MIT | Academy of Engineering

(An Autonomous Institute Affiliated to Savitribai Phule Pune University)

MIT ACADEMY OF ENGINEERING, ALANDI

Curriculum for
Bachelor of Technology in
Civil Engineering

(Choice Based Credit System)

REVISION 2022 (2.0)

(Four Year Curriculum W.E.F, AY: 2022-2023)

BoS Chairman Civil Engineering	Member Secretary Academic Council Dean Academics	Chairman Academic Council Director MITAOE

INSTITUTE VISION

To be a new age learning center for holistic development of students into professional engineers, to cater to the changing needs of techno-society.

INSTITUTE MISSION

- **To provide new-age infrastructural facilities blended with skill-based curriculum and activity-based pedagogical approaches to develop competitive engineering professionals to solve real-world problems.**
- **To prepare students for lifelong learning by transforming educational practices.**
- **To promote ethical and moral values by involving students in community services.**
- **To promote entrepreneurship and managerial skills by strengthening industry-institute interaction.**

SCHOOL OF CIVIL ENGINEERING

VISION

To be a state-of-the-art School of Civil Engineering dedicated to the holistic development of students by imparting knowledge for ever-changing industrial, ecological & social needs.

MISSION

- **To provide state-of-the-art infrastructure facilities combined with skill-based education and outcome-based pedagogical practices in order to build competent engineering professionals who can address real-world challenges in civil engineering.**
- **To nurture students for professional growth by transforming civil engineering educational practices focusing on research aptitude.**

- **To imbibe students for humanitarian efforts in order to elevate moral and ethical responsibilities for society.**
- **To enhance entrepreneurial and managerial skills by developing Industry Institute relations.**

PROGRAM EDUCATIONAL OBJECTIVES(PEO's)

PEO	PROGRAM EDUCATIONAL OBJECTIVES(PEO's)
PEO 1	Civil Engineering graduates will be successful professionals in their fields.
PEO 2	Civil Engineering graduates will be inspired to pursue advanced degrees with a research attitude.
PEO 3	Civil Engineering graduates will exhibit the character of responsible citizens of society.

PO	PROGRAM OUTCOMES (POs)
PO1	**Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.
PO4	**Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	**The Engineer and Society:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and sustainability:** Understand the impact of professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project Management and Finance:** Demonstrate knowledge and understanding of the 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	**Life-Long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PSO	PROGRAM SPECIFIC OUTCOMES (PSO's)
PSO 1	Plan, survey, map, analyze and design for all civil engineering structures.
PSO 2	Build the systems with efficiency and long-term environmental sustainability.

COMMON CURRICULUM FRAMEWORK (Revision 2022 (2.0))

The Bachelor of Technology Program shall be based on the following type of courses.

COURSE AND CREDIT DISTRIBUTION: SEMESTER-WISE												
S.N.	TYPE OF COURSE	NO. OF COURSES/SEMESTER (CREDITS)								Total Courses	Total Credits	%
		1	2	3	4	5	6	7	8			
1.	Basic Science Courses (BSC)	2(8)	2(8)							4	16	10
2.	Engineering Science (ESC)	3(11)	3(9)							6	20	12
3.	Program Core Course (PCC)			3(12)	3(10)	2(8)	2(8)	2(7)	1(4)	13	49	29
4.	Program Elective Course (PEC)					1(4)	1(4)	1(4)	1(3)	4	15	9
5	Vocational and Skill Enhancement Course (VSEC)		1(2)	1(2)	1(2)	1(2)	1(2)			5	10	6
6	Multi-Disciplinary Minor(MDM)			1(4)		1(3)	1(3)	1(2)	1(3)	5	15	9
7	Open Elective (OE)				2(6)				1(2)	3	8	5
8	Ability Enhancement Courses (HSSM AEC)	1(1)	1(1)				1(2)			3	4	2
9	Management/Entrepreneurship/Economics Courses (HSSM MEC)							1(2)		1	2	1
10	Indian Knowledge System (HSSM IKS) & Co-curricular (CC)											
11	Value Education Course (HSSM VEC)			1(3)	1(2)					2	5	3
12	Experiential Learning/ Project/ Field Work/Community (ELC PRJ)			1(1)	1(1)	1(2)	1(2)	2(4)		6	10	6
13	Experiential Learning Summer/ Semester Long Internship (ELC SI)					1(2)		1(4)	1(8)	3	14	8
Audit Courses		**1(0)**	**1(0)**		**1(0)**					**3**	**0**	**0**
TOTAL		**7 (20)**	**8 (20)**	**7 (22)**	**9 (21)**	**7 (21)**	**7 (21)**	**9 (23)**	**5 20)**	**59**	**168**	**100**

CREDITS (CONTACT HOURS)							
1 Lecture Hour = 1 Credit, 2 Lab Hours = 1 Credit, 1 Tutorial Hour = 1 Credit							
SL. NO.	YEAR	SEMESTER CREDIT			SEMESTER CONTACT HOURS		
		1	2	TOTAL	1	2	TOTAL
1.	First Year	**20(18)**	**20(22)**	**40**	**28**(26)	**28**(30)	**56**
2.	Second Year	**22**	**21**	**43**	**31**	**30**	**61**
3.	Third Year	**21**	**21**	**42**	**27**	**31**	**58**
4.	Final Year	**23**	**20**	**40**	**23**	**13**	**36**
TOTAL				**168**			**220**

COURSE CATEGORIES ABBREVIATION	
BSC	Basic Science Course
ESC	Engineering Science Course
PCC	Programme Core Course
PEC	Programme Elective Course
MDM	Multi-Disciplinary Minor
OE	Open Elective
VSEC	Vocational and Skill Enhancement Course
HSSM AEC	Humanities Social Science Management Ability Enhancement Courses
HSSM MEC	Humanities Social Science Management/Entrepreneurship/ Economics Course
HSSM IKS	Humanities Social Science Management Indian Knowledge System
HSSM VEC	Humanities Social Science and Management Value Education Course
ELC PRJ	Experiential Learning Course Project/ Field Work/ Community Engagement Project
ELC SI	Experiential Learning Course Student's Internship (Summer/ Semester Long/ Year Long)
CC	Co-Curricular Courses

ABBREVIATIONS			
TH	Theory Lecture	CA	Continuous Assessment
P	Practical Lab	T/P	Term Work / Practical
TU	Tutorial	DM	Demonstration
IA	Internal Assessment	Lab	Laboratory
MSE	Mid Semester Exam		
ESE	End Semester Exam		

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MIT ACADEMY OF ENGINEERING, ALANDI

Curriculum for

First Year

Bachelor of Technology

REVISION 2022 (2.0)

(First Year Curriculum W.E.F., AY: 2022-2023)

MIT | Academy of Engineering (An Autonomous Institute Affiliated to Savitribai Phule Pune University)	COURSE STRUCTURE (REVISION 2022)		
SCHOOL OF CIVIL ENGINEERING	W. E. F	:	2022-2023
FIRST YEAR BACHELOR OF TECHNOLOGY	RELEASE DATE	:	01/11/2022
	REVISION NO.	:	2.0

SEMESTER: I (PART A)

INDUCTION PROGRAM

COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
TYPE	CODE	NAME	Hour/Week			THEORY			PRACT		TOTAL	
			L	P	T	IA	MSE	ESE	CA	D/P		
BSC	AS105	Calculus and Differential Equations	3	-	1	30	20	50	30	20	150	4
BSC	AS106	Engineering Physics	3	2	-	30	20	50	30	20	150	4
ESC	ET101	Electrical and Electronics Engineering	3	2	-	30	20	50	30	20	150	4
ESC	ME107	Engineering Graphics	2	2	-	15	20	40	30	20	125	3
ESC	CS103	Foundations of Computing	2	4	-	15	20	40	50	25	150	4
HSSM AEC	HP107/ (10/12/14)	English for Communication /(German/Japanese/French)	-	2	-	-	-	-	50	-	50	1
HSSM VEC	HP109	Universal Human Values	2	-	-	-	-	-	-	-	Audit	
TOTAL			**15**	**12**	**1**						**775**	**20**

SEMESTER: II (PART A)

COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
TYPE	CODE	NAME	Hour/Week			THEORY			PRACT		TOTAL	
			L	P	T	IA	MSE	ESE	CA	D/P		
BSC	AS107	Statistics and Integral Calculus	3	-	1	30	20	50	30	20	150	4
BSC	CH101	Science of Nature	3	2	-	30	20	50	30	20	150	4
ESC	CV103	Applied Mechanics	2	2	-	15	20	40	30	20	125	3
ESC	ME106	Design Thinking	1	2	-	40	-	-	-	35	75	2
ESC	CS104	Essentials of Data Science	2	4	-	15	20	40	50	25	150	4
HSSM AEC	HP108 (11/13/15)	Functional English /(German/Japanese/French)	-	2	-	-	-	-	50	-	50	1
VSEC	ET104	Emerging Technologies	1	2	-	25	-	-	-	50	75	2
HSSM VEC	HP106	Indian Constitution	1	-	-	-	-	-	-	-	Audit	
TOTAL			**13**	**14**	**1**						**775**	**20**

MIT | Academy of Engineering (An Autonomous Institute Affiliated to Savitribai Phule Pune University)	COURSE STRUCTURE (REVISION 2022)		
SCHOOL OF CIVIL ENGINEERING	W.E.F	:	2022-2023
FIRST YEAR BACHELOR OF TECHNOLOGY	RELEASE DATE	:	01/11/2022
	REVISION NO.	:	2.0

SEMESTER: I (PART B)

INDUCTION PROGRAM

COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
TYPE	CODE	NAME	Hour/Week			THEORY			PRACT		TOTAL	
			L	P	T	IA	MSE	ESE	CA	D/P		
BSC	AS105	Calculus and Differential Equations	3	-	1	30	20	50	30	20	150	4
BSC	CH101	Science of Nature	3	2	-	30	20	50	30	20	150	4
ESC	CV103	Applied Mechanics	2	2	-	15	20	40	30	20	125	3
ESC	ME106	Design Thinking	1	2	-	40	-	-	-	35	75	2
ESC	CS103	Foundations of Computing	2	4	-	15	20	40	50	25	150	4
HSSM AEC	HP107/ (10/12/14)	English for Communication /(German/Japanese/French)	-	2	-	-	-	-	50	-	50	1
HSSM VEC	HP109	Universal Human Values	2	-	-	-	-	-	-	-	Audit	
TOTAL			**13**	**12**	**1**						**700**	**18**

SEMESTER: II (PART B)

COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
PE	CODE	NAME	Hour/Week			THEORY			PRACT		TOTAL	
			L	P	T	IA	MSE	ESE	CA	D/P		
BSC	AS107	Statistics and Integral Calculus	3	-	1	30	20	50	30	20	150	4
BSC	AS106	Engineering Physics	3	2	-	30	20	50	30	20	150	4
ESC	ET101	Electrical and Electronics Engineering	3	2	-	30	20	50	30	20	150	4
ESC	ME107	Engineering Graphics	2	2	-	15	20	40	30	20	125	3
ESC	CS104	Essentials of Data Science	2	4	-	15	20	40	50	25	150	4
VSEC	ET104	Emerging Technologies	1	2	-	25	-	-	-	50	75	2
HSSM AEC	HP108/ (11/13/15)	Functional English /(German/Japanese/French)	-	2	-	-	-	-	50	-	50	1
HSSM VEC	HP106	Indian Constitution	1	-	-	-	-	-	-	-	Audit	
TOTAL			**15**	**14**	**1**						**850**	**22**

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REVISION 2022 (2.0)

(Second Year Curriculum W.E.F., AY: 2023-2024)

MIT Academy of Engineering (An Autonomous Institute Affiliated to Savitribai Phule Pune University)	COURSE STRUCTURE (REVISION 2022)		
SCHOOL OF CIVIL ENGINEERING	W. E. F	:	2023-2024
SECOND YEAR BACHELOR OF TECHNOLOGY (CIVIL ENGINEERING)	RELEASE DATE	:	01/07/2023
	REVISION NO.	:	2.0

SEMESTER: III

COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
			Hour/Week			THEORY			PRACT		TOTAL	
TYPE	CODE	NAME	L	P	T	IA	MSE	ESE	CA	D/P		
MDM	2303231	Material Engineering	3	2	-	30	20	50	20	30	150	4
PCC	2303211	Mechanics of Solids	3	2	-	30	20	50	20	30	150	4
PCC	2303212	Geotechnical Engineering	3	2	-	30	20	50	20	30	150	4
PCC	2303213	Building Design and Construction	3	2	-	30	20	50	20	30	150	4
VSEC	2303264	Building Information Modeling	-	4	-	-	-	-	35	40	75	2
ELC PRJ	2303291	Minor Project Design	-	2	-	-	-	-	20	30	50	1
HSSM VEC	2301287	Universal Human Values-II	1	4	-	25	-	-	-	75	100	3
TOTAL			**13**	**18**							**825**	**22**

SEMESTER: IV

COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
			Hour/Week			THEORY			PRACT		TOTAL	
TYPE	CODE	NAME	L	P	T	IA	MSE	ESE	CA	D/P		
OE	2301252	Applied Mathematics	3	2	-	30	20	50	20	30	150	4
PCC	2303214	Mechanics of Fluids	3	2	-	30	20	50	20	30	150	4
PCC	2303215	Surveying and Geospatial Engineering	1	2	-	15	-	20	20	20	75	2
PCC	2303216	Structural Analysis	3	2	-	30	20	50	20	30	150	4
VSEC	2303268	Data Analysis	-	4	-	-	-	-	35	40	75	2
OE	2311251	Prototyping	-	4	-	-	-	-	35	40	75	2
ELC PRJ	2303292	Minor Project Implementation	-	2	-	-	-	-	20	30	50	1
HSSM VEC	2301286	Environmental Science	2	-	-	35	-	40	-	-	75	2
ELC SI	2303296	Internship (Life And Soft Skills)	-	-	-	-	-	-	-	-	Audit	
TOTAL			**12**	**18**	**-**						**800**	**21**

*Two Credit Internship need to accomplish after completion of Second Year Credit Transfer in Semester V

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Curriculum for

Third Year

Bachelor of Technology

(Civil Engineering)

REVISION 2022 (2.0)

(With Effect from Academic Year: 2024-2025)

MIT | Academy of Engineering (An Autonomous Institute Affiliated to Savitribai Phule Pune University)	COURSE STRUCTURE (REVISION 2022)		
SCHOOL OF CIVIL ENGINEERING	W. E. F	:	2024-2025
THIRD YEAR BACHELOR OF TECHNOLOGY (CIVIL ENGINEERING)	RELEASE DATE	:	01/07/2022
	REVISION NO.	:	2.0

SEMESTER: V												
COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
TYPE	CODE	NAME	Hour/Week			THEORY			PRACT		TOTAL	
			TH	P	TU	IA	MSE	ESE	CA	D/P		
PCC	2303311T	Concrete Technology	3	-	-	30	20	50	-	-	100	3
	2303311L	Concrete Technology Lab	-	2	-	-	-	-	20	30	50	1
	2303312T	Water supply and Sanitation Engineering	3	-	-	30	20	50	-	-	100	3
	2303312L	Water supply and Sanitation Engineering Lab	-	2	-	-	-	-	20	30	50	1
PEC	2303321T	Construction Engineering & Management	3	-	-	30	20	50	-	-	100	3
	2303322T	Design of Steel Structures										
	2303323T	Hydrology and Irrigation Engineering										
	2303321L	Construction Engineering & Management Lab	-	2	-	-	-	-	20	30	50	1
	2303322L	Design of Steel Structures Lab										
	2303323L	Hydrology and Irrigation Engineering Lab										
VSEC	2303361L	Analysis & Design of Building Systems	-	4	-	-	-	-	35	40	75	2
	2303362L	Building Information Modeling-II										
	2303365L	Professional Certification Course										
MDM	*MDM Annexure List	Multi-Disciplinary Minor Course-II	2	-	-	15	20	40	-	-	75	2
	*MDM Annexure List	Multi-Disciplinary Minor Course-II Lab	-	2	-	-	-	-	20	30	50	1
ELC PRJ	2303391	Project - I	-	4	-	-	-	-	35	40	75	2
ELC SI	2303396	Internship (Technical)	-	-	-	-	-	-	-	75	75	2
TOTAL			11	16	-						800	21

MIT | Academy of Engineering (An Autonomous Institute Affiliated to Savitribai Phule Pune University)	COURSE STRUCTURE (REVISION 2022)		
SCHOOL OF CIVIL ENGINEERING	W. E. F	:	2024-2025
THIRD YEAR BACHELOR OF TECHNOLOGY (CIVIL ENGINEERING)	RELEASE DATE	:	01/07/2022
	REVISION NO.	:	2.0

SEMESTER: VI												
COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
TYPE	CODE	NAME	Hour/Week			THEORY			PRACT		TOTAL	
			TH	P	TU	IA	MSE	ESE	CA	D/P		
PCC	2303314T	Design of Reinforced Concrete Structures	3	-	-	30	20	50	-	-	100	3
	2303314L	Design of Reinforced Concrete Structures Lab	-	2	-	-	-	-	20	30	50	1
	2303315T	Transportation Engineering	3	-	-	30	20	50	-	-	100	3
	2303315L	Transportation Engineering Lab	-	2	-	-	-	-	20	30	50	1
PEC	2303326T	Contracts Management	3	-	-	30	20	50	-	-	100	3
	2303327T	Solid and Industrial Waste Management										
	2303328T	Formwork Design										
	2303326L	Contracts Management Lab	-	2	-	-	-	-	20	30	50	1
	2303327L	Solid and Industrial Waste Management Lab										
	2303328L	Formwork Design Lab										
VSEC	2303366L	Drone Surveying	-	4	-	-	-	-	35	40	75	2
	2303367L	Hydraulic Modeling										
	2303370L	Professional Certification Course										
MDM	*MDM Annexure List	Multi-Disciplinary Minor Course-III	2	-	-	15	20	40	-	-	75	2
	*MDM Annexure List	Multi-Disciplinary Minor Course-III Lab	-	2	-	-	-	-	20	30	50	1
HSSM AEC	2303371L	Employability and Career Development	-	4	-	-	-	-	35	40	75	2
ELC PRJ	2303392L	Project - II	-	4	-	-	-	-	35	40	75	2
TOTAL			11	20	-						800	21

*Four Credit Internship need to accomplish after completion of Third Year Credit Transfer in Semester VII

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MIT ACADEMY OF ENGINEERING, ALANDI

Curriculum for

Final Year

Bachelor of Technology

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REVISION 2022 (2.0)

(With Effect from Academic Year: 2025-2026)

MIT | Academy of Engineering (An Autonomous Institute Affiliated to Savitribai Phule Pune University)	COURSE STRUCTURE (REVISION 2022)		
SCHOOL OF CIVIL ENGINEERING	W. E. F	:	2025-2026
FINAL YEAR BACHELOR OF TECHNOLOGY (CIVIL ENGINEERING)	RELEASE DATE	:	01/07/2025
	REVISION NO.	:	2.0

SEMESTER: VII (PART A)

COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
TYPE	CODE	NAME	Hour/Week			THEORY			PRACT		TOTAL	
			TH	P	TU	IA	MSE	ESE	CA	D/P		
PCC	2303411T	Estimating and Costing	3	-	-	30	20	50	-	-	100	3
	2303411L	Estimating and Costing Lab	-	2	-	-	-	-	20	30	50	1
PCC	2303412T		3	-	-	30	20	50	-	-	100	3
PEC	2303421T	Adv Construction Techniques	3	-	-	30	20	50	-	-	100	3
	2303422T	Earthquake Engineering										
	2303423T	Environmental Planning & Impact Assessment										
	2303424T	Railway Engineering										
	2303421L	Adv Construction Techniques Lab	-	2	-	-	-	-	20	30	50	1
	2303422L	Earthquake Engineering Lab										
	2303423L	Environmental Planning & Impact Assessment Lab										
	2303424L	Railway Engineering Lab										
MDM	*MDM Annexure List	Multidisciplinary Minor Course-IV	2	-	-	15	20	40	-	-	75	2
HSSM MEC	2303476	Project Management	2	-	-	15	20	40	-	-	75	2
ELC PRJ	2303491	Project - III	-	4	-	-	-	-	35	40	75	2
ELC PRJ	2303492	Research Methodology	2	-	-	15	20	40	-	-	75	2
ELC SI	2303496	Summer Internship (Technical)	-	-	-	-	-	-	-	150	150	4
TOTAL			**15**	**08**	**-**						**850**	**23**

MIT | Academy of Engineering (An Autonomous Institute Affiliated to Savitribai Phule Pune University)	COURSE STRUCTURE (REVISION 2022)		
SCHOOL OF CIVIL ENGINEERING	W. E. F	:	2025-2026
FINAL YEAR BACHELOR OF TECHNOLOGY (CIVIL ENGINEERING)	RELEASE DATE	:	01/07/2025
	REVISION NO.	:	2.0

SEMESTER: VIII (PART A)

COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
TYPE	CODE	NAME	Hour/Week			THEORY			PRACT		TOTAL	
			TH	P	TU	IA	MSE	ESE	CA	D/P		
PCC	2303413T	Dams and Hydraulic Structures	3	-	-	30	20	50	-	-	100	3
	2303413L	Dams and Hydraulic Structures Lab	-	2	-	-	-	-	20	30	50	1
PEC	2303426T	Building Services	3	-	-	30	20	50	-	-	100	3
	2303427T	Advanced Design of Structures										
	2303428T	Air and Noise Pollution										
	2303429T	Foundation Engineering										
MDM	*MDM List	Multidisciplinary Minor Course-V	3	-	-	30	20	50	-	-	100	3
	23XXSWXX	Swayam Course	-	-	-	25		75	-	-		
OE	2303451	Professional Certification Course	2	-	-	-	-	-	-	-	75	2
ELC SI	2303497	Semester Long Internship	-	-	-	-	-	-	-	-	300	8
TOTAL			11	2							725	20

MIT | Academy of Engineering (An Autonomous Institute Affiliated to Savitribai Phule Pune University)	COURSE STRUCTURE (REVISION 2022)		
SCHOOL OF CIVIL ENGINEERING	W. E. F	:	2025-2026
FINAL YEAR BACHELOR OF TECHNOLOGY (CIVIL ENGINEERING)	RELEASE DATE	:	01/07/2025
	REVISION NO.	:	2.0

SEMESTER: VII (PART B)

COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
TYPE	CODE	NAME	Hour/Week			THEORY			PRACT		TOTAL	
			TH	P	TU	IA	MSE	ESE	CA	D/P		
PCC	2303411T	Estimating and Costing	3	-	-	30	20	50	-	-	100	3
	2303411L	Estimating and Costing Lab	-	2	-	-	-	-	20	30	50	1
PCC	2303412T		3	-	-	30	20	50	-	-	100	3
PEC	2303421T	Adv Construction Techniques	3	-	-	30	20	50	-	-	100	3
	2303422T	Earthquake Engineering										
	2303423T	Environmental Planning & Impact Assessment										
	2303424T	Railway Engineering										
	2303421L	Adv Construction Techniques Lab	-	2	-	-	-	-	20	30	50	1
	2303422L	Earthquake Engineering Lab										
	2303423L	Environmental Planning & Impact Assessment Lab										
	2303424L	Railway Engineering Lab										
MDM	*MDM Annexure List	Multidisciplinary Minor Course-IV	2	-	-	15	20	40	-	-	75	2
ELC PRJ	2303491	Project - III	-	4	-	-	-	-	35	40	75	2
ELC SI	2303497	Semester Long Internship	-	-	-	-	-	-	-	-	300	8
TOTAL			**11**	**8**	**-**						**900**	**23**

MIT | Academy of Engineering (An Autonomous Institute Affiliated to Savitribai Phule Pune University)	COURSE STRUCTURE (REVISION 2022)		
SCHOOL OF CIVIL ENGINEERING	W. E. F	:	2025-2026
FINAL YEAR BACHELOR OF TECHNOLOGY (CIVIL ENGINEERING)	RELEASE DATE	:	01/07/2025
	REVISION NO.	:	2.0

SEMESTER: VIII (PART B)

COURSE			TEACHING SCHEME			EXAMINATION SCHEME AND MARKS						CREDIT
TYPE	CODE	NAME	Hour/Week			THEORY			PRACT		TOTAL	
			TH	P	TU	IA	MSE	ESE	CA	D/P		
PCC	2303413T	Dams and Hydraulic Structures	3	-	-	30	20	50	-	-	100	3
	2303413L	Dams and Hydraulic Structures Lab	-	2	-	-	-	-	20	30	50	1
PEC	2303426T	Building Services	3	-	-	30	20	50	-	-	100	3
	2303427T	Advanced Design of Structures										
	2303428T	Air and Noise Pollution										
	2303429T	Foundation Engineering										
MDM	*MDM List	Multidisciplinary Minor Course-V	3	-	-	30	20	50	-	-	100	3
	2303SWXX	Swayam Course	-	-	-	25		75	-	-		
HSSM MEC	2301476	Project Management	2	-	-	15	20	40	-	-	75	2
OE	2303451	Professional Certification Course	2	-	-	-	-	-	35	40	75	2
ELC PRJ	2303492	Research Methodology	2	-	-	15	20	40	-	-	75	2
ELC SI	2303496	Summer Internship (Technical)	-	-	-	-	-	-	-	150	150	4
TOTAL			**15**	**2**							**725**	**20**

Basic Science Courses (BSC): 4 Courses and 15 Credits			
Sl. No.	**Course Code**	**Course Name**	**Course Credits**
1.	AS105	Calculus and Differential Equations	4
2.	AS106	Engineering Physics	3
3.	AS107	Statistics and Integral Calculus	4
4.	CH101	Science of Nature	4

Engineering Science (ESC):6 Courses and 17 Credits			
Sl. No.	**Course Code**	**Course Name**	**Course Credits**
1.	ET101	Electrical and Electronics Engineering	3
2.	ME107	Engineering Graphics	3
3.	CS103	Foundations of Computing	3
4.	CS104	Essentials of Data Science	3
5.	CV103	Applied Mechanics	3
6.	ME106	Design Thinking	2

Program Core Course (PCC): 13 Courses and 49 Credits			
Sl. No.	**Course Code**	**Course Name**	**Course Credits**
1.	2303211	Mechanics of Solids	4
2.	2303212	Geotechnical Engineering	4
3.	2303213	Building Design and Construction	4
4.	2303214	Mechanics of Fluids	4
5.	2303215	Surveying and Geospatial Engineering	2
6.	2303216	Structural Analysis	4
7.	2303311T	Concrete Technology	3
	2303311L	Concrete Technology Lab	1
8.	2303312T	Water supply and Sanitation Engineering	3
	2303312L	Water supply and Sanitation Engineering Lab	1
9.	2303314T	Design of Reinforced Concrete Structures	3
	2303314L	Design of Reinforced Concrete Structures Lab	1
10.	2303315T	Transportation Engineering	3
	2303315L	Transportation Engineering Lab	1
11.	2303411T	Estimating and Costing	3
	2303411L	Estimating and Costing Lab	1
12.	2303413T	Dams and Hydraulic Structures	3
	2303413L	Dams and Hydraulic Structures Lab	1
13.	2303412T		3

Program Elective Course (PEC): 4 Courses and 15 Credits			
Sl. No.	**Course Code**	**Course Name**	**Course Credits**
1.	2303321T+L	Construction Engineering & Management	3+1=4
	2303322T+L	Design of Steel Structures	
	2303323T+L	Hydrology and Irrigation Engineering	
2.	2303326T+L	Contracts Management	3+1=4
	2303327T+L	Solid and Industrial Waste Management	
	2303328T+L	Formwork Design	
3.	2303421T+L	Adv Construction Techniques	3+1=4
	2303422T+L	Earthquake Engineering	
	2303423T+L	Environmental Planning & Impact Assessment	
	2303424T+L	Railway Engineering	
4.	2303426T	Building Services	3
	2303427T	Advanced Design of Structures	
	2303428T	Air and Noise Pollution	
	2303429T	Foundation Engineering	

List of SWAYAM Courses			
Sl. No.	**Course Code**	**Course Name**	**Course Credits**
1.	2303SW01	Foundation Engineering	3
2	2303SW02	Advanced Reinforced Concrete Design	
3.	2303SW03	Wastewater Treatment and Recycling	
4.	2303SW04	Geotechnical Engineering II Foundation Engineering	
5.	2303SW05	Maintenance and Repair of Concrete Structures	
6.	2303SW06	Air Pollution and Control	

Vocational and Skill Enhancement Course (VSEC): 5 Courses and 10 Credits			
Sl. No.	**Course Code**	**Course Name**	**Course Credits**
1.	ET104	Emerging Technologies	2
2.	2303363	Professional Certification Courses	2
	2303264L	Building Information Modeling-I	
3.	2303268L	Data Analysis	2
	2304369L	Professional Certification Course	
4.	2303361L	Analysis & Design of Building Systems	2
	2303362L	Building Information Modeling-II	
	2303365L	Professional Certification Course	
5.	2303366L	Drone Surveying	2
	2303367L	Hydraulic Modeling	
	2303370L	Professional Certification Course	

List of Vocational Skill Enhancement Course (VSEC): 5 Courses and 10 Credit					
Programme Name	**VSEC Course 1**	**VSEC Course 2**	**VSEC Course 3**	**VSEC Course 4**	**VSEC Course 5**
Chemical	Emerging Technologies	Computer Application for Chemical Engineers (L)	Data Analytics in Chemical Engineering (L)	Practicum for Chemical Engineers I / Professional Certification Courses (L)	Practicum for Chemical Engineers-II / Professional Certification Course (L)
Civil	Emerging Technologies	Building Information Modeling-I (L)	Data Analysis (L)	Analysis & Design of Building Systems/ Building Information Modeling-II (L)	Drone Surveying/ Hydraulic Modeling (L)
Computer Engineering	Emerging Technologies	Problem Solving Using OOP (C++) / (Java)	Core Java/ Advance Java	Linux Administration-I / Web Technology/ Mobile App Development / UI/UX Design	Linux Administration-II Cloud Services /Web and Desktop Application Development
Computer Engineering (Software Engg.)	Emerging Technologies	Problem Solving Using OOP (C++) / (Java)	Core Java/ Advance Java	Linux Administration-I Web Technology/ Mobile App Development / UI/UX Design	Linux Administration-II Cloud Services /Practitioner's Approach to AI / Web and Desktop Application Development
Electronics Engineering	Emerging Technologies	Problem Solving Using OOP (C++/Java)	Data Structures /	DBMS/DS - Data Base Management System / Embedded Linux	RTOS/ Advance Data Science
Electronics & Telecommunication Engineering	Emerging Technologies	Problem Solving Using OOP (C++/Java)	Data Structures /	DBMS/DS - Data Base Management System / Embedded Linux	RTOS/ Advance Data Science
Mechanical	Emerging Technologies	Problem Solving Using OOP (C++/Java) / Generative Design	Data Structures / Digital Twin	Computer-Aided Product Design Professional Certification Courses	Mechanical Simulations

Open Elective (OE): 3 Courses and 8 Credits				
Sl. No.	**Offering School**	**Course Code**	**Course Name**	**Course Credits**
1.	SHES (Mathematics)	2301251T	Applied Mathematics	3
		230121L	Applied Mathematics Lab	1
2.	B. Design	2311251T	Prototyping	2
3.	All Schools	23XX451	Professional Certification Course	2

Humanities Social Science and Management Ability Enhancement Courses (HSS AEC): 2 Courses and 4 Credits			
Sl. No.	**Course Code**	**Course Name**	**Course Credits**
1.	HP107(10/12/14)	Functional English (German/Japanese/French)	1
2.	HP108(11/13/15)	Communication Skills (English/ German/Japanese/French)	1
3.	23XX371	Employability and Career Development	2

Humanities Social Science Management/Entrepreneurship/Economics(HSS MEC): 1 Courses and 2 Credits			
Sl. No.	**Course Code**	**Course Name**	**Course Credits**
2.	23XX476	Project Management / ----------	2

Humanities Social Science and Management Value Education Course (HSSM VEC): 4 Courses and 5 Credits			
Sl. No.	**Course Code**	**Course Name**	**Course Credits**
1.	HP109	Universal Human Values-I	Audit
2.	2301286	Environmental Science	2
3.	2301287	Universal Human Values-II	3
4.	HP106	Indian Constitution	Audit

Experiential Learning Course Project/Field Work/Community Project(ELC PRJ): 6 Courses and 10 Credit			
Sl. No.	**Course Code**	**Course Name**	**Course Credits**
1.	2303291	Project Design	1
2.	2303292	Project Implementation	1
3.	2303391	Major Project - I	2
4.	2303392	Major Project - II	2
5.	2303491	Major Project - III	2
6.	2303492	Research Methodologies	2

Experiential Learning Course Student's Internship (Summer/Semester Long) (ELC SI): 4 Courses and 14 Credits			
Sl. No.	**Course Code**	**Course Name**	**Course Credits**
1.	2303296	Internship (Life And Soft Skills)	Audit
2.	2303396	Summer Internship (Technical)	2
3.	2303496	Summer Internship (Technical)	4
4.	2303497	Semester Long Internship/ Capstone Project/ Student Exchange	8

Multidisciplinary Minor (MDM-I): 1 SY Course and 4 Credits				
Sl. No.	**Offering School**	**Course Code**	**Course Name**	**Course Credits**
1.	Civil	2303231	Material Engineering	4
2.	Chemical	2309231	Material Engineering	
3.	Electronics and Telecommunication	2307231	Engineering Informatics	

Multi-Disciplinary Minor (MDM) List: 05 Courses and 14 Credits											
Programme Name	Track Name	Semester IV (MDM-I)		Semester V (MDM-II)		Semester VI (MDM-III)		Semester VII (MDM-IV)		Semester VIII (MDM-V)	
		Course Code	Course Name	Course Code	Course Name	Course Code	Course Name	Course Code	Course Name	Course Code	Course Name
Chemical	Chemical Engineering (Green Sustainability)	2305231 (T+L)	Sustainability Informatics	2305331 (T+L)	Environmental Engineering (T+L)	2305332 (T+L)	Sustainable Engineering and Life Cycle Assessment (T+L)	2305431	Green technology	23XXSWXX	SWAYAM Course
Civil Engineering	Civil Engineering (Infrastructure and Sustainability	2303231 (T+L)	Material Engineering	2303331 (T+L)	Smart Cities (T+L)	2303332 (T+L)	Sustainable Engineering (T+L)	2303431 (T+L)	Environmental Planning & Impact Assessment	23XXSWXX	SWAYAM Course
Computer Engineering	Computer Engineering (Cloud Computing)	2310231	Engineering Informatics	2310331 (T+L)	Cloud Computing Foundations (T+L)	2310332 (T+L)	Cloud-Native Application Development (T+L)	2310431 (T+L)	Cloud Native DevOps	23XXSWXX	SWAYAM Course
CE (SE)											
CSE (AIML)	Artificial Intelligence and Machine Learning	2304231	Engineering Informatics	2304331 (T+L)	Data Analytics (T+L)	2304332 (T+L)	Artificial Intelligence & Machine Learning (T+L)	2304431 (T+L)	Deep Learning	23XXSWXX	SWAYAM Course
CSE (DS)											
CSE (IT)											

Multi-Disciplinary Minor (MDM): 05 Courses and 14 Credits											
Programme Name	Track Name	Semester IV (MDM-I)		Semester V (MDM-II)		Semester VI (MDM-III)		Semester VII (MDM-IV)		Semester VIII (MDM-V)	
		Course Code	Course Name	Course Code	Course Name	Course Code	Course Name	Course Code	Course Name	Course Code	Course Name
Electronics Engineering	Semiconductor Technologies	2306231 (T+L)	Engineering Informatics (T+L)	2306331 (T+L)	Electronics System Design (T+L)	2306332 (T+L)	VLSI Design (T+L)	2306431 (T+L)	ASIC Design	23XXSW XX	SWAYAM Course System on Chip
Electronics & Tele-communication	Semiconductor Technologies	2307231 (T+L)	Engineering Informatics (T+L)	2307331 (T+L)	Electronics System Design (T+L)	2307332 (T+L)	VLSI Design (T+L)	2307431 (T+L)	ASIC Design	23XXSW XX	SWAYAM Course System on Chip
Mechanical Engineering	Computer Aided Engineering and Automation	2309231 (T+L)	Engineering Informatics (T+L)	2309331 (T+L)	CAD Automation and Customisation (T+L)	2309332 (T+L)	Computer Aided Simulation (T+L)	2309431 (T+L)	Industrial Automation	23XXSW XX	SWAYAM Course
	Robotics and Automation	2309231 (T+L)	Engineering Informatics (T+L)	2309333 (T+L)	Robot Fundamental & Kinematics (T+L)	2309334 (T+L)	Robot Dynamics and Control (T+L)	2309432 (T+L)	AI in Robotics	23XXSW XX	SWAYAM Course
MITACSC	Business Administration	23XX231 (T+L)	Principles and Practices of Manageme nt	23XX331	Organizational Behavior	23XX332	Production and Operation Management	23XX431	Micro and Macro Economics	23XXSW XX	SWAYAM Course
Entrepreneurship Cell	Innovation and Entrepreneurship	23XX231 (T+L)	Engineering Informatics (T+L)	23XX331	Foundational Course in Entrepreneurship	23XX332	Advanced Course in Entrepreneurship	23XX431	Startup and Incubation	23XXSW XX	SWAYAM Course
B. Design	Design for Engineers	2311231 (T+L)	Principles of Design	2311331 (T+L)	Packaging Design	2311332 (T+L)	Introduction to UI-UX	231133 (T+L)	Mini Design Project	23XXSW XX	SWAYAM Course