

2.3.1 Credit Requirements for School of Engineering (UG) Program

Credits Requirement for Engineering UG (B.Tech.)			
Category of Course	Number of Theory Courses*Credits	Number of Lab /Practice Courses*credits	Total Credits
Basic Science	$6*4 = 24$	-----	24
Engineering Science	$6* 4 =24$	---	24
Humanities and Social Sciences including Management Courses	$2*3 +1*4 = 10$	---	10
Professional Core	$12 * 3 = 36$	$12 * 1 = 12$	48
Professional Elective	$5* 3 = 15$	$2 *1 = 2$	17
Open Elective	$3 * 3 =9$	--	09
Skill Enhancement Courses	$1* 1 =2$	$6* 1= 6$	08
Value Added Courses	$4*1=4$	$1*1=1-$	05
Ability Enhancement Course	$3*1 =3$	-	03
Project/Internship (PR)	-	$2*1 + 1*4 +1*10=16$	16
Total	127	37	164*

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*This indicates the minimum credit requirement

4.1.3 Computer Science and Engineering (CSE)

First - Year Course Structure (I Semester)							
S. No.	Course Category	Course Code	Course Title	L	P	T	Credits
1			Induction Training program (Includes UHV-1 Course)				
2	BS	PHY-100	Applied Physics	3	2	0	4
3	BS	MTH-100	Engineering Mathematics - I	3	0	1	4
4	ES	ECE-100	Basic Electronics Engineering	3	2	0	4
5	ES	CSE-100	Problem Solving using C Programming	3	2	0	4
6	HS	ENG-100	English for Technical Writing	3	2	0	4
7	SEC	MEC-101	IDEA Lab	0	2	0	1
8	VAC	ENG-101	Universal Human Values - II	1	0	0	1
Total Credits							22

First - Year Course Structure (II Semester)							
S. No.	Course Category	Course Code	Course Title	L	P	T	Credits
1	BS	CHE-100	Applied Chemistry	3	2	0	4
2	BS	MTH-101	Engineering Mathematics -II	3	0	1	4
3	ES	EEE-100	Basic Electrical Engineering	3	2	0	4
4	ES	CSE -101	Data Structure using C	3	2	0	4
5	ES	MEC-100	Introduction to Engineering Mechanics and Drawing	3	2	0	4
6	SEC	MEC-102	Design Thinking	0	2	0	1
7	VAC	YOG-100 NSS-100 NCC-100	NCC / NSS / YOGA*	0	2	0	1
Total Credits							22

* One of those courses can be chosen by the student as per his/her interest

Second - Year Course Structure (III Semester)							
S. No.	Course Category	Course Code	Course Title	L	P	T	Credits
1	BS	MTH-200	Probability and Statistics	3	0	1	4
2	PC	CSE-200	Design and Analysis of Algorithm	3	2	0	4
3	ES	ECE-200	Digital Logic Design	3	2	0	4
4	PC	CSE-201	Python Programming	3	2	0	4
5	PC	CSE-202	Database Management Systems	3	2	0	4
6	AEC	ENG-200	Soft Skills-1	1	0	0	1
7	VAC	CVL-200	Environmental Science and Engineering	1	0	0	1
Total Credits							22

Second - Year Course Structure (IV Semester)							
S. No.	Course Category	Course Code	Course Title	L	P	T	Credits
1	BS	MTH-201	Discrete Mathematics	3	0	1	4
2	PC	CSE-203	Object Oriented Program through Java	3	2	0	4
3	PC	CSE-204	Operating Systems	3	2	0	4
4	PC	CSE-205	Computer Organization and Architecture	3	2	0	4
5	HS	MGT-202	Organizational Behaviour/Engg. Economics	3	0	0	3
6	SEC	CAI-200	Artificial Intelligence Tools	0	2	0	1
7	SEC	MGT-200	Aptitude & Reasoning-I	0	2	0	1
8	VAC	ENG-201	Constitution of India	1	0	0	1
Total Credits							22

Third - Year Course Structure (V Semester)							
S. No.	Course Category	Course Code	Course Title	L	P	T	Credits
1	PC	CSE-300	Full Stack Development	3	2	0	4
2	PC	CSE-301	Computer Networks	3	2	0	4
3	PC	CSE-302	MACHINE LEARNING	3	2	0	4
4	PE	xxx-xxx*	Professional Elective - I	3	0	0	3
5	SEC	CSE-304	Lab based project		2		1
6	OE	xxx-xxx*	Open Elective - I	3	0	0	3
7	VAC	ENG-300	Essence of Indian Tradition Knowledge	1	0	0	1
8	SEC	MGT-300	Aptitude and Reasoning-II	1	0	0	1
9	PR	CSE-303	Internship		2		1
Total Credits							22

*Course Code for PE& OE (XXX-XXX) will be one of the following.

Professional Elective - I	Open Elective - I
CSE-303: Data Mining CAI-301: Machine Learning for Data Science CSE-304: Embedded Systems and ARM CSE-305: Distributed Systems	CSE-309: Introduction to Operating Systems CSE-310: Introduction to Database Management Systems.

Third - Year Course Structure (VI Semester)							
S. No.	Course Category	Course Code	Course Title	L	P	T	Credits
1	PE	CSE-3xx	Professional Elective-II	3	0	0	3
2	PC	CSE-311	Formal Languages and Automata Theory	3	2	0	4
3	PC	CSE-312	Computer Vision and Pattern Recognition	3	2	0	4
4	PE	xxx-xxx*	Professional Elective-III	3	2	0	4
5	OE	xxx-xxx*	Open Elective - II	3	0	0	3
6	AEC	ENG-302	Business communication and interview skill	1	0	0	1
7	AEC	ENG-301	Soft Skill - II	1	0	0	1
8	SEC	CSE 3xx	-----	1	2		2
Total Credits							22

*Course Code for PE& OE (XXX-XXX) will be one of the following.

<p>Professional Elective - II CSE-306: Image Processing CSE-307: Mathematics for Machine Learning CSE-308: Information Retrieval System CAI-308: Image and Video Processing</p> <p>Professional Elective-III CSE-313: Soft Computing CSE-314: Agile Methodology CSE-315: Graph Theory CSE-316: IOT Applications</p>	<p>Open Elective - II CSE-317: Cyber Security CSE-318: Programing in C #</p>
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Fourth - Year Course Structure (VII Semester)							
S. No.	Course Category	Course Code	Course Title	L	P	T	Credits
1	PC	CSE-400	Cryptography and Network Security	3	2	0	4
2	PE	xxx-xxx*	Professional Elective - IV	3	0	0	3
3	PE	xxx-xxx*	Professional Elective - V	3	2	0	4
4	OE	xxx-xxx*	Open Elective - III	3	0	0	3
5	HS	MGT-400	Entrepreneurship Development	3	0	0	3
6	PR	CSE-410	Project Phase-II	0-	8-	0-	4
7	PR		Internship	-	-	-	1
Total Credits							22

*Course Code for PE& OE (XXX-XXX) will be one of the following.

Professional Elective - IV CSE-401: Compiler Design CAI-402: AI in Healthcare CSE-402: Natural Language Processing CSE-403: Deep Learning	Open Elective - III CSE-408: Fundamental of Cloud Computing CSE-409: Blockchain Technologies
Professional Elective - V CSE-404: Human Computer Interaction CSE-405: Cyber Forensics CSE-406: Ad-hoc and Sensor Networks CSE-407: Quantum Computing	

Fourth - Year Course Structure (VIII Semester)							
S. No.	Course Category	Course Code	Course Title	L	P	T	Credits
1	PR	CSE-411	Project Phase -II	-	-	-	10
Total Credits							10