



SSN School of Engineering

DEPARTMENT OF INFORMATION TECHNOLOGY

**Bachelor of Technology
Information Technology**

CURRICULUM

REGULATIONS 2026

VISION AND MISSION OF THE DEPARTMENT

VISION

To be an outstanding centre for the development of diverse, ethically driven IT leaders and innovators who deliver sustainable solutions for global betterment.

MISSION

1. Equip all students with relevant, evolving IT knowledge and the practical skills demanded by dynamic global industries.
2. Cultivate an ethical, supportive ecosystem to build professional competence and guaranteed industry-readiness.
3. Ensure continuous learning excellence through updated curricula and world-class faculty expertise in emerging technologies.
4. Engage students in research and innovation to create ethical information systems that advance societal and global sustainability goals (SDG).

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO 1: Graduates will be competent Artificial Intelligence and Data Science practitioners and leaders, effectively addressing complex technological challenges in various industries and research domains.

PEO 2: Graduates will be innovative professionals or entrepreneurs, actively involved in the development, deployment, and implementation of cutting-edge AI and Data Science technologies and solutions.

PEO 3: Graduates will conduct their professional activities with a strong sense of ethical responsibility and social awareness, contributing positively to the well-being of society and the environment.

PEO 4: Graduates will collaborate effectively with professionals from diverse disciplines in industry and academia, leveraging their AI and Data Science expertise to foster interdisciplinary solutions and contribute to economic advancement.

PROGRAM OUTCOMES (POs)

Program outcomes are the skills and knowledge which the students should have acquired at the time of graduation. A program outcome indicates what a student can do from course-wise knowledge acquired during the program. Students who graduate from this program shall exhibit the following:

PO	Graduate Attribute	Programme Outcome
1	Engineering Knowledge	Apply the knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization to develop to the solution of complex Engineering problems (WK 1 to 4).
2	Problem Analysis	Identify, formulate, review research literature, and analyze complex Engineering problems reaching substantiated conclusions with consideration for sustained development (WK 1 to 4).
3	Design/Development of solutions	Design creative solutions for complex Engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required (WK5).
4	Conduct Investigations of Complex Problems	Conduct investigations of complex Engineering problems using research-based knowledge including design of experiments, modelling, analysis and interpretation of data to provide valid conclusions (WK8).
5	Engineering Tool Usage:	Create, select, and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling, recognizing their limitations to solve complex Engineering problems (WK2 and WK6).
6	The Engineer and The World	Analyze and evaluate societal and environmental aspects while solving complex Engineering problems for their impact on sustainability with reference to economy, health, safety, legal framework, culture and environment (WK1, WK5 and WK7).
7	Ethics	Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws (WK9).

8	Individual and Collaborative Teamwork.	Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
9	Communication	Communicate effectively and inclusively within the engineering community and the society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences.
10	Project Management and Finance	Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multi-disciplinary environments.
11	Life-long learning	Recognize the need for and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change (WK8).

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1	Data Proficiency: Graduates will be able to apply data engineering, data analysis, and data visualization techniques to extract meaningful insights and solve complex problems from diverse datasets.
PSO2	Intelligent System Development: Graduates will be capable of designing, developing, and deploying intelligent systems using various Artificial Intelligence methodologies, including machine learning, deep learning, and other relevant AI techniques.
PSO3	Ethical and Responsible Innovation: Graduates will be able to critically evaluate and address the ethical, societal, and environmental implications of AI and Data Science technologies in their professional practice.

PEO - PO/PSO Mapping

PEO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
PEO1	3	3	3	2	3	1	1	1	2	2	2	3	3	2
PEO2	3	3	3	3	3	1	1	1	2	2	2	3	3	2
PEO3	3	3	3					2	3	3	3	2	2	3
PEO4	1	1	1			3	3	3	2	2	1	1	1	1

Mapping Programme Outcomes with Graduate Attributes

Programme Outcomes	NBA's GAs
PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop the solution of complex engineering problems.	GA1
PO2: Problem Analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4).	GA2
PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/ processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society, and environment as required. (WK5).	GA3
PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).	GA4
PO5: Engineering Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6).	GA5

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture, and environment. (WK1, WK5, and WK7).	GA10
PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity, and inclusion; adhere to national & international laws. (WK9).	GA10
PO8: Individual and Collaborative Teamwork: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams	GA6
PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences.	GA8
PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.	GA7
PO11: Life-Long Learning: Recognize the need for and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8).	GA9, G11

Washington Accord Knowledge Levels (WK)	Attributes
WK1	Natural sciences and social sciences
WK2	Conceptually based mathematics
WK3	Engineering fundamentals

WK4	Engineering specialist knowledge
WK5	Engineering design and operations
WK6	Engineering Practice (Technology)
WK7	Engineering knowledge in society, public safety and sustainable development
WK8	Research based knowledge
WK9	Professional ethics, inclusive behaviour and conduct

Complex Engineering Problems (WP)	Attributes
WP1	Depth of knowledge required
WP2	Range of conflicting requirements
WP3	Depth of analysis required
WP4	Familiarity of issues
WP5	Extent of applicable codes
WP6	Extent of stakeholder involvement and conflicting requirements
WP7	Interdependence

Complex Engineering Activities (EA)	Attributes
EA1	Range of resources
EA2	Level of interactions
EA3	Innovation
EA4	Consequences to society and environment
EA5	Familiarity

Sustainable Development Goals (SDG)	Details	Sustainable Development Goals (SDG)	Details
SDG 1	No poverty	SDG 10	Reducing inequality
SDG 2	Zero hunger	SDG 11	Sustainable cities and communities
SDG 3	Good health and well-being	SDG 12	Responsible consumption and production
SDG 4	Quality education	SDG 13	Climate action
SDG 5	Gender equality	SDG 14	Life below water
SDG 6	Clean water and sanitation	SDG 15	Life on land
SDG 7	Affordable and clean energy	SDG 16	Peace, justice and strong institutions
SDG 8	Decent work and economic growth	SDG 17	Partnerships for the goals
SDG 9	Industry, innovation and infrastructure		

COURSE SUMMARY

The listed courses in the curriculum are broadly classified as per the recommendations from the UGC.

Sl. No	Broad Category of Course	Minimum Credit Requirement
1	Major Core (MC)	80
2	Minor Stream (MS)	32
3	Multidisciplinary (MD)	09
4	Ability Enhancement Course (AEC)	08
5	Skill Enhancement Course (SEC)	09

6	Value Added Courses (VAC)	08
7	Summer Internship (SI)	02
8	Project Dissertation (PD)	12
Total		160

SHIV NADAR

— UNIVERSITY —

CHENNAI

The semester wise credit breakup of the Curriculum based on the above credit breakup proposed by the UGC is as follows:

Semester\Category	MC	MS	MD	AEC	SEC	VAC	SI	PD	TOTAL
1	6	-	9	3	2	2	-	-	22
2	11	-	-	3	2	4	-	-	20
3	12	5	-	-	4	-	-	-	21
4	17	2	-	-	1	1	-	-	21
5	14	6	-	-	-	1	-	-	21
6	13	6	-	-	-	-	-	4	23
7	7	8	-	2	-	-	2	6	25
8	-	5	-	-	-	-	-	2	7
Total	81	32	9	8	9	8	2	12	160

Credit Breakup of Proposed Curriculum across Course Categories - Detailed

Semester	MC			MS			MD	AEC	SEC	VAC	SI	PD	TOTAL
	SSNSoE	Dept Major	Program Major	SSNSoE	Dept Minor	Program Minor	SSNSoE	SSNSoE	Dept / Program	Dept / Program	Dept / Program	Dept / Program	
1		6					9	3	2	2			22
2	3	8						3	2	4			20
3		12		3	2				4				21
4		14	3		2				1	1			21
5			14		6					1			21
6			13			6						4	23
7			7			8		2			2	6	25
8						5						2	7
Total	3	40	37	3	10	19	9	8	9	8	2	12	160

SEMESTER I

S. No.	COURSE CODE	COURSE TITLE	COURSE CATEGORY	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Mathematics I	MD	4	45	15	0	60	120	4
2		Engineering Physics	MD	3	45	0	0	45	90	3
3		Communicative English	AEC	4	30	0	30	30	90	3
4		Computational Thinking and Problem Solving with Python	MC	4	30	0	30	30	90	3
5		Introduction to Web Programming	MC	4	30	0	30	30	90	3
6		Professional Ethics and Human Values	VAC	2	30	0	0	30	60	2
PRATICALS										
7		Engineering Physics Laboratory	MD	4	0	0	30	30	60	2
8		Linux fundamentals	SEC	4	0	0	30	30	60	2
TOTAL				29	210	15	150	285	660	22

SEMESTER II

S. No.	COURSE CODE	COURSE TITLE	COURSE CATEGORY	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Mathematics II	MC	3	45	0	0	45	90	3
2		English for Engineers	AEC	4	30	0	30	30	90	3
3		Introduction to Game Design	VAC	3	15	0	30	15	60	2
4		Environmental Engineering	VAC	2	30	0	0	30	60	2
5		C Programming and Data Structures	MC	3	45	0	0	45	90	3
6		Data Science Principles and Analytical Tools	MC	4	30	0	30	30	90	3
PRATICALS										
7		Introduction to AR/VR	SEC	4	0	0	30	30	60	2
8		C Programming and Data Structures Laboratory	MC	4	0	0	30	30	60	2
TOTAL				27	195	0	150	255	600	20

SEMESTER III

S. No.	COURSE CODE	COURSE TITLE	COURSE CATEGORY	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Mathematical Foundations for Computing Technology	MS	3	45	0	0	45	90	3
2		Object oriented programming with Java	MC	3	45	0	0	45	90	3
3		Artificial Intelligence Concepts and Applications	MS	2	30	0	0	30	60	2
4		Digital Systems and Microprocessors	MC	4	30	0	30	30	90	3
5		Design, Thinking, Innovation and Entrepreneurship	SEC	4	30	0	30	30	90	3
6		Computer organization and Architecture	MC	3	45	0	0	45	90	3
PRACTICALS										
7		Object oriented programming with Java Laboratory	MC	3	0	0	30	15	45	1.5
8		Digital Systems and Microprocessors Laboratory	MC	3	0	0	30	15	45	1.5
9		Introduction to Cyber Security	SEC	2	0	0	15	15	30	1
TOTAL				26	225	0	135	270	630	21

SEMESTER IV

S. No.	COURSE CODE	COURSE TITLE	COURSE CATEGORY	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Advanced Data Structures and Design and Analysis of Algorithms	MC	4	30	0	30	30	90	3
2		Information and Communication Systems	MC	2	30	0	30	30	90	3
3		Database Management Systems	MC	3	45	0	0	45	90	3
4		Pattern Recognition and Machine	MC	4	30	0	30	30	90	3

		Learning								
5		Data Visualization and Storytelling	MS	2	15	0	30	15	60	2
6		Principles of Operating Systems	MC	4	30	0	30	30	90	3
PRACTICALS										
7		Database Management Systems Laboratory	MC	4	0	0	30	30	60	2
8		GPU Architectures	SEC	2	0	0	15	15	30	1
9		Independent Research / Extra Academic Activity	VAC	2	0	0	15	15	30	1
TOTAL				27	195	0	210	255	660	22

SEMESTER V

S. No.	COURSE CODE	COURSE TITLE	COURSE CATEGORY	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Full Stack Development	MC	6	30	0	60	30	120	4
2		Data Communication and Networks	MC	6	30	0	60	30	120	4
3		Principles of Software Engineering and Practices	MC	3	45	0	0	45	90	3
4		Deep Learning Concepts and Architectures	MS	3	30	0	30	30	90	3
5		Big Data Systems and Technologies	MS	3	45	0	0	45	90	3
PRACTICALS										
6		Mini project	MC	6	0	0	30	60	90	3
7		Independent Research / Extra Academic Activity	VAC	2	0	0	15	15	30	1
TOTAL				30	180	0	195	255	630	21

Note: Students Pursuing GPP should register for an additional course on Project Management and Planning (3 credits) under MS category during V semester and this additional credit earned will be adjusted during VIII semester by exempting a minor course of 3 credits.

SEMESTER VI

S. No.	COURSE CODE	COURSE TITLE	COURSE CATEGORY	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Automata Theory and Compiler Design	MC	3	45	0	0	45	90	3
2		Cloud and Edge Computing	MC	5	45	0	30	45	120	4
3		Internet of Things and Artificial Intelligence of Things	MC	5	45	0	30	45	120	4
4		Program Minor 1	MS	3	45	0	0	45	90	3
5		Program Minor 2	MS	3	45	0	0	45	90	3
PRACTICALS										
6		Capstone Project Phase 1	PD	8	0	0	60	60	120	4
7		Mobile Application Development Laboratory	MC	4	0	0	30	30	60	2
TOTAL				31	225	0	150	315	690	23

SEMESTER VII

S. No.	COURSE CODE	COURSE TITLE	COURSE CATEGORY	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Information Security and Cryptography	MC	5	45	0	30	45	120	4
2		Distributed and Parallel Computing	MC	3	45	0	0	45	90	3
3		Program Minor 3	MS	3	45	0	0	45	90	3
4		Program Minor 4	MS	3	45	0	0	45	90	3
5		Program Minor 5	MS	2	30	0	0	30	60	2
6		Ability Enhancement Course	AEC	2	30	0	0	30	60	2
PRACTICALS										
7		Capstone Project Phase 2	PD	12	0	0	90	90	180	6
8		Internship	SI	4	0	0	0	60	60	2
TOTAL				34	240	0	120	390	750	25

SEMESTER VIII

S. No.	COURSE CODE	COURSE TITLE	COURSE CATEGORY	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Program Minor – 6	MS	2	30	0	0	30	60	2
2		Program Minor - 7	MS	3	45	0	0	45	90	3
PRACTICALS										
3		Capstone Project Phase 3	PD	4	0	0	30	30	60	2
TOTAL				9	75	0	30	105	210	7

Major Core Courses

Department Core Courses

S. No.	COURSE CODE	COURSE TITLE	SEMESTER	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Computational Thinking and Problem Solving with Python	1	4	30	0	30	30	90	3
2		Introduction to Web Programming	1	4	30	0	30	30	90	3
3		C Programming and Data Structures	2	3	45	0	0	45	90	3
4		Data Science Principles and Analytical Tools	2	4	30	0	30	30	90	3
5		C Programming and Data Structures Laboratory	2	4	0	0	30	30	60	2
6		Object oriented programming with Java	3	3	45	0	0	45	90	3
8		Digital Systems and Microprocessors	3	4	30	0	30	30	90	3
10		Computer organization and Architecture	3	3	45	0	0	45	90	3
11		Object oriented programming with Java Laboratory	3	3	0	0	30	15	45	1.5
12		Digital Systems and Microprocessors Laboratory	3	3	0	0	30	15	45	1.5

13		Advanced Data Structures and Design and Analysis of Algorithms	4	4	30	0	30	30	90	3
14		Information and Communication Systems	4	2	30	0	30	30	90	3
15		Database Management Systems	4	3	45	0	0	45	90	3
		Pattern Recognition and Machine Learning	4	4	30	0	30	30	90	3
		Database Management Systems Laboratory	4	4	0	0	30	30	60	2

Programme Core Courses

S. No.	COURSE CODE	COURSE TITLE	SEMESTER	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Principles of Operating Systems	4	4	30	0	30	30	90	3
2		Full Stack Development	5	6	30	0	60	30	120	4
3		Data Communication and Networks	5	6	30	0	60	30	120	4
4		Principles of Software Engineering and Practices	5	3	45	0	0	45	90	3
5		Mini project	5	6	0	0	30	60	90	3
6		Automata Theory and Compiler Design	6	3	45	0	0	45	90	3
7		Cloud and Edge Computing	6	5	45	0	30	45	120	4
8		Internet of Things and Artificial Intelligence of Things	6	5	45	0	30	45	120	4
9		Mobile Application Development Laboratory	6	4	0	0	30	30	60	2
10		Information Security and Cryptography	7	5	45	0	30	45	120	4
11		Distributed and Parallel Computing	7	3	45	0	0	45	90	3

Department Minor Stream Courses

S. No.	COURSE CODE	COURSE TITLE	SEMESTER	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Artificial Intelligence Concepts and Applications	3	2	30	0	0	30	60	2
2		Data Visualization and Storytelling	4	2	15	0	30	15	60	2
3		Deep Learning Concepts and Architectures	5	3	30	0	30	30	90	3
4		Big Data Systems and Technologies	5	4	30	0	30	30	90	3



The Department of Information technology offers its students the following list of Minor Streams.

1. AI Engineering and Automation (for the IT department students)
2. AI for Smart Manufacturing (for other department students)

MINOR STREAM 1 – Artificial Intelligence and Automation

S. No.	COURSE CODE	COURSE TITLE	SEMESTER	Teaching and Learning Scheme (per semester)						
				CONTACT PERIODS	L	T	P	TW&SL	TH	C
1		Mathematical Fundamentals for Machine Learning	6	3	45	0	0	45	90	3
2		Optimization Techniques for Machine Learning	6	4	30	0	30	30	90	3
3		Speech and Natural Language Processing	7	4	30	0	0	30	60	2
4		MINOR STREAM BASKET 1	7	3	45	0	0	45	90	3
5		MINOR STREAM BASKET 2	7	3	45	0	0	45	90	3
6		MINOR STREAM BASKET 3	8	3	30	0	30	30	90	3
7		MINOR STREAM BASKET 4	8	4	30	0	0	30	60	2

The following is the list of courses that are offered under the *Minor Stream Baskets*:

<i>Minor Stream Basket 1 (3 Credit courses)</i>	<i>Minor Stream Basket 2 (3 Credit courses)</i>	<i>Minor Stream Basket 3 (3 Credit courses) (TCP courses)</i>	<i>Minor Stream Basket 4 (2 Credit courses)</i>
Generative AI	MLOps and MLOps Pipelines	Applied Time Series and Sequential Data	Ethical and Observable AI
Deep Reinforcement Learning	Edge Intelligence	Advanced Optimization for ML	Foundations of Software Project Management
Agentic AI and Multi-Agent Systems	Forensic Analytics	Social Network Analysis	Advanced Java Programming with Spring boot
Computer vision and Robotics			

MINOR STREAM 2 – AI for Smart Manufacturing

S. No.	COURSE CODE	COURSE TITLE	SEMESTER	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Introduction to AI and Machine Learning	6	4	30	0	30	30	90	3
2		Databases and Applications Development	6	4	30	0	30	30	90	3
3		Introduction to Data Structures and Algorithms	7	4	30	0	30	30	90	3
4		MINOR STREAM BASKET 1	7	3	45	0	0	45	90	3
5		MINOR STREAM BASKET 2	7	2	30	0	0	30	60	2
6		MINOR STREAM BASKET 3	8	2	30	0	0	30	60	2
7		MINOR STREAM BASKET 4	8	3	30	0	30	30	90	3

The following is the list of courses that are offered under the *Minor Stream Baskets*:

<i>Minor Stream Basket 1 (3 Credit courses)</i>	<i>Minor Stream Basket 2 (2 Credit courses)</i>	<i>Minor Stream Basket 3 (2 Credit courses)</i>	<i>Minor Stream Basket 4 (3 Credit courses) (TCP courses)</i>
Generative AI and digital twins	Fundamentals of Augmented Reality and Virtual Reality	Industrial Internet of Things and Industry 4.0	Image Processing and Computer Vision

Applied AI for Manufacturing	Introduction to Cloud Computing	Real Time Embedded Systems	Bio-inspired Optimization Techniques
Modelling and Simulation of Manufacturing Systems			

Note: Students from B.Tech. (IT) must not opt for this Minor Stream.

MICROSPECIALIZATION

The Department offers Micro-Specializations to Undergraduate students. Its salient features are as follows:

1. Each Micro-Specialization has a defined structure in terms of three sequential components:
 - **Component I** - One Foundation course that constitutes a mandatory requirement and also a prerequisite for subsequent components.
 - **Component II** - Two courses from a specified vertical.
 - **Component III** - Project/Design/Term Paper
2. A Student would be required to complete all three components (12-14 credits) from the specified stream to earn a Micro-Specialization.

Provisional List of Micro-Specialization Verticals

The following is the list of Micro-Specialization verticals offered to our undergraduate students:

1. Artificial Intelligence and Data Science
2. Internet of Things
3. Cyber security
4. Medical Technology
5. Advanced Robotic Systems
6. Quantum Technology
7. Micro and Smart Systems Technology

Multi-Disciplinary Courses

S. No.	COURSE CODE	COURSE TITLE	SEMESTER	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Mathematics I	MD	4	45	15	0	60	120	4
2		Engineering Physics	MD	3	45	0	0	45	90	3
3		Engineering Physics Laboratory	MD	4	0	0	30	30	60	2

Skill Enhancement Courses

S. No.	COURSE CODE	COURSE TITLE	SEMESTER	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Linux fundamentals	SEC	4	0	0	30	30	60	2
2		Introduction to AR/VR	SEC	4	0	0	30	30	60	2
3		Design, Thinking, Innovation and Entrepreneurship	SEC	4	30	0	30	30	90	3
		Introduction to Cyber Security	SEC	2	0	0	15	15	30	1
4		GPU Architectures	SEC	2	0	0	15	15	30	1

Ability Enhancement Courses

S. No.	COURSE CODE	COURSE TITLE	SEMESTER	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Communicative English	AEC	4	30	0	30	30	90	3
2		English for Engineers	AEC	4	30	0	30	30	90	3
3		Ability Enhancement Course	AEC	2	30	0	0	30	60	2

Value Added Courses

S. No.	COURSE CODE	COURSE TITLE	SEMESTER	CONTACT PERIODS	Teaching and Learning Scheme (per semester)					
					L	T	P	TW&SL	TH	C
1		Professional Ethics and Human Values	VAC	2	30	0	0	30	60	2
2		Introduction to Game Design	VAC	3	15	0	30	15	60	2
3		Environmental Engineering	VAC	2	30	0	0	30	60	2
4		Independent Research / Extra Academic Activity	VAC	2	0	0	15	15	30	1
5		Independent Research / Extra Academic Activity	VAC	2	0	0	15	15	30	1

GRAND PROJECT PATHWAY

Semester	Course	Credit
III	Design Thinking, Innovation and Entrepreneurship	3
IV	Independent Research /Extra Academic Activity	1
V	Independent Research /Extra Academic Activity	1
V	Project Management and Planning	3
VI	Capstone Project Phase 1	4
VII	Capstone Project Phase 2	6
VIII	Capstone Project Phase 3	2
Total Credit for GPP		20

L - Lecture, T - Tutorial, P - Practical, TW & SL – Term Work & Self Learning, TH – Total Hours, C – Credits and TCP-Theory Cum Practical Course