

**5 Years Integrated M. Tech in Software Engineering**  
**School of Computer Science and Engineering**

Programme Credit Structure		Credits							
University Core Courses		90			SWE2009	Analysis of Algorithms	3	2	4
Programme Core Courses		48			SWE3001	Introduction to Computer Networks	3	2	4
Programme Elective / Spl. Elective		32			SWE3002	Software Project Management	3	2	4
University Elective		30			SWE4001	Internet and Web Technologies	3	2	4
<b>Total Graded Credit Requirement</b>		<b>200</b>			SWE4002	Software Testing	3	2	4
<b>University Core</b>		<b>90</b>			ECE1006	Digital Logic and Microprocessors	3	2	4
Course Code	Course Title	T	P	C					
MAT1008	Fundamentals of Calculus	3	2	4	MAT1007	Discrete Mathematics	4	0	4
MAT1009	Applied Linear Algebra	4	0	4	<b>Programme Electives</b>				
MAT1014	Fundamental Statistics	3	2	4	CSE1006	Foundations for Data Analytics	3	2	4
PHY1005	Fundamentals of Engineering Physics	3	2	4	CSE1021	Foundations of Blockchain Technology	3	2	4
CHY1008	Basic Chemistry and Environmental Studies	3	2	4	CSE2009	Soft Computing	3	2	4
SWE1004	Introduction to Programming in Python	3	2	4	CSE2011	Cyber Security and Digital Forensics	3	2	4
SWE2005	Concepts of Object Oriented programming	3	2	4	CSE3001	Agile Development Process	3	2	4
SWE2001	Data Structures and its Algorithms	3	2	4	CSE3002	Artificial Intelligence	3	2	4
ECE1005	Basic Electrical and Electronics Engineering	3	2	4	CSE3008	Introduction to Machine Learning	3	2	4
ENG1005/ENG1006	Basic Communication in English/ Functional Communication in English	2	2	3	CSE3009	NoSQL Database	3	2	4
ENG1006/ENG2004	Functional Communication in English/ Advanced Professional Communication	2	2	3	CSE3012	Network Security	3	2	4
FRLXXXX	Foreign Language	2	0	2	CSE3013	Secure Group Communications	3	2	4
MGT1040	Entrepreneurship	3	2	4	CSE3018	Software Configuration Management	3	0	3
MGT1001	Ethics and Values	0	2	2	CSE3019	Software Quality and Reliability	3	2	4
XXXX	Indian Studies	2	0	2	CSE3020	Product Definition and Validation	3	0	3
STSXXXX	Qualitative and Quantitative Skills Practice I	3	0	1	CSE4003	Parallel Computing	3	2	4
STSXXXX	Qualitative and Quantitative Skills Practice II	3	0	1	CSE4005	Data Warehousing and Data Mining	3	2	4
STSXXXX	Qualitative and Quantitative Skills Practice III	3	0	1	CSE4006	Deep Learning	3	2	4
STSXXX	Qualitative and Quantitative Skills Practice IV	3	0	1	CSE4007	Digital Image Processing	3	2	4
MIC5002	Industrial Internship/ Senior Design Project	0	0	20	CSE4008	Social Network Analysis	3	2	4
CAP5001	Capstone	0	0	6	CSE4009	Wireless and Mobile Computing	3	2	4
SIT1001	Summer Internship	0	0	2	CSE4011	Internet of Things	3	2	4
ECS1001	Engineering Clinics - Embedded C & Arduino	0	4	2	CSE4012	UI/UX User Experience Design	3	2	4
ECS1002	Engineering Clinics - Python & Raspberry Pi	0	4	2	CSE4013	Reverse Engineering	3	0	3
EXCXXXX	Extracurricular Activities			2	CSE4014	Team Software Process	3	0	3
<b>Programme Core</b>		<b>48</b>			CSE4015	Network and System Administration	3	2	4
SWE1002	Principles of Software Engineering	3	2	4	CSE4016	Database Administration	3	2	4
SWE2004	Software Design and Architecture	3	2	4	CSE4017	Healthcare Analytics	3	2	4
SWE2006	Database Systems	3	2	4	CSE4046	Design Patterns	3	2	4
SWE2007	Introduction to Operating Systems	3	2	4	SWE2002	Human Computer Interaction	3	0	3
SWE2008	Object Oriented Analysis and Design	3	2	4	SWE2003	Requirements Engineering Management	3	2	4
					SWE3003	Information and System Security	3	2	4
					SWE4003	Concepts of Mobile Application Development	3	2	4
					SWE4004	Cloud Computing and its Applications	3	2	4

SWE4005	Storage Technologies and Management	3	0	3
SWE4010	Formal Language and Automata Theory	4	0	4

### University Electives

Engineering | Sciences | Humanities | Social Sciences | Liberal arts | Economics | Finance | Management

**30**

Compulsory for PAT Registered Students - UE				
CSE2025	AWS Solution Architect	3	2	4
CSE1022	Introduction to Programming	3	0	3
STSXXX	Competitive Coding Course-I			
STSXXX	Competitive Coding Course-II			
STSXXX	Competitive Coding Course-III			
STSXXX	Competitive Coding Course-IV			