

IIIT Raichur B.Tech M&C 2024 Curriculum

Semester 1 (18 credits)			
<i>Code</i>	<i>Course</i>	<i>Type of course</i>	<i>Credits</i>
MA001	Mathematics I	MA Basic Sciences	3
ID110	Introduction to programming	Basic Engineering Skills	3
EE101	Signal and Systems	Departmental Core	2
ID130	Digital Logic Design	Departmental Core	1
ID131	Digital systems Design	Basic Engineering Skills	1
LAXxx	LA /CA Elective	LA elective course	2
ID141	Introduction to AI and DS	Basic Engineering course	2
CS101	Introduction to Computer science	Departmental Core course	2
	Total		16

Semester 2 (18 credits)			
<i>Code</i>	<i>Course</i>	<i>Type of course</i>	<i>Credits</i>
MA002	Mathematics-II	MA Basic Sciences	3
CS211	Introduction to Computational Science	Basic Engineering course	1
EE121	Hardware Description Language	Departmental Core	2
CS121	Discrete Mathematics	Departmental Core	3
CS122	Introduction to Object Oriented Programming	Departmental Core	4
ID151	Independent Project	Basic Engineering Skills	1
ID161	Professional Communication skills and writing	Liberal Arts	2
	Total		16

Semester 3 (17 credits)			
<i>Code</i>	<i>Course</i>	<i>Type of course</i>	<i>Credits</i>
CS203	Formal Languages and Automata Theory	Departmental Core	3
CS201	Data Structures and Applications	Basic Engineering Skills	4
MC201	Group and Ring Theory	Departmental Core	3
MC202	Introduction to Probability and Random Process	Departmental Core	3
MA204	Number Theory	Departmental Core	3
CS231	Introduction to Python Programming	Basic Engineering Skills	1
	Total		17

Semester 4 (18 credits)			
<i>Code</i>	<i>Course</i>	<i>Type of course</i>	<i>Credits</i>
MC220	Introduction to Optimization	Departmental Core	3
CS261	Database Management Systems	Departmental Core	3
MC210	Real Analysis	Departmental Core	3
CS202	Design and Analysis of Algorithms	Departmental Core	3
MA307	Numerical Linear Algebra	Departmental Core	3
MC205	Introduction to Applied Statistics	Basic Science	3
LAxxx	LA/CA Elective	LA/CA Elective	2
	Total		20

Semester 5 (20 credits)			
<i>Code</i>	<i>Course</i>	<i>Type of course</i>	<i>Credits</i>
MCxxx	Linear Systems and Signal Processing	Departmental Core	3
CSxxx	Introduction to Operating Systems	Basic Engineering Skills	1
MCxxx	Cryptography and its Applications	Departmental Core	3
MCxxx	Numerical Analysis	Departmental Core	3
XXxxx	Complex and Functional Analysis	Departmental Core	3
MCxxx	Financial Mathematics	Departmental Core	3
CSxxx	Introduction to Compilers	Basic Engineering Skills	2
LAxxx	LA/CA Elective	LA/CA Elective	2
	Total		20

Semester 6 (17 credits)			
<i>Code</i>	<i>Course</i>	<i>Type of course</i>	<i>Credits</i>
MAxxx	Departmental Elective 1	Departmental Core Course	3
MCxxx	Mini Project - 1	Project	3
XXxxx	Engineering Elective 1	Engineering Elective	3
XXxxx	Free Elective 1	Free Elective	3
XXxxx	Free Elective 2	Free Elective	3
LAxxx	LA/CA Elective	Liberal Arts Elective/Creative Arts	2
	Total		17
	<i>Internship optional</i>		<i>Credits</i>
MCxxx	Industry Project		6

Semester 7 (15 credits)			
<i>Code</i>	<i>Course</i>	<i>Type of course</i>	<i>Credit</i>
MCxxx	Departmental Elective 2	Departmental Core	3
MAxxx	Departmental Elective 3	Departmental Core	3
MCxxx	Departmental Elective 4 / Mini project II	MC Elective	3
MAxxx	Departmental Elective	Departmental Core	3
XXxxx	Free Elective 3	Free Elective	3
	Total		15
	<i>Internship optional (6 credits)</i>		<i>Credit</i>
MCxxx	Industry Project		6

Semester 8 (9 credits)			
<i>Code</i>	<i>Course</i>	<i>Type of course</i>	<i>Credit</i>
MCxxx	Major Project	Departmental/Industry Project	9
	Total		9

B.Tech Mathematics and Computing curriculum credits distribution: 130

Semester	Departmental Core + Electives	LA/CA Electives	Basic Science & Basic Engineering Skills	Free Electives	Total credits
1	5	2	9	0	16
2	9	2	5	0	16
3	12	0	5	0	17
4	15	2	3	0	20
5	15	2	3	0	20
6	9	2	0	6	17
7	12	0	0	3	15
8	9	0	0	0	9
Total	86	10	25	9	130

Split-up of 130 credits	Credits range	Credits
Between 18-25% Basic Sciences & Basic Engineering Skills	25 - 35	25
Between 60-68% Departmental subjects	80 - 90	86
Between 6-8% Liberal/Creative Arts	6 - 10	10
Between 6-8% Free electives	9-12	9
		130