Course Structure

for

2-Years M. Tech. in Computer Science and Engineering

Effective from 2019-2020 Academic Session

Department of Computer Science and Engineering
National Institute of Technology Sikkim
South Sikkim - 737 139

Sl. No.	Subject Code	Subject Name	L-T-P	Credit
		1st Semester		
		Theory Subjects		
1	CS21101	Advanced Data Structures and Algorithms	3-0-0	3
2	CS21102	Computational Mathematics	3-0-0	3
3	--	Elective I	3-0-0	3
4	--	Elective II	3-0-0	3
5	--	Elective III	3-0-0	3
		Practical and Sessionals		
6	CS21201	Advanced Data Structures and Algorithms Laboratory	0-0-3	2
7	--	Laboratory I	0-0-3	2
8	--	Laboratory II	0-0-3	2
9	--	Laboratory III	0-0-3	2
		Total Credits	**15-0-12**	**23**
		2nd Semester		
		Theory Subjects		
1	CS22101	Advanced Computer Networks	3-0-0	3
2	CS22102	Advanced Topics in Database Management Systems	3-0-0	3
4	--	Elective IV	3-0-0	3
5	--	Elective V	3-0-0	3
6	--	Elective VI	3-0-0	3
		Practical and Sessionals		
7	CS22201	Advanced Computer Networks Laboratory	0-0-3	2
8	CS22202	Advanced Database Management Systems Laboratory	0-0-3	2
9	--	Laboratory IV	0-0-3	2
10	--	Laboratory V	0-0-3	2
		Total Credits	**15-0-12**	**23**
		3rd Semester		
		Subjects		
1	CS23101	Literature Review and Report Writing	0-0-2	4
2	CS23201	Dissertation related Tools and Technologies	0-0-2	3
3	CS23202	Dissertation Part I	-	6
		Total Credits	**-**	**13**
		4th Semester		
1	CS24201	Dissertation Part II	-	16
		Total Credits	**-**	**16**

- Laboratory I to Laboratory V will be assigned in accordance to the elective subjects offered in that semester or may be related to some advanced software/hardware tools/techniques as decided by the department.
- Literature Review will be based on research papers / selected topics from books, etc as directed by the supervisor(s).
- Evaluation of the Dissertation consists of two parts, 1) internal evaluation- by the departmental committee, 2) external evaluation- the department committee shall consist of at least one external member. There should be at least two mid-term evaluations by the department and one external evaluation.

List of Elective Subjects			
CS2*111	Software Project Management	3-0-0	3
CS2*112	Software Testing	3-0-0	3
CS2*113	Software Architecture	3-0-0	3
CS2*114	Software Modeling and Design	3-0-0	3
CS2*115	Computer Graphics	3-0-0	3
CS2*116	Computer Vision	3-0-0	3
CS2*117	Pattern Recognition	3-0-0	3
CS2*118	Compiler Design	3-0-0	3
CS2*119	Web Programming	3-0-0	3
CS2*120	VLSI Design	3-0-0	3
CS2*121	Embedded System	3-0-0	3
CS2*122	Real Time Systems	3-0-0	3
CS2*123	Deep Learning	3-0-0	3
CS2*124	Natural Language Processing	3-0-0	3
CS2*125	Internet of Things	3-0-0	3
CS2*126	Mobile Computing	3-0-0	3
CS2*127	Mainframe Technology	3-0-0	3
CS2*128	Fog and Edge Computing	3-0-0	3
CS2*129	Search Engine Optimization	3-0-0	3
CS2*130	Information Retrieval Techniques and Evaluation	3-0-0	3
CS2*131	Virtual Reality	3-0-0	3
CS2*132	Bioinformatics	3-0-0	3
CS2*133	Quantum Computing	3-0-0	3
CS2*134	Nature-Inspired Computing	3-0-0	3
CS2*135	Information Theory and Coding	3-0-0	3
CS2*136	Wireless Network Security	3-0-0	3
CS2*137	Public Key Infrastructure and Trust Management	3-0-0	3
CS2*138	Advanced Topics in Cyber Security	3-0-0	3
CS2*139	Cyber Forensics	3-0-0	3
CS2*140	Blockchain Technology	3-0-0	3
CS2*141	Software Defined Networking	3-0-0	3
CS2*142	Artificial Intelligence	3-0-0	3
CS2*143	Parallel and Distributed Systems	3-0-0	3
CS2*144	Machine Learning	3-0-0	3
CS2*145	Cloud Computing	3-0-0	3
CS2*146	Image Processing	3-0-0	3
CS2*147	Cryptography and Network Security	3-0-0	3
CS2*148	Data Analytics	3-0-0	3
CS2*149	Research Methodology	3-0-0	3

* The semester number in which the subject is offered.