

**Kolhapur Institute of Technology's  
College of Engineering (Autonomous),  
Kolhapur**



**Department of Computer Science and Engineering (AIML)  
Curriculum and Syllabus  
for  
B. Tech. Computer Science and Engineering (AIML)  
Scheme: 2024-25 (As Per NEP)**

## ABOUT THE DEPARTMENT

Welcome to the department of Computer science and engineering (Artificial Intelligence and Machine learning). The department is established in 2021-22. The adoption of artificial intelligence/ Machine Learning (AI/ML) is growing worldwide. Artificial Intelligence and Machine Learning has become one of the fastest-growing engineering streams due to the tremendous rise of computer intelligent systems and their integration into all aspects of our life. Whether it's a basic cell phone or a complex space shuttle, computing systems are present everywhere and play a very important role in all aspects of our life.

AI attempts to artificially instill intelligence in robots by simulating human intellect. Machine learning (ML) is an AI application that aims to give machines the ability to learn on their own. AI and machine learning are key drivers of digital transformation and have resulted in a slew of new career opportunities. Engineers who are well versed in these technologies are in high demand.

## DEPARTMENT VISION

To emerge as a leading department in Technical Education and Research in Computer Science and Engineering, especially in the Artificial Intelligence and Machine Learning domain with focus to produce professionally competent and socially sensitive engineers capable of working in a global environment.

## DEPARTMENT MISSION

<b>M1</b>	To impart necessary technical and professional skills in the field of Computer Science and Engineering with specialization of Artificial Intelligence and Machine Learning amongst students to make them competent enough from an employability, higher education & entrepreneurship point of view with commitment towards lifelong learning.
<b>M2</b>	To produce the socially sensitive engineers capable of working in a global IT environment who will be competent technocrats to meet current industrial challenges
<b>M3</b>	To establish effective institute-industry interaction where students will be adapting to current industrial tools and techniques.
<b>M4</b>	To enable the graduates to use modern tools, to design and develop Artificial Intelligence and Machine Learning enabled products and communicate effectively with professional ethics.

## PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

<b>PEO1</b>	Graduate will gain knowledge in core computer science and engineering fields such as networks, data management and application development.
<b>PEO2</b>	Graduate will gain knowledge in Artificial Intelligence, Machine Learning, Deep learning, and Computer vision.
<b>PEO3</b>	Graduate will demonstrate technical skills, competency in AI & ML and exhibit team management capability with proper communication in a job environment.
<b>PEO4</b>	Graduate will carry out research in the advanced areas of AI & ML and address the basic needs of the society.

PROGRAMME OUTCOMES (PO)	
PO1	<b>Engineering Knowledge:</b> Apply the knowledge of mathematics, basic science and in-depth technical competence in computer science and engineering discipline to meet the solution of complex engineering problems.
PO2	<b>Problem Analysis:</b> Identify, formulate, review various computer science research literature, and analyze complex engineering problems using basic principles of mathematics, natural sciences, and engineering sciences to reach substantiated conclusions
PO3	<b>Design/development of Solutions:</b> Design software solutions for complex computer science and engineering problems and design system processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	<b>Conduct Investigations of Complex Problems:</b> Use research-based knowledge and research methods in the field of computer science and engineering including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions
PO5	<b>Modern Tool Usage:</b> Create, select, and apply appropriate techniques, resources, and software tools including prediction and modeling to complex engineering activities with an understanding of the limitations
PO6	<b>The engineer and society:</b> Apply reasoning obtained from the contextual knowledge of computer science to assess societal, health, safety, legal and cultural issues, and the consequent responsibilities relevant to the professional engineering practice
PO7	<b>Environment and sustainability:</b> Understand the impact of the software solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	<b>Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the computer science and engineering practice
PO9	<b>Individual and team work:</b> Function effectively as an individual, and as a member or Leader in diverse teams, and in multidisciplinary settings.
PO10	<b>Communication:</b> Communicate effectively on complex computer engineering activities with the engineering community and with society at large, such as being able to make effective presentations, write effective reports and design documentation.
PO11	<b>Project management and finance:</b> Demonstrate knowledge and understanding of the software engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	<b>Life-long learning:</b> Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of computer engineering and technological change.

PROGRAMME SPECIFIC OUTCOMES (PSO)	
PSO1	<b>Academic competence:</b> Apply the concepts of Mathematics, Data Structure, Database System, Operating System, Programming, Networking, and Intelligence System in core areas of Artificial Intelligence and Machine Learning to solve industry and societal problems.
PSO2	<b>Personal and Professional Competence:</b> Develop models in Data Science, Machine learning, Deep learning and Bigdata technologies, using acquired AI & ML knowledge and modern tools. Also apply the skills in Health Care, Education, Agriculture, Intelligent Transport, Environment, Smart System and in the multi-disciplinary area of Artificial Intelligence and Machine Learning.

MAPPING OF PEOs TO POs												
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PEO1	3		1		3			1				1
PEO2	1	2	3	1	2			3				3
PEO3	1		1					2	3		3	2
PEO4	1	1		3		3	1	2		1		2

MAPPING OF PEOs TO PSOs		
	PSO1	PSO2
PEO1	2	2
PEO2	-	3
PEO3	1	2
PEO4	2	3

As per NEP Guidelines											
Proposed Scheme of Credit Distribution											
	Year	FY		SY		TY		B. Tech.			
Sr. No.	Type of Course	I	II	III	IV	V	VI	VII	VIII	Actual	NEP Guidelines
1	BS: Basic Science	8	8							16	14-18
2	ES: Engineering Science	7	6							13	12-16
3	PC: Programme Core	3		16	15	10	11	11		66	44-56
4	PE: Programme Elective					3	3	3	6	15	20
5	MM: Multi Minor			2	3	3	3	3		14	14
6	OE: Open Elective					3	3	2		8	8
7	VS: Vocational and Skill Enhancement course	1	3		1	1				6	8
8	AE: Ability Enhancement		3			1				4	4
9	EM: Entrepreneurship /Economics/ Management courses (Mgt/Economics/Mkt/Finance)			2			2			4	4
10	IK: Indian Knowledge System	2								2	2
11	VE: Value Education			2	2					4	4
12	IL: Research Methodology (Project)							4		4	4
13	IL: Comm. Engg Project/Field Project (PBL/Seminar/Mini Project)					1	1			2	2
14	IL: Project								4	4	4
15	IL: Internship/OJT (PBL/Seminar/Mini Project/Virtual Internship/Physical)			1	1				6	8	12
16	CC: Co-curricular Courses		1		1		1		1	4	4
		20-22	20-22	20-22	20-22	20-22	20-22	20-22	20-22	174	
		21	21	23	23	22	2	23	17	174	

SEMESTER III												
Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs/ Week	Credits	Evaluation Scheme (Components)			
1	PC	UAMPC0301	Discrete Mathematics and Graph Theory	3	1	-	4	4	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
2	PC	UAMPC0302	Linear Algebra	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
3	PC	UAMPC0303	Advanced Data Structures	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
4	PC	UAMPC0304	Database Management System	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
5	VEC	UAMVE0305	Constitution of India	2	-	-	2	2	ISE	50	20	20
6	HSSM	UAMEM0306	Principles of AIML	2	-	-	2	2	ESE	50	20	20
7	PC	UAMPC0331	Advanced Data Structures Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	50	20	
8	PC	UAMPC0332	Database Management System Laboratory			2	2	1	ISE	25	10	
									ESE (POE)	25	10	
9	PC	UAMPC0333	Software System Tools Laboratory			2	2	1	ISE	25	10	
10	OJT	UAMIL0371	Mini Project-I			2	2	1	ISE	50	20	
11	MM	UAMMM03**	MM-1	2			2	2	ESE	100	40	
			Total:				27	23	Total Marks: 800 Total Credit: 23			

SEMESTER IV												
Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs/ Week	Credits	Evaluation Scheme (Components)			
1	PC	UAMPC0401	Computer Networks	2	-	-	2	2	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
2	PC	UAMPC0402	Automata Theory	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
3	PC	UAMPC0403	Design And Analysis of Algorithms	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
4	PC	UAMPC0404	Statistics and Probability	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
5	PC	UAMPC0405	Object Oriented Programming in Java	2	-	-	2	2	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
6	VEC	UAMVE0406	Environmental Studies	2	-	-	2	2	ISE	50	20	20
7	PC	UAMPC0431	Object Oriented Programming Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
8	PC	UAMPC0432	Data Analytics & Visualization Tools Laboratory	-	-	2	2	1	ISE	25	10	
9	OJT	UAMIL0471	Mini Project-II	-	-	2	2	1	ISE	25	10	
10	VSEC	UAMVS0433	AI DS Tools Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
11	CC	UAMCC0434	Co-curricular Activities-II	-	-	2	2	1	ISE	50	20	
12	MM	UAMMM04**	MM-2	3	-		3	3	ESE	100	40	
			Total:				28	23	Total Marks: 850 Total Credit: 23			

# SEMESTER V

SEMESTER V												
Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs/ Week	Credits	Evaluation Scheme (Components)			
1	PC	UAMPC0501	Machine Learning	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
2	PC	UAMPC0502	Computer Organization and Operating System	2	-	-	2	2	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
3	PC	UAMPC0503	Exploratory Data Analytics	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
4	PE	UAMPE05**	Program Elective-I	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
5	OE	UAMOE0521	Open Elective-I	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
6	HSSM	UAMAE0534	Business Communication and Value Science	-	-	2	2	1	ISE	50	20	20
7	PC	UAMPC0531	Machine Learning Laboratory	-	-	2	2	1	ISE	25	10	
8	PC	UAMPC0532	Advanced Java Programming Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
10	VSEC	UAMVS0533	Exploratory Data Analytics Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
11	CEP	UAMIL0571	Mini Project (Android)-III	-	-	2	2	1	ISE	25	10	
12	MM	UAMMM05**	MM-3	3	-	-	3	3	ESE	100	40	
			Total:				27	22	Total Marks: 800 Total Credit: 22			



SEMESTER VI												
Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs/ Week	Credits	Evaluation Scheme (Components)			
1	PC	UAMPC0601	Deep Learning	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
2	PC	UAMPC0602	Natural Language Processing	2	-	-	2	2	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
3	PC	UAMPC0603	Image Processing & Computer Vision	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
4	PE	UAMPE06**	Program Elective-II	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
5	OE	UAMOE0621	Open Elective-II	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
6	HSSM	UAMEM0604	Software Engineering & Project Management	2	-	-	2	2	ESE	50	20	20
7	PC	UAMPC0631	Deep Learning Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
8	PC	UAMPC0632	Image Processing & Computer Vision Laboratory	-	-	2	2	1	ISE	25	10	
9	PC	UAMPC0633	Advanced Web Development Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
10	CEP	UAMIL0671	Mini Project -IV	-	-	2	2	1	ISE	25	10	
11	CC	UAMCC0634	Co-curricular Activities-III	-	-	2	2	1	ISE	50	20	
12	MM	UAMMM06**	MM-4	3	-	-	3	3	ESE	100	40	
			Total:				29	24	Total Marks: 850 Total Credit: 24			

## SEMESTER VII

SEMESTER VII												
Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs/ Week	Credits	Evaluation Scheme (Components)			
1	PC	UAMPC0701	Information Security	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
2	PC	UAMPC0702	Generative AI	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
3	PC	UAMPC0703	Internet of Things & Cloud Computing	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
4	PE	UAMPE07**	Program Elective-III	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
5	OE	UAMOE0721	Open Elective-III	2	-	-	2	2	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
6	PC	UAMPC0731	Advance Deep Learning Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
7	PC	UAMPC0732	ML DevOps Laboratory	-	-	2	2	1	ISE	25	10	
									ESE (POE)	25	10	
8	RM	UAMIL0771	Project-I	-	-	2	2	4	ISE I	50	40	
									ESE (OE)	50		
12	MM	UAMMM07**	MM-5	3	-	-	3	3	ESE	100	40	
			Total:				23	23	Total Marks: 800 Total Credit: 23			

SEMESTER VIII												
Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs/Week	Credits	Evaluation Scheme (Components)			
1	PE	UAMPE08**	Program Elective-IV	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
2	OE	UAMPE08**	Program Elective-V	3	-	-	3	3	ISE1	10		40
									MSE	30		
									ISE2	10		
									ESE	50	20	
3	RM	UAMIL0871	Project-II	-	-	8	8	4	ISE I	50		40
									ESE (OE)	50		
4	OJT	UAMIL0872	Internship	-	-	12	12	6	ISE I	75		75
									ISE II	75		
5	CC	UAMCC0831	Co-curricular Activities-IV	-	-	2	2	1	ISE	50		20
			Total:				28	17	Total Marks: 500 Total Credit: 17			

PC: PROGRAM CORE							
Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UAMPC0301	Discrete Mathematics and Graph Theory	3	1	-	4	4
2	UAMPC0302	Linear Algebra	3	-	-	3	3
3	UAMPC0303	Advanced Data Structures	3	-	-	3	3
4	UAMPC0304	Database Management System	3	-	-	3	3
5	UAMPC0331	Advanced Data Structures Laboratory	-	-	2	2	1
6	UAMPC0332	Database Management System Laboratory	-	-	2	2	1
7	UAMPC0333	Software System Tools Laboratory	-	-	2	2	1
8	UAMPC0401	Computer Networks	2	-	-	2	2
9	UAMPC0402	Automata Theory	3	-	-	3	3
10	UAMPC0403	Design And Analysis of Algorithms	3	-	-	3	3
11	UAMPC0404	Statistics and Probability	3	-	-	3	3
12	UAMPC0405	Object Oriented Programming in Java	2	-	-	2	2
13	UAMPC0431	Object Oriented Programming Laboratory	-	-	2	2	1
14	UAMPC0432	Data Analytics & Visualization Tools Laboratory	-	-	2	2	1
15	UAMPC0501	Machine Learning	3	-	-	3	3
16	UAMPC0502	Computer Organization and Operating System	2	-	-	2	2
17	UAMPC0503	Exploratory Data Analytics	3	-	-	3	3
18	UAMPC0531	Machine Learning Laboratory	-	-	2	2	1
19	UAMPC0532	Advanced Java Programming Laboratory	-	-	2	2	1
20	UAMPC0601	Deep Learning	3	-	-	3	3
21	UAMPC0602	Natural Language Processing	2	-	-	2	2
22	UAMPC0603	Image processing & Computer Vision	3	-	-	3	3
23	UAMPC0631	Deep Learning Laboratory	-	-	2	2	1
24	UAMPC0632	Image processing & Computer Vision Laboratory	-	-	2	2	1
25	UAMPC0633	Advanced Web Development Laboratory	-	-	2	2	1
26	UAMPC0701	Information Security	3	-	-	3	3
27	UAMPC0702	Generative AI	3	-	-	3	3
28	UAMPC0703	Internet of Things & Cloud Computing	3	-	-	3	3
29	UAMPC0731	Advanced Deep Learning Laboratory	-	-	2	2	1
30	UAMPC0732	ML DevOps Laboratory	-	-	2	2	1
		Total:				75	63

PE: PROGRAM ELECTIVE– I							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./ Week	Credits
1	UAMPE0511	Human Computer Interaction (UI/UX) (PE-I)	3	-	-	3	3
2	UAMPE0512	Intelligent Robot (PE-I)	3	-	-	3	3
3	UAMPE0513	Storage Area Networks (PE-I)	3	-	-	3	3

PE: PROGRAM ELECTIVE - II							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./ Week	Credits
1	UAMPE0611	Business Intelligence (PE-II)	3	-	-	3	3
2	UAMPE0612	Introduction to Augmented Reality Virtual Reality (ARVR) (PE-II)	3	-	-	3	3
3	UAMPE0613	Robotics Process Automation (PE-II)	3	-	-	3	3

PE: PROGRAM ELECTIVE - III							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./ Week	Credits
1	UAMPE0711	AI in healthcare (PE-III)	3	-	-	3	3
2	UAMPE0712	Time Series Analysis (PE-III)	3	-	-	3	3
3	UAMPE0713	Data Mining (PE-III)	3	-	-	3	3

PE: PROGRAM ELECTIVE - IV							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./ Week	Credits
1	UAMPE0811	Big Data Analytics (PE-IV)	3	-	-	3	3
2	UAMPE0812	Nature Inspired Computing (PE-IV)	3	-	-	3	3
3	UAMPE0813	Edge Computing (PE-IV)	3	-	-	3	3

PE: PROGRAM ELECTIVE - V							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./ Week	Credits
1	UAMPE0814	AI in smart manufacturing (PE-V)	3	-	-	3	3
2	UAMPE0815	AI in finance (PE-V)	3	-	-	3	3

### MM: Multi-Disciplinary Minor Courses - Biomedical Engineering (Basket 1)

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UAMMM0341	Basics of Biomedical Engineering (MM-I)	2	-	-	2	2
2	UAMMM0441	Biostatistics and Algorithms (MM-II)	3	-	-	3	3
3	UAMMM0541	Soft Computing (MM-III)	3	-	-	3	3
4	UAMMM0641	Medical Image Analysis (MM-IV)	3	-	-	3	3
5	UAMMM0741	AI based Medical Automation (MM-V)	3	-	-	3	3
Total:						14	14

### MM: Multi-Disciplinary Minor Courses - Finance Engineering (Basket 2)

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UAMMM0342	Fundamentals of Finance for Engineering (MM-I)	2	-	-	2	2
2	UAMMM0442	Blockchain Technologies and FinTech (MM-II)	3	-	-	3	3
3	UAMMM0542	Time Series Analysis (MM-III)	3	-	-	3	3
4	UAMMM0642	Machine Learning for Finance (MM-IV)	3	-	-	3	3
5	UAMMM0742	Deep Learning for Finance (MM-V)	3	-	-	3	3
Total:						14	14

### MM: Multi-Disciplinary Minor Courses - Embedded Systems (Basket 3)

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UAMMM0343	Digital Electronics (MM-I)	2	-	-	2	2
2	UAMMM0443	Microprocessor and Microcontrollers (MM-II)	3	-	-	3	3
3	UAMMM0543	Embedded Systems (MM-III)	3	-	-	3	3
4	UAMMM0643	IoT with Arduino and Raspberry Pi (MM-IV)	3	-	-	3	3
5	UAMMM0743	AI in Embedded Systems (MM-V)	3	-	-	3	3
Total:						14	14

VS: VOCATIONAL AND SKILL ENHANCEMENT COURSE							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./Week	Credits
1	UAMVS0433	AI DS Tools Laboratory	-	-	2	2	1
2	UAMVS0533	Exploratory Data Analytics Laboratory	-	-	2	2	1

AE: ABILITY ENHANCEMENT COURSE							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./Week	Credits
1	UAMAE0534	Business Communication and Value Science	-	-	2	2	1

EM: ENTREPRENEURSHIP /ECONOMICS/ MANAGEMENT COURSES							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./Week	Credits
1	UAMEM0306	Principles of AIML	2	-	-	2	2
2	UAMEM0604	Software Engineering & Project Management	2	-	-	2	2

VE: VALUE EDUCATION COURSE							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./Week	Credits
1	UAMVE0305	Constitution of India	2	-	-	2	2
2	UAMVE0406	Environmental Studies	2	-	-	2	2

IL: RESEARCH METHODOLOGY (PROJECT)							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./Week	Credits
1	UAMIL0771	Project-I	-	-	2	2	4

IL: COMMUNITY ENGINEERING PROJECT / FIELD PROJECT (PBL/SEMINAR/MINI-PROJECT)							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./Week	Credits
1	UAMIL0571	Mini Project (Android)-III	-	-	2	2	1
2	UAMIL0671	Mini Project -IV	-	-	2	2	1

IL: PROJECT							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./ Week	Credits
1	UAMIL0871	Project-II	-	-	2	2	4

IL: INTERNSHIP/ON JOB TRAINING							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./ Week	Credits
1	UAMIL0371	Mini Project-I	-	-	2	2	1
2	UAMIL0471	Mini Project-II	-	-	2	2	1
3	UAMIL0872	Internship	-	-	12	12	6

CC: CO-CURRICULAR COURSES							
Sr. No.	Course Code	Course Name	L	T	P	Hrs./ Week	Credits
1	UAMCC0434	Co-curricular Activities-II	-	-	2	2	1
2	UAMCC0634	Co-curricular Activities-III	-	-	2	2	1
3	UAMCC0831	Co-curricular Activities-IV			2	2	1

EX: EXIT COURSES - SY							
Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UAMEX0491	Certified Web Developer	3	-	-	3	3
2	UAMEX0492	Foundation Course in Machine Learning Using Python	3	-	-	3	3
3	UAMEX0493	Training	2	-	-	2	2
		Total:				8	8

EX: EXIT COURSES - TY							
Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UAMEX0691	Foundation Course in Artificial Intelligence Applications	3	-	-	3	3
2	UAMEX0692	Foundation Course in Information Security	3	-	-	3	3
3	UAMEX0693	Training	2	-	-	2	2
		Total:				8	8



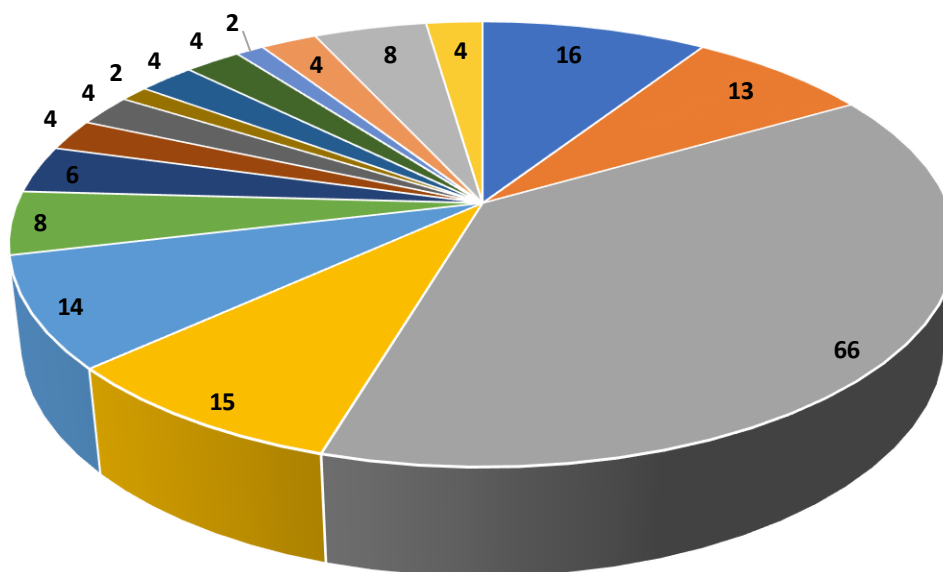
### HN: B. TECH HONORS (CYBER SECURITY)

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UAMHN0351	Fundamentals of Cyber Security	3	1	-	4	4
2	UAMHN0451	Applied Cryptography	3	1	-	4	4
3	UAMHN0551	Ethical Hacking	3	1	-	4	4
4	UAMHN0651	Blockchain Technology	3	1	-	4	4
5	UAMHN0751	Mini Project	2	-	-	2	2
<b>Total:</b>						<b>18</b>	<b>18</b>

### MN: Emerging Minor Specialization Courses

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UAMMN0361	Learning Analytics	3	1	-	4	4
2	UAMMN0461	ML DevOps	3	1	-	4	4
3	UAMMN0561	Advanced Deep Learning	3	1	-	4	4
4	UAMMN0661	Generative AI	3	1	-	4	4
5	UAMMN0761	Vision Transformer	2	-	-	2	2
<b>Total:</b>						<b>18</b>	<b>18</b>

## Credit Distribution



- Basic Science course
- Engineering Science course
- Programme Core Courses
- Programme Elective Course
- Multi Minor
- Open elective
- Vocational and Skill Enhancement course
- Ability enhancement course
- Entrepreneurship /Economics/ Management courses (Mgt/Economics/Mkt/Finance)
- Indian knowledge system
- Value Education course
- Research Methodology (Project)
- Comm. Engg Project/Field Project (PBL/Seminar/Mini Project)
- Project
- Internship/OJT (PBL/Seminar/Mini Project/Virtual Internship/Physical)
- Co-curricular courses

*Pie chart showing the distribution of credits*