture	24-02-15	Mr.I.Jockkrit MD, Iris Solutions.	98	PSO 1, PSO2, PO1, PO4, PO7

2	Cyber Crime and Malwares	Technical Talk	29-01-15	Mr.E.Vasanthkrishna, M.D Procyontech Solutions	100	PSO1, PSO3, PO2, PO6, PO9
3	General Knowledge about App-Development	Guest lecture	24-07-14	Mr.M.Kannan, MD Thivim Solutions.	98	PSO1, PSO2, PO1, PO5
4	Web design Training	Technical Talk	13-08-14	Mr.S.Dilipkumar, Assistant Professor.	95	PSO1, PSO4, PO1, PO2, PO7
5	CCNA	Value added Course	Through out semester	Mr.D.Arun (Certified Trainer) Assistant Professor.	80	PSO1, PSO3, PO1, PO2, PO3, PO4
6	JAVA	Value added Course	Through out semester	Mr.J.Ganesh Assistant Professor.	60	PSO1, PSO2, PO1, PO2, PO3, PO4
7	IT Essentials	Value added Course	Through out the semester	Mr.M.Manimaran and S.Hariharan. Network Administrator.	70	PO1, PO2
8	Cloud Computing	Content Beyond Syllabus	23-03-15	Mrs.T.Veni Priya	98	PSO1, PSO3, PO1, PO5
9	Programmin g skills for Real Time Applications using C++	Additional Lab Experiment	25-09-14	Mrs.T.Veni Priya	95	PSO1, PO1, PO2, PO3, PO4