Z.H. College of Engineering & Technology, Aligarh Muslim University, Aligarh

Course Structure: M.Tech. Computer Science and Engineering (Software Engineering)
Valid for students admitted in year 2019 onwards

Semester 1:

S.No.	Course Categ.	Crs No.	Course title	Contact Periods			Credits	Marks			Total
				L	G	P		Course-Work	Mid-Sem	End-Sem	
1	ES	AMS6610	Numerical & Statistical Techniques	3	1	0	4	15	25	60	100
2	PC	COC6010	Software Engineering Process & Methods	3	1	0	4	15	25	60	100
3	PC	COC6020	Software Modeling and Design	3	1	0	4	15	25	60	100
5	PE		Elective - 1	3	1	0	4	15	25	60	100
5	PE		Elective - 2	3	1	0	4	15	25	60	100
6	PC	COC6911	Software Tools & Technology Lab	0	1	2	2	60		40	100

TOTAL CREDITS: 22

Semester 2:

S.No.	Course Categ.	Crs No.	Course title	Contact Periods			Credits	Marks			Total
				L	G	P		Course-Work	Mid-Sem	End-Sem	
1	PC	COC6030	Software Verification & Testing	3	1	0	4	15	25	60	100
2	PE		Elective - 3	3	1	0	4	15	25	60	100
3	PE		Elective - 4	3	1	0	4	15	25	60	100
4	PE		Elective - 5	3	1	0	4	15	25	60	100
5	PC	COC6912	Software Engineering Lab	0	1	2	2	60		40	100
6	PC	COC6919	Project	0	3	0	4	60		40	100

TOTAL CREDITS: 22

Semester 3:

S.No.	Course Categ.	Crs No.	Course title	Contact Periods			Credits	Marks			Total
				L	G	P		Course-Work	Mid-Sem	End-Sem	
1	OE		Open Elective	3	1	0	4	15	25	60	100
2*	AU		MOOCS Courses/Language/Ethics etc	2	0	0	0				
3#	PC	COC7911	Dissertation Phase - I	0	3	0	8	60		40	100

TOTAL CREDITS: 12

Semester 4:

S.No.	Course Categ.	Crs No.	Course title	Contact Periods			Credits	Marks			Total
				L	G	P		Course-Work	Mid-Sem	End-Sem	
1#	PC	COC7812	Pre-Dissertation Seminar				2			100	100
2	PC	COC7912	Dissertation Phase - II	0	3	0	14	60		40	100

TOTAL CREDITS: 16

TOTAL CREDITS: 72

SUMMARY:

Category Code	Category Name	Credits	Required
PC	Program Core	44	30-54
PE	Program Elective	20	12 - 32
ES	Engineering Sciences	4	3 - 8
OE	Open Elective	4	4

TOTAL CREDITS: 72

* Marks allocated to various components of Audit Courses will be decided by the Department/Institution offering the course. Audit course will be of at least two periods per week.

Exam Evaluation will be done by internal examiner(s) recommended by BOS

Course Structure: M.Tech. Computer Science and Engineering (Software Engineering)
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List of Program Elective

S.No.	Course Categ.	Crs No.	Course title	Contact Periods			Credits	Marks			Total
				L	G	P		Course-Work	Mid-Sem	End-Sem	
1	PE	COE6050	Software Architecture	3	1	0	4	15	25	60	100
2	PE	COE6060	Design and Analysis of Algorithms	3	1	0	4	15	25	60	100
3	PE	COE6070	Internet Technologies	3	1	0	4	15	25	60	100
4	PE	COE6080	Computer Networks	3	1	0	4	15	25	60	100
5	PE	COE6090	Interactive Computer Graphics	3	1	0	4	15	25	60	100
6	PE	COE6100	Parallel Computing	3	1	0	4	15	25	60	100
7	PE	COE6110	Advanced Computer Networks	3	1	0	4	15	25	60	100
8	PE	COE6120	Computational Geometry	3	1	0	4	15	25	60	100
9	PE	COE6130	Advanced Graph Algorithms	3	1	0	4	15	25	60	100
18	PE	COE6140	Nature Inspired Computing	3	1	0	4	15	25	60	100
10	PE	COE6150	Multimedia Technologies	3	1	0	4	15	25	60	100
11	PE	COE6160	Web Mining and searching	3	1	0	4	15	25	60	100
12	PE	COE6170	Pattern Recognition	3	1	0	4	15	25	60	100
13	PE	COE6180	Artificial Neural Networks	3	1	0	4	15	25	60	100
14	PE	COE6190	Advanced Computer Architecture	3	1	0	4	15	25	60	100
15	PE	COE6200	Artificial Intelligence	3	1	0	4	15	25	60	100
16	PE	COE6210	Agent Based Software Engineering	3	1	0	4	15	25	60	100
17	PE	COE6220	Digital System Design	3	1	0	4	15	25	60	100
18	PE	COE6230	Machine Learning	3	1	0	4	15	25	60	100
19	PE	COE6240	Cloud Computing	3	1	0	4	15	25	60	100
20	PE	COE6250	Big Data Analytics	3	1	0	4	15	25	60	100
21	PE	COE6260	Image Processing & Computer Vision	3	1	0	4	15	25	60	100
22	PE	COE6270	Internet of Things	3	1	0	4	15	25	60	100
23	PE	COE6280	Cybersecurity	3	1	0	4	15	25	60	100
24	PE	COE6290	Blockchain Technology	3	1	0	4	15	25	60	100

List of Open Elective Offered by the Department

S.No.	Course Categ.	Crs No.	Course title	Contact Periods			Credits	Marks			Total
				L	G	P		Course-Work	Mid-Sem	End-Sem	
1	OE	COO6500	Data Analytics	3	1	0	4	15	25	60	100
2	OE	COO6260	Image Processing & Computer Vision	3	1	0	4	15	25	60	100
3	OE	COO6200	Artificial Intelligence	3	1	0	4	15	25	60	100
4	OE	COO6230	Machine Learning	3	1	0	4	15	25	60	100
5	OE	COO6160	Web Mining and searching	3	1	0	4	15	25	60	100