



**Dr. D. Y. Patil Educational Federation's
Dr. D. Y. Patil College of Engineering and Innovation**

APPROVED BY AICTE, RECOGNIZED BY GOVT. OF MAHARASHTRA,
AUTONOMOUS INSTITUTE AFFILIATED TO SAVITRIBAI PHULE PUNE UNIVERSITY
Accredited by NAAC with "A" Grade



ACADEMIC COURSE STRUCTURE

SY, TY, B. Tech.

Artificial Intelligence and Machine Learning (AI-ML),

B. Tech. 4 YEAR UG COURSE

(Applicable for the batches admitted from AY 2025-2026 at FY)

Dr. D. Y. Patil College of Engineering & Innovation

Survey No. 27/A/1/2C, Varale Campus,

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Tal. Maval, Dist. Pune 410 507,

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Vision and Mission of the Institute

Vision of DYPCOEI

To achieve excellence in quality education through value based rapidly changing technologies and create technical Human-Resource with proficiencies of accepting new challenges.

Mission of DYPCOEI

M1: Continuously strive to impart value-based education to elevate the satisfaction level of all stakeholders.

M2: Take dedicated efforts to create competent professionals by effective teaching learning process with passion of lifelong learning attitude.

M3: Our endeavour is to promote and support innovative research, entrepreneurship and development activities through Industry Interaction.

Vision and Mission of the Department

Vision of Department

To cultivate innovative professionals who can apply Artificial Intelligence and Machine learning concepts to real-world problems and contribute to the society and industry through interdisciplinary knowledge and skills.

Mission of Department

M1: To impart skill-based (Artificial Intelligence and Machine Learning) education through a effective teaching-learning process.

M2: To establish Innovation and Entrepreneur ecosystem which provides solutions for the technological challenges of industry, society and the nation.

M3: To set-up an industry-institute interface and research environment for the development of students through research and team work activities.

Program Educational Objectives (PEOs)

PEO1: Prepare graduates who will be able to apply the concepts of Machine Learning while deriving solutions for real-life problems.

PEO2: Inculcate ability of communication, soft skills, ethics and work in a team while demonstrating the professionalism in the corporate world.

PEO3: Impart life-long learning towards Artificial Intelligence while using new trends and technologies.

PEO4: Develop research ability among students while understanding, analysing the problems and designing solutions innovatively.

Knowledge and Attitude Profile (WK)

A Knowledge and Attitude Profile (KAP), often represented as WK (Knowledge and Attitude Profile) in some contexts, is a framework or assessment tool used to evaluate an individual's knowledge and attitudes related to a specific area, topic, or domain

- WK1:** A systematic, theory-based understanding of the natural sciences applicable to the discipline and awareness of relevant social sciences.
- WK2:** Conceptually-based mathematics, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline.
- WK3:** A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.
- WK4:** Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.
- WK5:** Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports engineering design and operations in a practice area.
- WK6:** Knowledge of engineering practice (technology) in the practice areas in the engineering discipline.
- WK7:** Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development.
- WK8:** Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.
- WK9:** Ethics, inclusive behaviour and conduct. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability etc. with mutual understanding and respect, and of inclusive attitudes.

Program Outcomes (POs)

- PO1: Engineering Knowledge:** Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.
- PO2: Problem Analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)
- PO3: Design/Development of Solutions:** Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)
- PO4: Conduct Investigations of Complex Problems:** Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).
- PO5: Engineering Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)
- PO6: The Engineer and The World:** Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).
- PO7: Ethics:** Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)
- PO8: Individual and Collaborative Team work:** Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
- PO9: Communication:** Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences
- PO10: Project Management and Finance:** Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
- PO11: Life-Long Learning:** Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

Program Specific Outcomes (PSOs)

PSO1: Inculcate ability to apply and analyse key concepts of Artificial Intelligence and Machine Learning to find solutions to real world problems.

PSO2: Rigorous hand-on training to enhance the skills in emerging trends and technologies while implementing Machine Learning.

PSO3: Train the students for their understanding towards their responsibility, working in a team and contributing while developing of model, product or application as part of student's projects.

Program Outcomes (PO) Mapping with WA & WK													
(As per National Board of Accreditation (NBA))													
			Knowledge and Attitude Profile (WK)										
PO	Domain	WA	1	2	3	4	5	6	7	8	9		
P01	Engineering Knowledge	WA1	X	X	X	X						Analysis of problems & synthesis of solutions	
P02	Problem Analysis	WA2	X	X	X								
P03	Design/development of solutions	WA3					X						
P04	Investigation	WA4								X			
P05	Tool Usage	WA5		X				X					
P06	The Engineer and the World	WA6	X				X		X			Responsibilities	
P07	Ethics	WA7									X		
P08	Individual and Collaborative Team work	WA8									X	Required In work place	
P09	Communication	WA9											
P010	Project Management and Finance	WA10											
P011	Lifelong learning	WA11								X			

Program – B. Tech. (Artificial Intelligence and Machine Learning)
(Autonomous Curriculum Structure for students admitted from AY 2025-26 at FY)

A. Definition of Credit:

1 Hr. Lecture (L) per week	1 credit
1 Hr. Tutorial (T) per week	1 credit
2 Hours Practical (Lab) per week	1 credit

B. Range of Credits:

Student will become eligible to get Under Graduate (UG) **B. Tech. degree in Artificial Intelligence and Machine Learning** after earning **160 credits**. A student will be eligible to get Under **Graduate degree with Honors** or additional **Minor Engineering**, if he/she completes an additional **20 credits from SEM-V to SEM-VIII**.

C. Credit for B. Tech. Degree in Artificial Intelligence and Machine Learning

Sr. No.	Year	Semester	Credits
1	First Year	I	22
2		II	22
3	Second Year	III	21
4		IV	23
5	Third Year	V	18
6		VI	18
7	Final Year	VII	18
8		VII	18
Total Credits			160

D. Structure of B. Tech. program

Abbreviation	Course Type	Credit
BSC	Basic Science Courses	18
ESC	Engineering Science Courses	12
PCC	Program Core Courses	44
PEC	Program Elective Courses	20
CEP	Community Engagement Project	02
VEC	Value Education Courses	04
IAP	Internship and Project	14
MDM	Multidisciplinary Minor	14
OEC	Open Elective Courses	08
VSE	Vocational and Skill Enhancement Course	06
REM	Research Methodology	04
EMC	Entrepreneurship and Management Courses	04
AEC	Ability Enhancement Course	04
CCC	Co-curricular Courses	04
IKS	Indian Knowledge System	02
Total		160

E. Minor Structure: B. Tech. (Computer Engineering)

Sr. No.	Courses Name	SEM	Credits
1	Database Management Systems	V	3
2	Database Management Systems Laboratory		2
3	Fundamental of Web Technology	VI	3
4	Fundamental of Web Technology Laboratory		2
5	Cryptography and System Security	VII	3
6	Cryptography and System Security Laboratory		2
7	Software Testing and Quality Assurance	VIII	3
8	Software Testing and Quality Assurance Laboratory		2
Total			20

F. Honors Courses: Cyber Security

Sr. No.	Courses Name	SEM	Credits
1	Network Security and Cryptography	V	5
2	Ethical Hacking	VI	5
3	Secure Software Development	VII	5
4	Cyber risk management and Compliance	VII I	5
Total			20

Honors Courses: Internet of Things

Sr. No.	Courses Name	SEM	Credits
1	Introduction to Internet of Things	V	5
2	Embedded IoT	VI	5
3	Cloud Integrated IoT Systems	VII	5
4	Security in Industrial IoT	VII I	5
Total			20

Honors Courses: Generative AI

Sr. No.	Courses Name	SEM	Credits
1	Generative Ai Introduction and Applications	V	5
2	Prompt Engineering basics	VI	5
3	Explainable AI	VII	5
4	Natural Language Processing	VII I	5
Total			20

Credit Distribution of Various Courses across Eight Semesters:

SEM	Total Marks	No. of Credits for Course Category															Total Credit
		BSC	ESC	PCC	PEC	MDM	OEC	VSE	AEC	EMC	IKS	VEC	REM	CEP	IAP	CCC	
I	700	9	6	4				1	2								22
II	700	9	6	3				1			2					1	22
III	700			9		2	4			2		2		2			21
IV	700			8		2	2	2	2	2		2			2	1	23
V	700			4	8	4	2										18
VI	700			4	4	2		2							4	2	18
VII	700			6	2	2							4		4		18
VIII	700			6	6	2									4		18
Total	5600	18	12	44	20	14	8	6	4	4	2	4	4	2	14	4	160



**Department Autonomous
Co-ordinator
DYPCOEI**

**Head of Department
Artificial Intelligence and Machine Learning
DYPCOEI**

**Dean Academics
DYPCOEI**

**Director
DYPCOEI**

2.0 Course Structure – Artificial Intelligence and Machine Learning**2.1 Course Structure – S.Y. B.Tech. (Artificial Intelligence and Machine Learning)****Artificial Intelligence and Machine Learning - Second Year (Semester –III)****Level - 5**

Sr. No.	Code	Course Title	Hours/week			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	AMPCC201T	Transforms and Numerical Methods	3	--	--	3	50	50	--	--	--	100
2	AMPCC202T	Data Structures	2	--	--	2	50	50	---	--	--	100
3	AMPCC203T	Artificial Intelligence	2	--	--	2	50	50	--	--	--	100
4	ILMDM201T	Multidisciplinary Minor-I	2	--	--	2	50	50	--	--	--	100
5	AMPCC204P	Data Structures using Artificial Intelligence Laboratory	--	--	4	2	--	--	25	50	25	100
6	AMVEC205W	Social Well-being	1	1	--	2	--	--	25	--	--	25
7	AMCEP206O	Community Engagement - Field Project	--	--	4	2	--	--	25	--	50	75
8	ILOEC201O	Open Elective Courses I	2	--	--	2	--	--	25	--	25	50
9	ILOEC202W	Open Elective Courses II	2	--	--	2	--	--	25	--	--	25
10	AMEMC207W	Entrepreneurship and Start-up Ecosystem	1	1	--	2	--	--	25	--	--	25
Total			15	02	08	21	200*	200#	150\$	50\$	100\$	700

MDM-I (ILMDM201T)

ILMDM201T-1	Smart cities and intelligent infrastructure
ILMDM201T-2	Fundamentals of autonomy and intelligent behaviour
ILMDM201T-3	Introduction to smart and precision agriculture
ILMDM201T-4	Fundamentals of electric vehicles and comparison with ICE vehicles
ILMDM201T-5	Fundamentals of additive manufacturing
ILMDM201T-6	Fundamentals of healthcare systems and digital health
ILMDM201T-7	Microcontrollers and Industrial Applications

Open Elective -I (ILOEC201O)**Open Elective -II (ILOEC202W)**

ILOEC201O-1	Engineering Economics	ILOEC202W-1	MOOC- I
ILOEC201O-2	AI in Finance Management	ILOEC202W-2	Foreign Language- I
ILOEC201O-3	Digital Finance	ILOEC202W-3	UHV
ILOEC201O-4	Financial Literacy	ILOEC202W-4	Sustainable Development and Employability Skills

Artificial Intelligence and Machine Learning - Second Year (Semester –IV)

Level - 5

Sr. No.	Code	Course Title	Hours/week			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	AMPCC208T	Operating systems	2	--	--	2	50	50	--	--	--	100
2	AMPCC209T	Data Structures and Algorithms	2	--	--	2	50	50	--	--	--	100
3	AMPCC210T	Machine Learning Algorithms	2	--	--	2	50	50	--	--	--	100
4	ILMDM202T	Multidisciplinary Minor-II	2	--	--	2	50	50	--	--	--	100
5	AMPCC211P	Data Structures and Algorithms using Machine Learning Laboratory	--	--	4	2	--	--	25	50	--	75
6	AMVSE212P	Power BI for Beginners Laboratory	--	--	4	2	--	--	--	50	--	50
7	AMIAP213W	Internship	--	--	4	2	--	--	25	--	--	25
8	AMVEC214W	Sustainable Development	2	--	--	2	--	--	25	--	--	25
9	ILOEC203O	Open Elective Courses III	2	--	--	2	--	--	25	--	25	50
10	AMAEC215W	Reasoning and Aptitude Development	1	1	--	2	--	--	25	--	--	25
11	AMEMC216O	Technology Commercialization and start-up Development	1	1	--	2	--	--	--	--	25	25
12	AMCCC217W	Co-Curriculum Course-II	--	--	2	1	--	--	25	--	--	25
Total			14	02	14	23	200*	200#	150\$	50\$	100\$	700

MDM-II (ILMDM202T)

ILMDM202T-1	Sustainable energy and environment
ILMDM202T-2	Perception, sensing, and sensor fusion
ILMDM202T-3	Robotics and automation in farming operations
ILMDM202T-4	Electric powertrain architecture and motor technologies
ILMDM202T-5	3D printing processes: FDM, SLA, SLS, DMLS, Binder Jetting, etc.
ILMDM202T-6	AI techniques (ML, DL, NLP, CV) in diagnostics and prognosis
ILMDM202T-7	Introduction to Embedded Processors

Open Elective -III (ILOEC203O)

ILOEC203O-1	Digital Marketing
ILOEC203O-1	Critical Thinking and Problem Solving
ILOEC203O-3	Ethics in Artificial Intelligence

Co-Curriculum Course II (AMCCC217W)

- Technical Events/Quiz/Paper Contest/Project Contest / Model Making etc.
- MOOC/ NPTEL/ SWAYAM/ Coursera etc. related to Professional Development and Social Activity
- Competitions/ Events Conducted by Professional Societies (ISTE, IEI, CSI, IEEE, IETE, SAE, ISRO-IIRS, SWE, ISHRAE, ASM, ISNT etc.)
- Attending Full time Conference/ Seminars/ Exhibitions/ Workshop/ STTP Conducted at IITs/ NITs/ Reputed Institutes/ Universities
- Attending Full time Conference/ Seminars/ Exhibitions/ Workshop/ STTP Conducted at DYPCOEI
- Paper Presentation in National/ International Conference of High Repute
- Poster Presentation in National/ International Conference of High Repute
- Paper Publication in National/ International Journal of High Repute
- Industrial Training/ Internship (at least for 04 Weeks)
- Participation in Institute Level Student Clubs
- Elected Student Representative of Student Council (University Representative, General Secretary, Cultural, Sports, NSS Secretary, Ladies Representative, Academic Toppers, Invitee Members)
- Office Bearer of Professional Society Chapter (ISTE, IEI, CSI, IEEE, IETE, SAE, ISRO-IIRS, SWE, ISHRAE, ASM, ISNT etc.)
- Office Bearer of Institute Level Student Club
- Office Bearer of Departmental Student Association
- Office Bearer of E-Cell, Digital Content Lab etc.
- Student Ambassador for Mayura AICTE IDEA Lab/ NIDHI iTBI etc.
- Editorial Board Member of Annual Magazine
- Editorial Board Member of E-Newsletter
- Member of Governance Committee/ Statutory Committee

2.2 Course Structure – T.Y. B.Tech. (Artificial Intelligence and Machine Learning)

Artificial Intelligence and Machine Learning - Third Year (Semester –V)												
Level - 5												
Sr. No.	Code	Course Title	Hours/week			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	AMPCC301T	Deep Learning and Neural Network	2	--	--	2	50	50	--	--	--	100
2	AMPEC302T	Program Elective Courses I	3	--	--	3	50	50	--	--	--	100
3	AMPEC303T	Program Elective Courses II	3	--	--	3	50	50	--	--	--	100
4	ILMDM303T	Multidisciplinary Minor-III	2	--	--	2	50	50	--	--	--	100
5	ILMDM304T	Multidisciplinary Minor-IV	2	--	--	2	50	50	--	--	--	100
6	AMPCC304P	Deep Learning and Neural Network Laboratory	--	--	4	2	--	--	50	50	--	100
7	AMPEC305P	Program Elective Course -I & II Laboratory	--	--	4	2	--	--	--	50	--	50
8	ILOEC304W	Open Elective Courses IV	--	--	4	2	--	--	50	--	--	50
Total			13	--	12	18	250*	250 [#]	100 ^{\$}	100 ^{\$}	--	700

Program Elective-I (AMPEC302T)		Program Elective-II (AMPEC303T)	
AMPEC302T (A)	Responsible AI	AMPEC303T (A)	Information Retrieval in AI
AMPEC302T (B)	Python for Data Science	AMPEC303T (B)	Web Development – Frontend
AMPEC302T (C)	Machine Learning Operations	AMPEC303T (C)	Human Computer Interface
AMPEC302T (D)	Data Warehousing & Mining	AMPEC303T (D)	Data Visualization

MDM-III (ILMDM303T)		MDM-IV (ILMDM304T)	
ILMDM303T-1	Role of IoT, AI, and data analytics in sustainability	ILMDM304T-1	Waste, water, and resource management
ILMDM303T-2	AI and machine learning for autonomous decision-making	ILMDM304T-2	Robotics and embedded systems
ILMDM303T-3	IoT and wireless sensor networks for field monitoring	ILMDM304T-3	AI and data analytics for crop prediction and decision-making
ILMDM303T-4	Battery systems and energy storage technologies	ILMDM304T-4	Power electronics and charging systems
ILMDM303T-5	CAD modelling and slicing software	ILMDM304T-5	Materials for 3D printing: plastics, metals, ceramics, composites, bio-materials
ILMDM303T-6	Medical imaging analysis using AI	ILMDM304T-6	Predictive analytics for patient monitoring and disease outbreaks
ILMDM303T-7	Embedded Machine Learning	ILMDM304T-7	Introduction to Microcontroller and IoT

Open Elective -IV (ILOEC304W)	
ILOEC304W-1	Intellectual Property Rights
ILOEC304W-2	MOOC- 2
ILOEC304W-3	Foreign Language-2

Artificial Intelligence and Machine Learning - Third Year (Semester –VI)

Level -5

Sr. No.	Code	Course Title	Hours/week			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	AMPCC306T	Design and Analysis of Algorithm	3	--	--	3	50	50	--	--	--	100
2	AMPEC307T	Program Elective Courses III	3	--	--	3	50	50	--	--	--	100
3	ILMDM305T	Multidisciplinary Minor-V	2	--	--	2	50	50	--	--	--	100
4	AMVSE309T	R Programming for AI	2	--	--	2	50	50	--	--	--	100
5	AMPCC309P	Design and Analysis of Algorithm Laboratory	--	--	2	1	--	--	25	50	--	75
6	AMPEC310O	Program Elective Courses III Laboratory	--	--	2	1	--	--	50	--	50	100
7	AMIAP311O	Mini Project and Seminar	--	--	8	4	--	--	50	--	50	100
8	AMCCC312W	Co-Curriculum Course-III	--	--	4	2	--	--	25	--	--	25
Total			10	--	16	18	200*	200#	150\$	50\$	100\$	700

Program Elective-III (AMPEC310T)

AMPEC310T (A)	GPU Programming and Architecture in AI
AMPEC310T (B)	Web Development – Backend
AMPEC310T (C)	Brain Machine Interface
AMPEC310T (D)	Distributed Systems

MDM-V (ILMDM305T)

ILMDM305T-1	Life-cycle thinking and system optimization
ILMDM305T-2	Real-time systems and control
ILMDM305T-3	Drone technologies in agriculture (e.g., for spraying, mapping)
ILMDM305T-4	Vehicle dynamics and control systems
ILMDM305T-5	Design for Additive Manufacturing (DfAM)
ILMDM305T-6	AI in drug discovery and personalized medicine
ILMDM305T-7	Embedded System and RTOS

Co-Curriculum Course III (AMCCC312W)

• Prototype Developed and Tested
• Awards for Products Developed
• Innovative Technologies Developed and Used by Industries
• Got Funding from Government/ Industry for Innovative Ideas
• Patent-Filed/ Published/ Approved/ Licensed
• Social Innovations
• Implementation of Mind Mapping
• Idea to Market: Implementation of Startup
• Development of Business Model through Technology

2.3 Course Structure – B.Tech. (Artificial Intelligence and Machine Learning)

Artificial Intelligence and Machine Learning – B. Tech. (Semester –VII)												
Level - 5												
Sr. No.	Code	Course Title	Hours/week			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	AMPCC401T	Generative AI	2	--	--	2	50	50	--	--	--	100
2	AMPCC402T	AI for Intelligent Systems	2	--	--	2	50	50	--	--	--	100
3	AMPEC403T	Program Elective Courses IV	2	--	--	2	50	50	--	--	--	100
4	ILMDM406T	Multidisciplinary Minor-VI	2	--	--	2	50	50	--	--	--	100
5	AMREM404T	Research Methodology	4	--	--	4	50	50	--	--	--	100
6	AMPCC405P	Generative AI Laboratory	--	--	2	1	--	--	25	25	--	50
7	AMPCC406P	AI for Intelligent Systems Laboratory	--	--	2	1	--	--	25	25	--	50
8	AMIAP407O	Project Stage I	--	--	8	4	--	--	50	--	50	100
Total			12	--	12	18	250*	250[#]	100^{\$}	50^{\$}	50^{\$}	700

Program Elective-IV (AMPEC403T)

AMPEC403T (A)	Bioinformatics using AI
AMPEC403T (B)	API Development and Testing
AMPEC403T (C)	Generative Adversarial Networks
AMPEC403T (D)	Big Data Modelling

MDM-VI (ILMDM406T)

ILMDM406T-1	Sustainable mobility and urban planning
ILMDM406T-2	Human-machine interaction and ethics
ILMDM406T-3	Automated irrigation and fertigation systems
ILMDM406T-4	Environmental impact and sustainability of EVs
ILMDM406T-5	Post-processing techniques and quality control
ILMDM406T-6	Clinical decision support systems (CDSS)
ILMDM406T-7	System Engineering

Artificial Intelligence and Machine Learning – B. Tech. (Semester –VIII)

Level - 5

Sr. No.	Code	Course Title	Hours/week			Credits	Examination scheme					
			L	T	P		CCE	SEE	TW	PR	OR	Total
1	AMPCC408T	Artificial Neural Networks	2	--	--	2	50	50	--	--	--	100
2	AMPCC409T	Natural Language Processing	2	--	--	2	50	50	--	--	--	100
3	AMPEC410T	Program Elective Courses V	3	--	--	3	50	50	--	--	--	100
4	AMPEC411T	Program Elective Courses VI	3	--	--	3	50	50	--	--	--	100
5	ILMDM407T	Multidisciplinary Minor-VII	2	--	--	2	50	50	--	--	--	100
6	AMPCC412P	Artificial Neural Networks Laboratory	--	--	2	1	--	--	25	25	--	50
7	AMPCC413P	Natural Language Processing Laboratory	--	--	2	1	--	--	25	25	--	50
8	AMIAP414O	Project Stage II	--	--	8	4	--	--	50	--	50	100
Total			12	--	12	18	250*	250#	100\$	50\$	50\$	700

Program Elective-V (AMPEC411T)		Program Elective-VI (AMPEC412T)	
AMPEC411T (A)	Robotics and Autonomous Systems	AMPEC412T (A)	Computational Intelligence
AMPEC411T (B)	DevOps and Agile Software Development	AMPEC412T (B)	AWS: Cloud Computing Services
AMPEC411T (C)	Reinforcement Learning	AMPEC412T (C)	Convolutional Neural Networks
AMPEC411T (D)	Predictive Modelling and Analytics	AMPEC412T (D)	Time Series System

MDM-VII (ILMDM407T)

ILMDM407T-1	Policy frameworks and Sustainable Development Goals
ILMDM407T-2	Applications in transportation, healthcare, defence, and industry 4.0
ILMDM407T-3	Sustainable practices and environmental impact
ILMDM407T-4	EV infrastructure, standards, and smart grid integration
ILMDM407T-5	Applications in medical, automotive, aerospace, and prototyping
ILMDM407T-6	Ethical, regulatory, and legal issues in AI for healthcare
ILMDM407T-7	Capstone Project using Microcontrollers Lab (CPML)

#	Semester End Examination (SEE) based on subjective questions.
\$	LAB /Practical or Hands-on/ Activity based Evaluation.
*	Comprehensive Continuous Evaluation (CCE) based on Unit Tests, Home Assignment/Comprehensive, Presentation/Group Discussion/Laboratory Work/Course Project/Viva Voce/Blog Writing/Case Study/Survey/Multiple-Choice Question (MCQ) examination.
@	For MOOCs: Assignments marks will be converted on the scale of 50 marks.
%	For MOOCs: Score of examination conducted by the respective authority of MOOC or Score of SEE Conducted by Institute will be converted on the scale of 50 marks.