Indian Institute of Information Technology, Allahabad
Department of Information Technology

UG curriculum proposal
(with effect from July 2018)

Total Credit : 160

Semester 1				**Total Credit : 20**	
Sl.No.	Course Name	Code	Type	Credit	L-T-P
1	Physics		Hard	4	2–1–1
2	Linear Algebra		Hard	4	3–1–0
3	Introduction to Programming		Hard	4	2–1–1
4	Fundamentals of Electrical & Electronics Engg.		Hard	4	2–1–1
5	Professional Communication		Hard	2	1–0–1
6	Principles of Management		Hard	2	1–1–0
					11–10–08
			Total	20	29

Semester 2				**Total Credit : 22**	
Sl.No.	Course Name	Code	Type	Credit	L-T-P
1	Discrete Mathematical Structures		Hard	4	3–1–0
2	Univariate and Multivariate Calculus		Hard	4	3–1–0
3	Computer Organization and Architecture		Hard	4	2–1–1
4	Data Structures		Hard	4	2–1–1
5	Principles of Communication Engineering		Hard	4	2–1–1
6	Principle of Economics		Hard	2	2–0–0
					14–10–06
			Total	22	30

Semester 3				**Total Credit : 20**	
Sl.No.	Course Name	Code	Type	Credit	L-T-P
1	Probability and Statistics		Hard	4	3–1–0
2	Theory of Computation		Hard	4	2–1–1
3	Object Oriented Methodologies		Hard	4	2–1–1
4	Operating System		Hard	4	2–1–1
5	Introduction to Finance		Hard	2	2–0–0
6	Introduction to Marketing		Hard	2	1–0–1
					12–08–08
			Total	20	28

Semester 4				**Total Credit : 20**	
Sl.No.	Course Name	Code	Type	Credit	L-T-P
1	Design and Analysis of Algorithms		Hard	4	2–1–1
2	Principles of Programming Language		Hard	4	2–1–1
3	Computer Networks		Hard	4	2–1–1
4	Software Engineering		Hard	4	2–1–1
5	Database Management System		Hard	4	2–1–1
					10–10–10
			Total	20	30

Semester 5				**Total Credit : 24**	
Sl.No.	Course Name	Code	Type	Credit	L-T-P
1	Network Security		Hard	4	2–1–1
2	Graphics and Visual Computing		Hard	4	2–1–1
3	Introduction to Machine Learning		Hard	4	2–1–1
4	Image and Video Processing		Hard	4	2–1–1
5	Artificial Intelligence		Hard	4	2–1–1
6	Mini Project - I		Soft	4	0–1–3
					10–12–16
			Total	24	30 (+8)

Semester 6				**Total Credit : 22**	
Sl.No.	Course Name	Code	Type	Credit	L-T-P
1	Data Mining		Hard	4	2–1–1
2	Mini Project - II		Soft	6	0–1–5
3	Elective		Soft	4	2–1–1
4	Elective		Soft	4	2–1–1
5	Elective		Soft	4	2–1–1
					08–10–18
			Total	22	24(+12)

Semester 7				**Total Credit : 16**	
Sl.No.	Course Name	Code	Type	Credit	L-T-P
1	Mini Project - III		Soft	8	0–1–7
2	Elective		Soft	4	2–1–1
3	Elective		Soft	4	2–1–1
					04–06–18
			Total	16	12(+16)

Semester 8				**Total Credit : 16**	
Sl.No.	Course Name	Code	Type	Credit	L-T-P
1	Project		Soft	12	0–2–10
2	Elective		Soft	4	2–1–1
					02–06–22
			Total	16	16(+24)

Note:

A candidate can earn a maximum of 24 credits in any semester through regular registration.

Mini Project grades shall not be counted against any specialization.

While choosing courses for elective, a minimum of 16 credits should be chosen from IT department ONLY.

Extra-curriculum electives will be run only on Saturday and Sunday.

UG Electives of Different Baskets

Basket Name	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**
Machine Learning*	Convex Optimization	Pattern Recognition	Probabilistic ML & Graphical Model	Information Retrieval	Advance Data Analytics	Natural Language Processing	Deep Learning	
Image and Visual Analytics*	Computer Vision	Visual Recognition	Computational AstroPhysics	Biometrics	Pattern Recognition	Data Compression	Document Image Analysis	Remote Sensing and GIS
Software Engineering	oftware Requirements Engineering	Agile Software Engineering	Software Design & Architecture	Software Quality Management	Software Testing and Quality Assurance	Software Security	Software Metrics	Software Process Managem ent
Human Computer Interaction	Virtual Reality	Advanced Graphics & Animation	Pattern Recognition	Computer Vision	Visual Recognition	Soft Computing	Cognitive Modeling	Principles of Interactio n Design
Robotics & AI*	Robotics & Industrial Automation	Robot Motion Planning	Deep Learning	Soft Computing	Virtual Reality	Computer Vision	Pattern Recognitio n	
Information Security	Cryptography	Intrusion Detection System	Principles of Cyber Security	Information Security & Management	Computer Forensics	Blockchain & Cryptocurren cy	Database Security	
Networks*	Wireless Sensor Networks	Wireless Networks	Mobile Computing	Internet Protocols	Network Operating System	Mobile Data Management	Informatio n Security & Managem ent	
Cognition & Recognition*	Cognitive Modeling	Computer Vision	Visual Recognition	Probabilistic ML & Graphical Model	Natural Language Processing	Cognitive Computing	Advanced Data Analytics	
Systems	Parallel Computing	Compiler Design	Real Time Operating System	Cyber Physical Systems	Distributed Systems	Network Science	Formal Methods & Applicatio ns	

Extra-Curriculum Basket				
Basket Name	Infmn.	B1	B2	B3
First Semester	+ 4 credits may be earned from these basket	Athletics/Yoga	Indian Languages	
Second Semester	+ 2 credits may be earned from these basket	Sports		
Third Semester	+ 4 credits may be earned from these basket	Foreign Languages		
Fourth Semester	+ 4 credits may be earned from these basket	Programming Languages (eg.MATLAB, R)		