



ST. JOSEPH'S

COLLEGE OF ENGINEERING
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Cycle 1 - NAAC Accreditation 2023

Criterion - 2

2.6 Student Performance and Learning Outcome

2.6.2 Attainment of Program Outcomes, Program-Specific Outcomes, and Course Outcomes are evaluated by the institution

Submitted to:



National Assessment and Accreditation Council

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Student Performance and Learning Outcomes

2.6.2 Attainment of Program Outcomes, Program-Specific Outcomes, and Course Outcomes are evaluated by the institution

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

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1. Program outcomes (POs)

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems 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.
4. **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.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
6. **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 professional engineering practice.
7. **Environment and sustainability:** Understand the impact of professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

2. Program Specific Outcomes (PSO)

After Successful Completion of the programme, the graduates will be able to:

PSO 1: Analyze, design and develop computing solutions by applying foundational concepts of Computer Science and Engineering.

PSO 2: Apply software engineering principles and practices for developing quality software for scientific and business applications.

PSO 3: Adapt to emerging Information and Communication Technologies by providing innovative ideas and solutions to novel problems

3. Attainment of Program Outcomes and Program Specific Outcomes

Attainment of PO and PSO are calculated by the following tools

- ✓ From CO-PO matrix and CO-PSO matrix, the attainment level is calculated as follows for both direct and indirect methods. Attainment of each PO and PSO is calculated by multiplying the weightage of the CO attainment level with the corresponding correlation.
- ✓ Graduate survey is conducted for final year students for calculating PO attainment indirectly.
- ✓ Calculate final attainment of POs & PSOs from direct and indirect attainment levels.
- ✓ Final attainment = 80% direct method + 20% indirect method.

Course Outcomes (COs) are the learning skills to be attained by the students after the successful completion of each course. The COs are formed as per the syllabus and curriculum given by the University by considering the Program Outcomes (POs) and Program Specific Outcomes (PSOs).

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PO ATTAINMENT FOR 2018-2022 BATCH

COURSE	COURSE NAME	SEM	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
MA 101	Calculus	S1	2.28	2.24	2.15	2.08	1.87	-	-	-	-	1.88	-	1.81	2.22	-	-
PH100	Engineering Physics	S1	2.53	2.48	2.45	2.45	-	-	-	-	-	-	-	-	2.53	2.53	-
BE110	Engineering Graphics	S1	2.54	2.5	2.45	2.45	2.51	2.45	2.45	2.45	7.25	2.15	1.25	6.21	2.55	1.21	0.07
BE101-05	Introduction to Computing and Problem	S1	1.72	2.33	1.64	1.64	2.33	4.23	-	-	1.99	-	-	1.64	2.53	2.53	-
BE103	Introduction to Sustainable Engineering	S1	-	-	1.82	2.14	-	3.79	2.58	3.16	5.07	-	-	2.01	-	-	1.82
EE100	Basics of Electrical Engineering	S1	2.14	2.11	2.26	2.26	-	-	-	-	-	-	-	-	-	-	-
PH110	Engineering Physics Lab	S1	2.54	2.49	2.45	2.45	-	-	-	-	-	-	-	-	2.45	-	-
CS110	Computer Science Workshop	S1	2.55	2.55	2.54	2.53	2.55	-	-	2.5	-	2.51	-	2.5	2.55	2.51	2.46
EE110	Electrical Engineering Workshop	S1	2.53	2.5	2.45	2.45	-	-	-	-	-	-	-	-	-	-	-
MA102	Differential Equations	S2	2.09	2.06	2.05	2	2.02	-	-	-	-	1.99	-	1.99	1.87	-	-
CY100	Engineering Chemistry	S2	2.08	2.03	1.97	-	-	-	-	-	-	-	-	-	2.08	2.08	-
BE100	Engineering Mechanics	S2	2.39	2.27	2.5	-	-	2.45	-	-	-	-	2.45	2.4	-	-	-
BE102	Design and Engineering	S2	2.13	2.16	2.11	2.21	2.16	2.11	2.11	2.11	2.11	2.21	2.06	2.02	2.21	2.21	1.95
EC100	Basics of Electronics Engineering	S2	2.11	2.04	-	-	-	-	-	-	-	-	-	-	2.09	-	2.09
CS100	Basics of Computer Programming	S2	2.25	2.25	2.25	2.19	2.28	2.45	-	-	2.2	2.46	-	2.2	2.25	2.19	-
CY110	Engineering Chemistry Lab	S2	2.54	-	-	-	2.5	2.45	2.45	-	-	-	-	2.53	2.45	2.45	-
EC110	Electronics Engineering Workshop	S2	2.52	2.48	2.45	2.45	-	-	-	-	2.55	2.55	-	-	2.45	-	2.45
CS120	Computer Programming Lab	S2	2.55	2.53	2.55	2.55	2.55	-	-	2.5	-	2.53	-	2.52	2.55	2.55	2.53
MA201	Linear Algebra & Complex Analysis	S3	1.49	1.51	1.49	1.45	1.49	-	-	-	-	1.39	-	1.39	1.47	-	-
CS201	Discrete Computational Structures	S3	2.29	2.28	2.22	2.21	-	2.45	-	2.45	2.21	-	-	2.19	2.21	-	-
CS203	Switching Theory and Logic Design	S3	2.11	2.07	2.04	2.04	-	-	-	-	-	-	-	-	2.04	2.11	2.04

CS205	Data Structures	S3	2.06	2.01	2.06	1.99	-	1.97	-	1.97	-	1.97	-	2.06	2.06	2.06	2.01
CS207	Electronics Devices & Circuits	S3	1.87	1.84	1.39	1.39	-	-	-	-	-	-	-	-	-	-	-
HS210	Life Skills	S3	1.86	1.81	1.81	1.77	-	-	-	1.82	1.86	1.85	1.81	1.84	1.81	1.81	-
CS231	Data Structures Lab	S3	2.55	2.53	2.55	2.53	-	2.48	-	2.45	-	2.45	-	2.55	2.55	2.55	-
CS233	Electronics Circuits Lab	S3	1.93	1.87	-	-	-	-	-	-	-	-	-	-	1.93	1.93	-
MA202	Probability Distributions, Transforms and	S4	2.4	2.37	2.36	2.39	2.34	-	-	-	-	2.31	-	2.31	2.23	-	-
CS202	Computer Organization and Architecture	S4	2.55	2.53	2.53	2.46	-	2.5	-	2.45	-	2.45	-	2.55	2.53	2.48	2.48
CS204	Operating Systems	S4	2.3	2.3	2.3	2.22	1.99	2.23	-	2.26	2.23	2.26	-	2.3	2.3	2.26	2.27
CS206	Object Oriented Design and Programmin	S4	2.53	2.53	2.48	2.48	2.48	2.48	-	2.48	2.48	2.48	-	2.53	2.53	2.48	2.48
CS208	Principles of Database Design	S4	2.51	2.5	2.51	2.48	2.55	2.48	-	2.53	-	2.48	-	2.51	2.51	2.55	2.55
HS200	Business Economics	S4	2.3	2.28	2.45	2.45	-	-	-	-	-	-	-	2.23	2.45	-	-
CS232	Free and Open Source Software Lab	S4	2.51	2.5	2.48	2.48	2.5	2.5	-	-	2.5	2.5	-	2.54	2.48	2.52	2.48
CS234	Digital Systems Lab	S4	2.47	2.5	2.45	2.45	-	-	-	-	2.41	2.41	-	-	2.45	2.47	2.45
CS301	Theory of Computation	S5	2.19	2.19	2.14	2.19	-	2.14	-	2.09	2.09	2.09	-	2.19	2.19	-	-
CS303	System Software	S5	2.3	2.3	2.37	2.4	2.16	-	-	-	-	-	-	2.3	2.29	-	2.45
CS305	Microprocessors and Microcontrollers	S5	2.42	2.39	2.39	2.37	-	-	-	-	-	-	-	2.37	2.43	-	2.45
CS307	Data Communication	S5	1.73	2.48	2.48	2.93	-	-	-	-	-	-	-	1.73	1.73	-	1.73
CS309	Graph Theory and Combinatorics	S5	2.55	2.55	2.41	2.15	-	-	-	-	-	-	-	2.55	2.55	2.45	2.5
CS361	Soft Computing	S5	2.44	2.41	2.41	2.37	-	-	-	-	-	-	-	2.46	2.46	-	2.43
CS341	Design Project	S5	1.75	2.18	1.65	1.78	3.08	1.63	1.18	2.21	1.87	2.38	1.9	2.21	2.11	1.35	1.35
CS331	System Software Lab	S5	2.55	2.55	2.5	2.5	-	-	-	2.5	2.5	2.5	-	2.55	2.5	-	-
CS333	Application Software Development Lab	S5	2.55	2.55	2.55	2.51	2.55	2.55	-	2.5	2.55	2.55	2.5	2.55	2.55	2.5	2.51
CS302	Design and Analysis of Algorithms	S6	2.55	2.9	2.11	2.11	1.9	2.5	2.5	2.5	2.9	2.11	-	2.11	2.11	2.11	2.3
CS304	Compiler Design	S6	1.97	1.97	1.77	1.47	2.08	2.47	-	1.92	-	2.47	-	1.97	1.97	1.47	1.92
CS306	Computer Networks	S6	2.17	2.12	2.88	2.47	2.03	2.88	-	2.88	-	2.12	-	2.03	2.17	2.07	1.71

CS308	Software Engineering and Project Manag	S6	2.37	2.37	2.37	2.05	2.13	1.89	2.5	2.37	2.37	2.52	2.52	2.37	2.37	2.24	2.32
HS300	Principles of Management	S6	-	-	-	-	-	-	-	2.55	2.5	-	2.54	2.51	2.52	2.51	-
CS362	Computer Vision	S6	2.13	2.1	2.1	2.02	2.09	2.04	-	1.99	-	2.37	-	1.99	2.08	2.14	2.04
CS364	Mobile Computing	S6	2.17	2.15	2.15	2.15	1.56	2.13	1.71	2.13	2.5	2.19	-	2.17	2.17	-	2.3
CS368	Web Technologies	S6	2.55	2.9	2.55	2.5	2.41	2.45	-	2.5	2.45	2.5	-	2.55	2.41	2.5	2.5
CS332	Microprocessor Lab	S6	1.97	3.44	2.62	-	2.62	-	-	-	-	-	-	2.62	2.62	-	5.09
CS334	Network Programming Lab	S6	2.17	2.17	2.14	2.17	2.15	2.17	-	2.17	2.07	2.12	-	2.17	2.17	2.14	2.12
CS352	Comprehensive Exam	S6	2.55	2.55	2.55	2.49	-	-	-	-	-	-	-	2.55	2.55	-	-
CS401	Computer Graphics	S7	2.26	2.84	2.07	2.04	-	1.84	2.5	-	-	-	-	2.26	2.05	2.5	2.5
CS403	Programming Paradigms	S7	1.61	1.68	2.38	1.8	-	-	-	-	1.85	-	-	2.08	1.9	2.23	2.57
CS405	Computer System Architecture	S7	1.99	1.63	1.82	1.8	2.5	2.16	-	-	-	2.28	-	1.75	2.35	-	1.54
CS407	Distributed Computing	S7	2.1	2.25	2.67	2.23	-	1.6	-	-	-	-	-	2.1	0.81	3.19	0.1
CS409	Cryptography and Network Security	S7	2.09	2.09	2.09	1.84	-	-	-	-	-	2.38	-	2.04	2.09	1.65	-
CS465	Bio Informatics	S7	1.44	1.32	1.65	1.45	1.71	1.06	1.48	1.45	-	1.48	-	1.35	1.44	-	1.17
CS467	Machine Learning	S7	1.31	1.36	1.41	1.36	1.34	-	-	-	-	-	-	1.32	1.1	1.15	1.3
CS451	Seminar & Project Preliminary	S7	1.95	1.91	1.91	1.92	1.93	1.91	1.9	1.95	1.97	1.97	1.93	1.97	1.94	1.92	1.92
CS431	Compiler Design Lab	S7	2.53	2.48	2.48	2.43	2.88	2.43	-	-	-	-	-	2.53	2.48	2.43	2.43
CS402	Data Mining and Ware Housing	S8	1.78	1.63	2.21	1.87	-	1.87	-	-	-	-	-	1.87	1.72	-	-
CS468	Cloud Computing	S8	1.09	1	0.95	1.11	-	1.25	-	-	-	-	-	1.01	1.38	0.96	0.15
CS472	Principles of Information Security	S8	1.73	1.84	1.8	1.44	-	1.2	-	-	-	-	-	1.09	1.66	1.35	0.1
CS464	Artificial Intelligence	S8	2.19	2.19	2.54	2.14	2.06	2.14	2.14	2.2	1.99	1.99	1.99	2.06	2.19	2.33	2.14
CS404	Embedded Systems	S8	1.59	1.56	1.56	1.53	-	1.61	1.52	-	-	-	-	1.62	1.59	1.57	1.55
CS492	Project	S8	2.53	2.51	2.55	2.48	2.5	2.5	2.5	2.5	2.55	2.52	2.48	2.5	2.53	2.47	2.46
			2.19	2.23	2.21	2.14	2.23	2.25	2.11	2.32	2.58	2.25	2.13	2.21	2.18	2.16	2.04

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PO ATTAINMENT FOR 2017-2021 BATCH

COURSE	COURSE NAME	SEM	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
MA 101	Calculus	S1	2.46	1.59	0.86	0.86	-	-	-	-	-	-	-	-	1.74	-	-
PH100	Engineering Physics	S1	2.67	1.67	1	1	-	-	-	-	-	-	-	-	2	-	-
BE110	Engineering Graphics	S1	1.8	1.2	0.6	0.6	1.8	-	-	-	-	-	-	-	1.2	-	-
BE101-05	Introduction to Computing and Problem Solving	S1	2.83	2	3	3	2	-	-	-	-	-	-	1	1.83	1.83	-
BE103	Introduction to Sustainable Engineering	S1	-	-	2.2	1.84	-	1.65	1.65	1.46	0.74	-	-	2.2	-	-	2.2
EE100	Basics of Electrical Engineering	S1	1.84	1.1	0.74	0.74	-	-	-	-	-	-	-	-	1.46	-	-
PH110	Engineering Physics Lab	S1	2.83	1.83	1	1	-	-	-	-	-	-	-	-	2	-	-
CS110	Computer Science Workshop	S1	3	3	2.83	2.67	3	-	-	2	-	2.17	-	2	3	2.17	1.25
EE110	Electrical Engineering Workshop	S1	2.5	2	1	1	-	-	-	-	-	-	-	-	2	-	-
MA102	Differential Equations	S2	2.83	1.83	0.83	0.83	-	-	-	-	-	-	-	-	3	-	-
CY100	Engineering Chemistry	S2	2.83	1.83	1	-	-	-	-	-	-	-	-	-	2	-	-
BE100	Engineering Mechanics	S2	2.31	1.44	1.08	1.08	0.86	-	-	-	-	-	-	-	1.74	-	-
BE102	Design and Engineering	S2	-	0.86	1.16	0.86	0.86	1.74	1.04	1.16	1.08	1.52	0.86	0.86	1.74	-	-
EC100	Basics of Electronics Engineering	S2	2.33	1.5	1.5	1.5	-	-	-	-	-	-	-	-	2	-	-
CS100	Basics of Computer Programming	S2	1.8	1.8	1.8	1.6	0.6	0.6	-	-	1.2	0.75	-	1.2	1.8	0.9	-
CY110	Engineering Chemistry Lab	S2	3	2.67	1.83	1.83	1.25	-	-	-	-	-	-	-	-	-	-
EC110	Electronics Engineering Workshop	S2	1.5	1.2	0.75	0.75	-	-	-	-	-	-	-	-	0.6	-	-
CS120	Computer Programming Lab	S2	2.6	2.31	2.6	2.6	2.6	-	-	1.74	-	2.31	-	2.02	2.6	2.6	2.16
MA201	Linear Algebra & Complex Analysis	S3	2.59	2.25	2.31	1.89	1.23	-	-	-	-	0.86	-	0.86	0.86	-	-
CS201	Discrete Computational Structures	S3	3	2.5	1.83	1.5	-	1	-	1	1.5	-	-	1	2.5	-	-
CS203	Switching Theory and Logic Design	S3	2.39	1.54	0.82	0.82	-	-	-	-	-	-	-	-	0.82	2.39	0.82

CS205	Data Structures	S3	2.96	2.46	2.96	2.48	-	1.49	-	0.99	-	0.99	-	2.96	2.96	2.96	-
CS207	Electronics Devices & Circuits	S3	1.43	0.75	0.72	0.72	-	-	-	-	-	-	-	-	-	-	-
HS210	Life Skills	S3	2.15	2.42	2.42	1.62	-	-	-	1.75	2.02	1.94	1.3	2.02	1.21	1.21	-
CS231	Data Structures Lab	S3	2.25	2	2.6	2	2	1.33	-	-	2.17	1.33	-	1.67	2.17	1.33	1.67
CS233	Electronics Circuits Lab	S3	2.14	1	-	-	-	-	-	-	-	-	-	-	2.14	2.14	-
MA202	Probability Distributions, Transform	S4	2.46	1.77	1.65	1.38	0.97	-	-	-	-	0.82	-	0.82	0.8	-	-
CS202	Computer Organization and Architec	S4	2.5	2.18	2.18	0.96	-	1.87	-	0.78	-	0.83	-	2.5	2.18	1.29	1.46
CS204	Operating Systems	S4	2.55	2.55	2.55	1.47	0.78	1.54	-	1.7	1.42	1.7	-	2.55	2.55	1.7	1.58
CS206	Object Oriented Design and Program	S4	2.62	2.62	1.9	1.74	1.74	1.86	-	1.74	1.35	1.74	-	2.48	2.62	1.44	1.59
CS208	Principles of Database Design	S4	2.02	1.92	2.02	1.85	1.9	1.79	-	1.99	-	1.68	-	2.02	2.02	2.14	1.7
HS200	Business Economics	S4	2.06	1.11	1	1	-	-	-	-	-	-	-	0.95	1	-	-
CS232	Free and Open Source Software Lab	S4	2.2	2	1.6	1.6	2	2	-	-	2	2	-	2.8	1.6	2.33	1.6
CS234	Digital Systems Lab	S4	2.04	1.74	0.87	0.87	-	-	-	-	-	-	-	-	0.87	2.04	0.87
CS301	Theory of Computation	S5	2.79	2.79	1.86	2.79	-	1.86	-	0.93	0.93	0.93	-	2.79	2.79	-	-
CS303	System Software	S5	2.32	1.82	2.43	1.99	1.69	0.91	-	1.82	-	1.82	-	2.74	1.82	1.36	0.9
CS305	Microprocessors and Microcontrolle	S5	1.88	1.64	1.64	1.54	1.8	0.75	-	0.75	-	0.75	-	1.39	1.84	1.5	0.58
CS307	Data Communication	S5	2.7	2.4	1.93	1.8	-	1.82	-	1.8	-	0.9	-	2.7	1.82	1.51	0.9
CS309	Graph Theory and Combinatorics	S5	3	3	2.83	2.33	-	2	-	1	-	1	-	3	3	1	2
CS361	Soft Computing	S5	2.45	1.32	2.27	1.69	1.36	1.02	-	1.53	-	1.46	-	2.45	2.45	1.11	1.19
CS341	Design Project	S5	2.87	2.11	2.87	1.91	1.54	1.78	1.91	1.91	2.68	1.79	1.93	1.91	1.74	3	2.68
CS331	System Software Lab	S5	3	3	2	2	2	1	-	2	2	2	-	3	2	1	-
CS333	Application Software Development I	S5	3	3	3	2.4	2.33	1.5	-	2	-	2	-	3	3	2.33	2
CS302	Design and Analysis of Algorithms	S6	2.78	2.14	1.54	1.58	1.43	1.85	1.91	1.85	2.14	1.54	-	1.56	1.55	1.54	1.72
CS304	Compiler Design	S6	2.48	2.48	2.14	1.23	1.77	1.14	-	1.66	-	1.06	-	2.48	2.48	1.23	1.6
CS306	Computer Networks	S6	2.46	1.64	1.22	1.02	2.56	1.22	-	1.22	-	2	-	2.35	2.46	1	1.3

CS308	Software Engineering and Project M	S6	2.14	2.14	2.14	1.83	1.98	1.18	0.94	2.14	2.14	1.58	1.58	2.14	2.14	1.98	1.43
HS300	Principles of Management	S6	0.75	-	-	-	-	1.08	0.73	1	1.68	1.78	1.24	1.73	1.55	-	-
CS362	Computer Vision	S6	2.58	2.22	2.06	1.35	1.73	0.86	-	2.44	-	1.35	-	2.44	1.72	1.33	0.86
CS364	Mobile Computing	S6	2.62	2.47	2.18	2.18	0.7	1.75	0.75	1.75	2	0.91	-	2.62	2.62	-	1.56
CS368	Web Technologies	S6	2.88	2.26	2.88	1.96	2.72	0.96	-	1.92	0.96	1.92	-	2.88	2.72	1.92	1.92
CS332	Microprocessor Lab	S6	3	3	2.5	2	2.25	1.75	-	2	2	2.5	-	3	3	-	2
CS334	Network Programming Lab	S6	3	2.87	3	2.93	3	2.8	-	2.6	2.8	2.8	-	3	2.87	-	3
CS352	Comprehensive Exam	S6	3	3	2.83	3	3	-	-	1.5	1.5	2	-	3	3	2	3
CS401	Computer Graphics	S7	2.97	2.4	2.53	1.63	-	1.53	1.85	-	-	-	-	2.97	2.68	1.85	1.85
CS403	Programming Paradigms	S7	1.98	2.33	2.75	1.8	-	1.15	-	-	1.65	-	-	2.15	2.96	1	1.33
CS405	Computer System Architecture	S7	2.54	2.13	1.37	1.55	1.58	1.5	-	-	-	1.53	-	1.57	1.17	-	1.46
CS407	Distributed Computing	S7	3	1.67	1.8	1.33	2	1	-	-	-	-	-	3	1.83	1	1.75
CS409	Cryptography and Network Security	S7	2.85	2.51	1.9	1.88	1.93	2.28	-	2.85	1.93	1.85	-	2.85	2.69	-	1.74
CS465	Bio Informatics	S7	1.94	1.94	1.96	2.86	1.95	1.44	2	2.86	-	2	-	2.71	1.87	-	1.64
CS467	Machine Learning	S7	2.02	2.11	2.28	1.32	1.63	-	-	-	-	-	-	0.76	1.16	1.09	0.76
CS451	Seminar & Project Preliminary	S7	2.43	1.69	1.69	1.87	2.11	1.69	1.55	2.43	2.81	2.81	2.11	2.81	2.25	1.87	1.87
CS431	Compiler Design Lab	S7	3	2	2	1	2.33	1	-	-	-	-	-	3	2	1	1
CS402	Data Mining and Ware Housing	S8	2.86	2.57	2.43	2	-	2	-	-	-	-	-	3	2.71	-	-
CS468	Cloud Computing	S8	2.48	2.48	2.48	0.99	-	1	-	-	-	-	-	2.98	2.48	-	2.6
CS472	Principles of Information Security	S8	2.17	1.67	2.4	1.67	1.67	1.67	-	-	-	-	-	2.83	2	1.83	1.67
CS404	Embedded Systems	S8	2.59	2.3	2.3	1.63	-	2.71	2	-	-	-	-	2.89	2.59	3	2.8
CS492	Project	S8	2.02	1.82	2.42	1.21	1.62	1.62	1.62	1.62	2.42	1.89	1.35	1.62	2.02	1.08	1.01
Final PO Attainment			2.47	2.05	1.92	1.63	1.81	1.51	1.5	1.71	1.79	1.62	1.48	2.26	2.06	1.69	1.63

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PO ATTAINMENT FOR 2016-2020 BATCH

COURSE	COURSE NAME	SEM	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
MA 101	Calculus	S1	2.08	1.34	0.74	0.74	-	-	-	-	-	-	-	-	1.46	-	-
PH100	Engineering Physics	S1	2.32	1.45	0.86	0.86	-	-	-	-	-	-	-	-	1.74	-	-
BE110	Engineering Graphics	S1	3	2	1	1	3	-	-	-	-	-	-	-	2	-	-
BE101-05	Introduction to Computing and Problem Solving	S1	2.08	1.46	2.2	2.2	1.46	-	-	-	-	-	-	0.74	1.34	1.34	-
BE103	Introduction to Sustainable Engineering	S1	-	-	1.8	1.5	-	1.35	1.35	1.2	0.6	-	-	1.8	-	-	1.8
EE100	Basics of Electrical Engineering	S1	0.84	0.5	0.34	0.34	-	-	-	-	-	-	-	-	0.66	-	-
PH110	Engineering Physics Lab	S1	2.45	1.59	0.86	0.86	-	-	-	-	-	-	-	-	1.74	-	-
CS110	Computer Science Workshop	S1	2.2	2.2	2.08	1.96	2.2	-	-	1.46	-	1.59	-	1.46	2.2	1.59	0.91
EE110	Electrical Engineering Workshop	S1	2.16	1.74	0.86	0.86	-	-	-	-	-	-	-	-	1.74	-	-
MA102	Differential Equations	S2	1.7	1.1	0.5	0.5	-	-	-	-	-	-	-	-	1.8	-	-
CY100	Engineering Chemistry	S2	2.08	1.34	0.74	-	-	-	-	-	-	-	-	-	1.46	-	-
BE100	Engineering Mechanics	S2	1.96	1.22	0.91	0.91	0.74	-	-	-	-	-	-	-	1.46	-	-
BE102	Design and Engineering	S2	-	1	1.33	1	1	2	1.2	1.33	1.25	1.75	1	1	2	-	-
EC100	Basics of Electronics Engineering	S2	2.33	1.5	1.5	1.5	-	-	-	-	-	-	-	-	2	-	-
CS100	Basics of Computer Programming	S2	1.4	1.4	1.4	1.25	0.46	0.46	-	-	0.94	0.59	-	0.94	1.4	0.7	-
CY110	Engineering Chemistry Lab	S2	2.2	1.96	1.34	1.34	0.91	-	-	-	-	-	-	-	-	-	-
EC110	Electronics Engineering Workshop	S2	2.5	2	1.25	1.25	-	-	-	-	-	-	-	-	1	-	-
CS120	Computer Programming Lab	S2	3	2.67	3	3	3	-	-	2	-	2.67	-	2.33	3	3	2.5
MA201	Linear Algebra & Complex Analysis	S2	1.4	1.4	0.94	0.94	-	-	-	-	-	-	-	-	0.94	-	-
CS201	Discrete Computational Structures	S3	2.2	1.84	1.34	1.1	-	0.74	-	0.74	1.1	-	-	0.74	1.84	-	-
CS203	Switching Theory and Logic Design	S3	1.7	1.1	0.6	0.6	-	-	-	-	-	-	-	-	0.6	1.7	0.6

CS205	Data Structures	S3	1.4	1.16	1.4	1.16	-	0.7	-	0.46	-	0.46	-	1.4	1.4	1.4	-
CS207	Electronics Devices & Circuits	S3	1.88	1.02	0.86	0.86	-	-	-	-	-	-	-	-	-	-	-
HS210	Life Skills	S3	2.67	3	3	2	-	-	-	2.17	2.5	2.4	1.6	2.5	1.5	1.5	-
CS231	Data Structures Lab	S3	2.25	2	2.6	2	2	1.33	-	-	2.17	1.33	-	1.67	2.17	1.33	1.67
CS233	Electronics Circuits Lab	S3	1.74	0.86	-	-	-	-	-	-	-	-	-	-	1.74	1.74	-
MA202	Probability Distributions, Transform	S4	2.6	2.6	2.02	2.02	-	0.86	-	1.74	-	0.86	-	2.6	1.74	-	-
CS202	Computer Organization and Archite	S4	1.8	1.56	1.56	0.72	-	1.2	-	0.6	-	0.6	-	1.8	1.56	0.9	1.01
CS204	Operating Systems	S4	1.8	1.8	1.8	1.01	0.6	1.1	-	1.2	1.01	1.2	-	1.8	1.8	1.2	1.1
CS206	Object Oriented Design and Program	S4	2.6	2.6	1.88	1.74	1.74	1.88	-	1.74	1.3	1.74	-	2.45	2.6	1.45	1.59
CS208	Principles of Database Design	S4	1	0.84	1	0.72	1	0.5	-	0.84	-	0.56	-	1	1	1	1
HS200	Business Economics	S4	1.59	0.86	0.74	0.74	-	-	-	-	-	-	-	0.74	0.74	-	-
CS232	Free and Open Source Software Lab	S4	2.6	2.6	2.6	2.2	2	2	-	3	2	2	-	2.8	2.6	2.67	2.6
CS234	Digital Systems Lab	S4	2.33	2	1	1	-	-	-	-	3	3	-	-	1	2.33	1
CS301	Theory of Computation	S5	2.82	2.82	1.89	2.82	-	1.89	-	0.94	0.94	0.94	-	2.82	2.82	-	-
CS303	System Software	S5	2.5	2	2.67	2.17	1.83	1	-	2	-	2	-	3	2	1.5	1
CS305	Microprocessors and Microcontrol	S5	2.5	2.17	2.17	2	2.67	1	-	1	-	1	-	1.83	2.5	2	1
CS307	Data Communication	S5	2.96	2.63	2.15	1.98	-	1.98	-	1.98	-	0.99	-	2.96	1.98	1.65	0.99
CS309	Graph Theory and Combinatorics	S5	2.09	2.09	2.05	1.95	-	1.89	-	1.69	-	1.58	-	2.09	2.09	1.69	1.89
CS361	Soft Computing	S5	2.58	1.37	2.38	1.63	1.32	1.06	-	1.61	-	1.61	-	2.58	2.58	1.07	1.25
CS341	Design Project	S5	3	2.2	3	2	1.6	2	2	2	3	2	2	2	1.8	3	3
CS331	System Software Lab	S5	3	3	2	2	2	1	-	2	2	2	-	3	2	1	-
CS333	Application Software Development	S5	3	3	3	2.4	2.33	1.5	-	2	-	2	-	3	3	2.33	2
CS302	Design and Analysis of Algorithms	S6	2.89	2.24	1.62	1.63	1.44	1.93	1.94	1.93	2.24	1.62	-	1.61	1.62	1.62	1.77
CS304	Compiler Design	S6	2.86	2.86	2.54	1.45	2.05	1.29	-	1.91	-	1.29	-	2.86	2.86	1.44	1.91
CS306	Computer Networks	S6	2.55	1.7	1.25	1.05	2.35	1.22	-	1.22	-	1.7	-	2.38	2.55	0.85	1.42

CS308	Software Engineering and Project Management	S6	2.59	2.59	2.59	2.19	2.39	1.37	2	2.59	2.59	1.88	1.88	2.59	2.59	2.43	1.73
HS300	Principles of Management	S6	0.6	-	-	-	-	0.9	0.56	0.66	1.42	1.39	0.95	1.34	1.17	-	-
CS362	Computer Vision	S6	2.63	2.26	2.1	1.38	1.73	0.87	-	2.63	-	1.22	-	2.63	1.75	1.33	0.86
CS364	Mobile Computing	S6	1.94	1.81	1.61	1.61	0.74	1.3	0.63	1.3	1.62	0.7	-	1.94	1.94	-	1.2
CS368	Web Technologies	S6	2.62	2.06	2.62	1.78	2.49	0.87	-	1.75	0.87	1.75	-	2.62	2.49	1.75	1.75
CS332	Microprocessor Lab	S6	3	3	2.5	2	2.25	1.75	-	2	2	2.5	-	3	3	-	2
CS334	Network Programming Lab	S6	3	3	2.33	3	2.67	3	-	3	1	2	-	3	3	2.33	2
CS352	Comprehensive Exam	S6	2.42	2.42	2.29	2.42	2.42	-	-	1.1	1.21	1.62	-	2.42	2.42	1.62	2.42
CS401	Computer Graphics	S7	2.46	1.96	2.08	1.36	1.45	1.3	1.74	1.64	-	1.31	-	2.46	2.23	1.74	1.74
CS403	Programming Paradigms	S7	2.13	1.73	1.85	1.26	1.68	0.84	-	1.42	1.16	1.29	-	1.56	2.13	0.58	1
CS405	Computer System Architecture	S7	2.24	1.82	1.33	1.37	1.74	1.52	-	1.5	-	1.59	-	1.35	0.98	1.74	1.21
CS407	Distributed Computing	S7	2.09	1.21	1.22	0.94	1.46	0.7	-	1.39	0.93	0.63	-	2.09	1.28	0.74	1.12
CS409	Cryptography and Network Security	S7	2.69	2.36	1.58	1.82	1.47	2.01	-	2.69	1.54	1.75	-	2.69	2.49	-	1.62
CS465	Bio Informatics	S7	1.57	1.57	1.58	2.35	1.62	1.16	1.62	2.35	-	1.62	-	2.21	1.57	-	1.29
CS467	Machine Learning	S7	2.64	2.64	2.64	1.44	1.63	1.87	1.4	1.31	-	1.76	-	2.64	1.46	1.44	0.9
CS451	Seminar & Project Preliminary	S7	2.6	1.8	1.8	2	2.25	1.8	1.67	2.6	3	3	2.25	3	2.27	2	1.75
CS431	Compiler Design Lab	S7	3	2	2	1.17	2	2.17	-	2	-	2	-	3	1.17	1.67	1
CS402	Data Mining and Ware Housing	S8	2.93	2.59	2.59	2.78	2	2.33	1.7	1.45	2	1.15	-	2.93	2.93	2.39	2.78
CS468	Cloud Computing	S8	2.1	2.15	2.03	2.03	2.28	1.31	-	1.27	3	1.98	-	2.53	2.03	2.5	2.33
CS472	Principles of Information Security	S8	2.5	2.67	2.67	2.67	2.5	2.5	2.5	2.5	-	2.67	-	2.5	2.5	2.5	2.67
CS404	Embedded Systems	S8	2.48	2.48	2.46	2.46	2.67	2	2.39	2.33	-	2.5	1	2.48	2.96	3	2.5
CS492	Project	S8	3	2.5	2.75	2.5	2.5	2.5	2.5	1.75	2.5	2.25	2	2.5	2.6	2.6	2.6
			2.18	1.84	1.68	1.51	1.75	1.39	1.59	1.6	1.65	1.53	1.5	2.05	1.82	1.63	1.54

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PO ATTAINMENT FOR 2015-2019 BATCH

COURSE	COURSE NAME	SEM	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
MA 101	Calculus	S1	2.06	1.33	0.72	0.72	-	-	-	-	-	-	-	-	1.4	-	-
PH100	Engineering Physics	S1	1.58	0.99	0.6	0.6	-	-	-	-	-	-	-	-	1.12	-	-
BE110	Engineering Graphics	S1	1.78	1.18	0.6	0.6	1.78	-	-	-	-	-	-	-	1.12	-	-
BE101-05	Introduction to Computing and Problem Solving	S1	1.31	0.92	1.38	1.38	0.92	-	-	-	1.04	-	-	1.38	0.79	0.79	-
BE103	Introduction to Sustainable Engineering	S1	-	-	1.38	1.15	-	0.69	1.17	0.92	0.52	-	-	1.38	-	-	1.38
EE100	Basics of Electrical Engineering	S1	1.38	0.79	0.6	0.6	-	-	-	-	-	-	-	-	-	-	-
PH110	Engineering Physics Lab	S1	2.06	1.33	0.72	0.72	-	-	-	-	-	-	-	-	0.69	-	-
CS110	Computer Science Workshop	S1	2.58	2.58	2.43	2.3	2.58	-	-	1.72	-	1.93	-	1.72	2.49	1.8	1.08
EE110	Electrical Engineering Workshop	S1	2.15	1.72	0.86	0.86	-	-	-	-	-	-	-	-	-	-	-
MA102	Differential Equations	S2	2.18	1.69	1.58	1.58	1.09	-	-	-	-	0.75	-	0.72	0.69	-	-
CY100	Engineering Chemistry	S2	2.06	1.33	0.72	-	-	-	-	-	-	-	-	-	1.97	1.97	-
BE100	Engineering Mechanics	S2	2.3	1.55	1.72	-	-	0.86	-	-	-	-	0.89	1.72	-	-	-
BE102	Design and Engineering	S2	2.15	1.72	0.86	2.58	1.72	0.86	0.92	0.86	0.92	2.67	2	1.08	2.49	2.49	1.29
EC100	Basics of Electronics Engineering	S2	0.76	0.43	0.32	0.32	-	-	-	-	-	-	-	-	-	-	-
CS100	Basics of Computer Programming	S2	0.58	0.58	0.58	0.52	0.2	0.2	-	-	0.5	0.28	-	0.38	0.49	0.25	-
CY110	Engineering Chemistry Lab	S2	2.06	-	-	-	1.46	0.72	0.78	-	-	-	-	1.81	0.69	0.69	-
EC110	Electronics Engineering Workshop	S2	2	1.38	0.86	0.86	-	-	-	-	2.76	2.67	-	-	0.83	-	0.86
CS120	Computer Programming Lab	S2	2.58	2.3	2.58	2.58	2.58	-	-	1.72	-	2.38	-	2	2.49	2.49	2.15
MA201	Linear Algebra & Complex Analysis	S3	1.78	1.78	1.18	1.18	-	-	-	-	-	-	-	-	1.12	-	-
CS201	Discrete Computational Structures	S3	1.38	1.15	0.85	0.69	-	0.46	-	0.46	0.78	-	-	0.46	1.08	-	-

CS203	Switching Theory and Logic Design	S3	2.06	1.33	0.72	0.72	-	-	-	-	-	-	-	-	0.69	1.97	0.72
CS205	Data Structures	S3	0.98	0.81	0.98	0.81	-	0.49	-	0.32	-	0.35	-	0.98	0.89	0.89	-
CS207	Electronics Devices & Circuits	S3	1.58	0.85	0.72	0.72	-	-	-	-	-	-	-	-	-	-	-
HS210	Life Skills	S3	1.23	1.38	1.38	0.92	-	-	-	1	1.3	1.18	0.78	1.15	0.65	0.65	-
CS231	Data Structures Lab	S3	1.94	1.72	2.24	1.72	1.72	1.14	-	-	2	1.18	-	1.44	1.8	1.1	1.44
CS233	Electronics Circuits Lab	S3	1.87	0.86	-	-	-	-	-	-	-	-	-	-	1.8	1.8	-
MA202	Probability Distributions, Transforms and Numerical Methods	S4	0.98	0.71	0.66	0.55	0.38	-	-	-	-	0.35	-	0.32	0.29	-	-
CS202	Computer Organization and Architecture	S4	0.58	0.5	0.5	0.23	-	0.38	-	0.2	-	0.23	-	0.58	0.42	0.25	0.32
CS204	Operating Systems	S4	0.18	0.18	0.18	0.1	0.06	0.11	-	0.12	0.2	0.18	-	0.18	0.09	0.06	0.11
CS206	Object Oriented Design and Programming	S4	0.58	0.58	0.42	0.38	0.38	0.42	-	0.38	0.38	0.44	-	0.55	0.49	0.27	0.36
CS208	Principles of Database Design	S4	0.58	0.49	0.58	0.42	0.58	0.29	-	0.49	-	0.37	-	0.58	0.49	0.49	0.58
HS200	Business Economics	S4	1	0.54	0.46	0.46	-	-	-	-	-	-	-	0.46	0.43	-	-
CS232	Free and Open Source Software Lab	S4	1.01	0.92	0.74	0.74	0.92	0.92	-	-	1.04	0.98	-	1.29	0.69	1.01	0.74
CS234	Digital Systems Lab	S4	1.08	0.92	0.46	0.46	-	-	-	-	-	-	-	0.43	1.01	0.46	
CS301	Theory of Computation	S5	1.38	1.38	0.92	1.38	-	0.92	-	0.46	0.52	0.49	-	1.38	1.29	-	-
CS303	System Software	S5	1.49	1.18	1.58	1.29	1.09	0.6	-	1.18	-	1.24	-	1.78	1.12	0.85	0.6
CS305	Microprocessors and Microcontrollers	S5	1.15	1	1	0.92	1.23	0.46	-	0.46	-	0.49	-	0.85	1.08	0.86	0.46
CS307	Data Communication	S5	0.98	0.87	0.71	0.66	-	0.66	-	0.66	-	0.35	-	0.98	0.6	0.5	0.32
CS309	Graph Theory and Combinatorics	S5	0.98	0.98	0.92	0.76	-	0.66	-	0.32	-	0.35	-	0.98	0.89	0.29	0.66
CS361	Soft Computing	S5	2.58	1.38	2.41	1.72	1.29	1.03	-	1.55	-	1.6	-	2.58	2.49	1.04	1.14
CS341	Design Project	S5	2.18	1.6	2.18	1.46	1.16	1.46	1.58	1.46	2.36	1.52	1.52	1.46	1.25	2.09	2.18
CS331	System Software Lab	S5	2.58	2.58	1.72	1.72	1.72	0.86	-	1.72	1.84	1.78	-	2.58	1.66	0.83	-
CS333	Application Software Development Lab	S5	1.38	1.38	1.38	1.1	1.08	0.69	-	0.92	-	0.98	-	1.38	1.29	1.01	0.92
CS302	Design and Analysis of Algorithms	S6	1.38	1.08	0.77	0.77	0.69	0.92	1.04	0.92	1.22	0.82	-	0.77	0.72	0.72	0.85

CS304	Compiler Design	S6	1.38	1.38	1.23	0.69	1	0.62	-	0.92	-	0.66	-	1.38	1.29	0.65	0.92
CS306	Computer Networks	S6	0.98	0.66	0.46	0.39	0.91	0.46	-	0.46	-	0.72	-	0.91	0.89	0.29	0.52
CS308	Software Engineering and Project Management	S6	0.98	0.98	0.98	0.85	0.91	0.52	0.78	0.98	1.16	0.78	0.78	0.98	0.89	0.83	0.66
HS300	Principles of Management	S6	0.2	-	-	-	-	0.31	0.26	0.2	0.56	0.44	0.36	0.45	0.32	-	-
CS362	Computer Vision	S6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CS364	Mobile Computing	S6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CS368	Web Technologies	S6	0.18	0.14	0.18	0.12	0.17	0.06	-	0.12	0.12	0.18	-	0.18	0.08	0.06	0.12
CS332	Microprocessor Lab	S6	1.38	1.38	1.15	0.92	1.04	0.81	-	0.92	1.04	1.23	-	1.38	1.29	-	0.92
CS334	Network Programming Lab	S6	2.58	2.58	2	2.58	2.3	2.58	-	2.58	0.92	1.78	-	2.58	2.49	1.93	1.72
CS352	Comprehensive Exam	S6	1.38	1.38	1.31	1.38	1.38	-	-	0.69	0.78	0.98	-	1.38	1.29	0.86	1.38
CS401	Computer Graphics	S7	2.58	2.09	2.21	1.44	1.55	1.35	1.84	1.72	-	1.34	-	2.58	2.25	1.66	1.72
CS403	Programming Paradigms	S7	2.58	2.15	2.37	1.55	2.15	1.01	-	1.72	1.54	1.6	-	2	2.49	0.83	1.14
CS405	Computer System Architecture	S7	2.58	2.15	1.44	1.57	1.72	1.72	-	1.72	-	1.78	-	1.57	1.1	1.66	1.44
CS407	Distributed Computing	S7	2.58	1.44	1.55	1.14	1.72	0.86	-	1.72	1.54	0.89	-	2.58	1.52	0.83	1.51
CS409	Cryptography and Network Security	S7	2.58	2.24	1.55	1.72	1.44	1.94	-	1.52	1.54	1.78	-	2.58	2.32	-	1.55
CS465	Bio Informatics	S7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CS467	Machine Learning	S7	2.32	2.32	2.32	1.3	1.42	1.67	1.71	1.15	-	1.6	-	2.32	1.24	1.23	0.78
CS451	Seminar & Project Preliminary	S7	1.74	1.2	1.2	1.34	1.5	1.2	1.22	1.74	2.18	2.09	1.57	2	1.53	1.28	1.17
CS431	Compiler Design Lab	S7	2.58	1.72	1.72	1.01	1.72	1.87	-	1.72	-	1.78	-	2.58	0.97	1.39	0.86
CS402	Data Mining and Ware Housing	S8	2.58	2.3	2.3	2.43	1.72	2	1.84	1.29	1.84	1.04	-	2.58	2.49	2.08	2.58
CS468	Cloud Computing	S8	2.15	2.15	2.15	2.15	2.15	1.29	-	1.29	2.76	2.07	-	2.58	2.08	2.08	2.24
CS472	Principles of Information Security	S8	2.15	2.3	2.3	2.3	2.15	2.15	2.3	2.15	-	2.38	-	2.15	2.08	2.08	2.3
CS404	Embedded Systems	S8	1.65	1.6	1.62	1.57	1.88	0.86	1.76	1.51	-	1.63	0.76	1.61	1.84	2.11	1.72
CS492	Project	S8	2.58	2.15	2.37	2.15	2.15	2.15	2.3	1.51	2.3	2	2.67	2.15	2.49	2.49	2.58
			1.66	1.36	1.24	1.13	1.36	0.96	1.39	1.08	1.27	1.18	1.26	1.44	1.25	1.17	1.13