

**Course Structure**  
**for Degree Program**  
**B. Tech. in Mining Engineering**  
**In line with National Education Policy 2020**  
**(Effective from AY 2024-25 for Affiliated Institutes)**



**Dr. Babasaheb Ambedkar Technological University**  
**Lonere 402 103, Dist- Raigad, Maharashtra, INDIA**

Established vide Maharashtra Act No. XXII of 1989 and Act. No. XXIX of 2014  
"Vidyavihar", P.O. Lonere, Dist. Raigad, Pin 402 103, Maharashtra, India  
Telephone and Fax.: 02140 - 275142

[www.dbatu.ac.in](http://www.dbatu.ac.in)

**Course Structure, Guidelines, Rules and Regulations**

## **Preamble**

Economic advancement of a country is closely tied to the quality of technical education it offers. Engineering education is reaching new heights and plays a significant role in the overall education system. The preparation of engineering graduates should focus on enhancing their employability and sustainability in response to evolving industry and societal needs. As technology advances and expectations change rapidly, updating the curriculum to be contemporary and relevant is imperative.

In order to align our technical education system with global standards and practices, based on performance and assessment system was implemented earlier for all Undergraduate Programs (UG). Now as per National Education Policy-2020 framework we are incorporating project-based learning. The realm of engineering and technology, characterized by its interdisciplinary nature, demands the synthesis of knowledge from a wide array of domains including humanities, arts, and advanced technologies. However, what distinguishes technologists is their proficiency in design and their ability to adeptly apply this knowledge across diverse disciplines to achieve effective problem-solving.

In response to these needs, aspiring engineers need thorough preparation and a deep understanding of the latest technological trends and industrial requirements. This calls for studying under a modern and adaptable curriculum that mirrors the global environment. As part of this initiative, there is a push to integrate recent advancements and enrich course content with pertinent and up-to-date subjects. Consequently, a revised structure and curriculum will debut from the academic year 2024-25 for First Year Mining Engineering, with intentions to progressively implement these updates across second, third- and fourth-year engineering programs.

Project-based learning has been introduced alongside traditional classroom teaching and laboratory-based learning to enhance the overall learning experience. The objective is to encourage students to learn collaboratively in groups of 3 to 4, focusing on solving meaningful problems. These problems can be theoretical, practical, social, technical, symbolic, cultural, or scientific, arising from students' curiosity across various disciplines and professional contexts. The selected problems should be exemplary and may require an interdisciplinary approach for both analysis and resolution. This approach aims to develop students' capacity for learning through shared cognition.

- **Laboratory Course:**

This is focused on completing experiments and assignments related to the courses of the Semester.

- **Seminar:** This aspect will revolve around state-of-the-art topics selected by students and approved by the authority. Students are required to submit a certified seminar report in a standard format, evaluated by their

assigned guide and the department/institute head for satisfactory completion of the work.

- Project Work in Final Year: Project work in the seventh Semester is integral to the curriculum. It involves applying knowledge gained throughout the graduation program, ideally addressing societal needs. The project provides an opportunity for students to design and construct complete systems or subsystems, specializing in areas of their interest. Students must prepare a certified final project report in standard format, evaluated by their guide and the department/institute head for satisfactory completion of the work.
- Internship: Internships are crucial for educational and career development, offering practical experience in field of discipline. It plays a significant role as employers seek well-trained employees. The primary objective is to expose technical students to real-world industrial environments, providing insights into the social, economic, and administrative factors influencing organizational operations. Students may choose internships in industries, government agencies, NGOs, MSMEs, rural settings, innovation hubs, intellectual property rights (IPR), or entrepreneurship initiatives. They can opt to focus on innovation, leading to start-ups, or gain experience in industry/NGO/government/MSME settings to prepare for professional roles. The conduction, monitoring, assessment, and evaluation of internships follow guidelines provided by AICTE.

## Definition of Credit \*\*

1 Hour Lecture (L) per week	1 credit for 1 Hour
Tutorial (T) per week	1 credit for 1 Hour
Practical(P) per week 2 Hours Practical (Lab)/week	1 credit for 2 Hours

\*\* The head of Tutorial and Practical (as a special case) may be merged for common credit with the permission of authority.

## Rule No. 1: Eligibility for Admission

### Eligibility Criteria

Students seeking admission to the first year of the Bachelor's degree course in Engineering and Technology must fulfil the eligibility criteria as laid down from time to time by the following authorities:

- **Dr. Babasaheb Ambedkar Technological University (DBATU)**
- **Government of Maharashtra**
- **All India Council for Technical Education (AICTE)**

## Rule No. 2: Scheme of Assessment

### Eligibility for the Degree of Bachelor of Engineering and Technology

To be eligible for the degree of Bachelor of Engineering and Technology, a candidate must:

1. **Appearing for Examinations:**

- A candidate is required to appear for all prescribed examinations during the course of study. This includes theory exams, practical exams, term-work assessments, project evaluations, and any other form of examination as specified in the Course Contents.
2. **Passing of Examinations:**
- A candidate must pass all the prescribed examinations. The passing criteria, including minimum marks required in theory, practical, term-work, and other components, will be as per the rules laid down by the university.

## **Components of Assessment**

The scheme of assessment typically includes the following components:

1. **Theory Examinations:**
  - Conducted at the end of each Semester.
  - Assess the theoretical understanding of the subjects.
2. **Practical Examinations:**
  - Conducted to assess the practical skills and application of knowledge.
  - Includes laboratory work, experiments, and practical assignments.
3. **Term-Work Assessments:**
  - Continuous assessment of assignments, tutorials, and project work throughout the Semester.
  - Includes the evaluation of written assignments, presentations, and project reports.
4. **Project Work:**
  - Assessment of project-based learning and final year projects.
  - Includes continuous assessment by the faculty and final evaluation through project reports, presentations, and viva-voce.
5. **Internal Continuous Assessment:**
  - Regular assessments conducted throughout the Semester.
  - Includes quizzes, class tests, mid-term exams, and participation in class activities.

## **General Rules and Regulations**

1. The normal duration of the course leading to B.Tech. degree will be EIGHT semesters.
2. The normal duration of the course leading to M.Tech. degree will be FOUR semesters.
3. Each academic year shall be divided into 2 semesters, each of 20 weeks duration, including evaluation and grade finalization, etc. The Academic Session in each semester shall provide for at least 90 Teaching Days, with at least 40 hours of teaching contact periods in a five to six days session per week. The semester that is typically from Mid-July to November is called the ODD SEMESTER, and the one that is from January to Mid-May is called the EVEN SEMESTER. Academic Session may be scheduled for the

Summer Session/Semester as well. For 1st year B. Tech and M. Tech the schedule will be decided as per the admission schedule declared by Government of Maharashtra.

4. The schedule of academic activities for a Semester, including the dates of registration, mid-semester examination, end-semester examination, inter-semester vacation, etc. shall be referred to as the Academic Calendar of the Semester, which shall be prepared by the Dean (Academic), and announced at least TWO weeks before the Closing Date of the previous Semester.
5. The Academic Calendar must be strictly adhered to, and all other activities including co-curricular and/or extra-curricular activities must be scheduled so as not to interfere with the Curricular Activities as stipulated in the Academic Calendar.

### **Registration:**

1. Lower and Upper Limits for Course Credits Registered in a Semester, by a Full- Time Student of a UG/PG Program:

A full time student of a particular UG/PG program shall register for the appropriate number of course credits in each semester/session that is within the minimum and maximum limits specific to that UG/PG program as stipulated in the specific Regulations pertaining to that UG/PG program.

2. Mandatory Pre-Registration for higher semesters: In order to facilitate proper planning of the academic activities of a semester, it is essential for the every institute to inform to Dean (Academics) and COE regarding details of total no. of electives offered (Course-wise) along with the number of students opted for the same. This information should be submitted within two weeks from the date of commencement of the semester as per academic calendar.
3. PhD students can register for any of PG/PhD courses and the corresponding rules of evaluation will apply.
4. Under Graduate students may be permitted to register for a few selected Post Graduate courses, in exceptionally rare circumstances, only if the DUGC/DPGC is convinced of the level of the academic achievement and the potential in a student.

### **Course Pre-Requisites:**

1. In order to register for some courses, it may be required either to have exposure in, or to have completed satisfactorily, or to have prior earned credits in, some specified courses.
2. Students who do not register on the day announced for the purpose may be permitted LATE REGISTRATION up to the notified day in academic calendar on payment of late fee.
3. REGISTRATION IN ABSENTIA will be allowed only in exceptional cases with the approval of the Dean (Academic) / Principal.
4. A student will be permitted to register in the next semester only if he fulfills the following conditions:
  - i) Satisfied all the Academic Requirements to continue with the program of Studies without termination

- ii) Cleared all Institute, Hostel and Library dues and fines (if any) of the previous semesters;
- iii) Paid all required advance payments of the Institute and hostel for the current semester;
- iv) Not been debarred from registering on any specific ground by the Institute.

**Evaluation System:**

1. Absolute grading system based on absolute marks as indicated below will be implemented from academic year 2023-24, from I year B. Tech.

Percentage of marks	Letter Grade	Grade Point
91-100	EX	10.0
86-90	AA	9.0
81-85	AB	8.5
76-80	BB	8.0
71-75	BC	7.5
66-70	CC	7.0
61-65	CD	6.5
56-60	DD	6.0
51-55	DE	5.5
40-50	EE	5.0
<40	EF	0.0

2. Class is awarded based on CGPA of all eighth semester of B.Tech Program.

CGPA for pass is minimum 5.0	
CGPA upto <5.50	Pass class
CGPA $\geq 5.50$ & <6.00	Second Class
CGPA $\geq 6.00$ & <7.5	First Class
CGPA >7.50	Distinction
[Percentage of Marks =CGPA*10.0]	

3. A total of 100 Marks for each theory course are distributed as follows:

Mid Semester Exam (MSE) Marks	20
Continuous Assessment Marks	20
End Semester Examination(ESE)Marks	60

4. A total of 100 Marks for each practical course are distributed as follows

1.	Continuous Assessment Marks	40
2.	End Semester Examination (ESE)Marks	60

- It is mandatory for every student of B. Tech to score a minimum of 40 marks out of 100, M. Tech to score a minimum of 45 marks out of 100 with a minimum of 20 marks out of 60 marks in End Semester Examination for theory course.
- This will be implemented from the first year of B. Tech starting from Academic Year 2023-24

## 5. Description of Grades

EX Grade: An 'EX' grade stands for outstanding achievement.

EE Grade: The 'EE' grade stands for minimum passing grade.

The students may appear for the remedial examination for the subjects he/she failed for the current semester of admission only and his/her performance will be awarded with EE grade only.

If any of the students remain absent for the regular examination due to genuine reason and the same will be verified and tested by the Dean (Academics) or committee constituted by the University Authority.

FF Grade: The 'FF' grade denotes very poor performance, i.e. failure in a course due to poor performance. The students who have been awarded 'FF' grade in a course in any semester must repeat the subject in next semester.

## 6. Evaluation of Performance

### a. Semester Grade Point Average (SGPA)

The performance of a student in a semester is indicated by Semester Grade Point Average (SGPA) which is a weighted average of the grade points obtained in all the courses taken by the student in the semester and scaled to a maximum of 10. (SGPI is to be calculated up to two decimal places). A Semester Grade Point Average (SGPA) will be computed for each semester as follows:

$$SGPA = \frac{[\sum_{i=1}^n c_i g_i]}{[\sum_{i=1}^n c_i]}$$

Where

'n' is the number of subjects for the semester,

'c<sub>i</sub>' is the number of credits allotted to a particular subject, and

'g<sub>i</sub>' is the grade-points awarded to the student for the subject based on his performance as per the above table.

SGPA will be rounded off to the second place of decimal and recorded as such.

### b. Cumulative Grade Point Average (CGPA):

An up to date assessment of the overall performance of a student from the time he entered the Institute is obtained by calculating Cumulative Grade Point Average (CGPA) of a student. The CGPA is weighted average of the grade points obtained in all the courses registered by the student since s/he entered the Institute. CGPA is also calculated at the end of every semester (upto two decimal places). Starting from the first semester at the end of each semester (S), a Cumulative Grade Point Average (CGPA) will be computed as follows:

$$CGPA = \frac{[\sum_{i=1}^m c_i g_i]}{[\sum_{i=1}^m c_i]}$$

Where,

‘m’ is the total number of subjects from the first semester onwards up to and including the semester S,

‘ci’ is the number of credits allotted to a particular subject, and

‘gi’ is the grade-points awarded to the student for the subject based on his/her performance as per the above table.

CGPA will be rounded off to the second place of decimal and recorded as such.

## **7. Attendance Requirements:**

- a. All students must attend every lecture, tutorial and practical classes.
- b. To account for approved leave of absence (eg. representing the Institute in sports, games or athletics; placement activities; NCC/NSS activities; etc.) and/or any other such contingencies like medical emergencies, etc., the attendance requirement shall be a minimum of 75% of the classes actually conducted. If the student failed to maintain 75% attendance, he/she will be detained for appearing the successive examination. The Dean (Academics)/ Principal is permitted to give 10% concession for the genuine reasons as such the case may be. In any case the student will not be permitted for appearing the examination if the attendance is less than 65%.
- c. The course instructor handling a course must finalize the attendance 3 calendar days before the last day of classes in the current semester and communicate clearly to the students by displaying prominently in the department and also in report writing to the head of the department concerned.
- d. The attendance records are to be maintained by the course instructor and he shall show it to the student, if and when required.

## **8. Transfer of Credits:**

The courses credited elsewhere, in Indian or foreign University/Institutions/ Colleges/Swayam Courses by students during their study period at DBATU may count towards the credit requirements for the award of degree. The guidelines for such transfer of credits are as follows:

- a. 20 % of the total credit will be considered for respective calculations.
- b. Credits transferred will be considered for overall credits requirements of the program.
- c. Credits transfer can be considered only for the course at same level i.e UG, PG etc.
- d. A student must provide all details (original or attested authentic copies) such as Course Contents, number of contact hours, course instructor /project guide and evaluation system for the course for which he is requesting a credits transfer. He shall also provide the approval or acceptance letter from the other side. These details will be evaluated by the concerned Board of Studies before giving approval. The Board of Studies will then decide the number of equivalent credits the student will get for such course(s) in DBATU. The complete details will then be forwarded to Dean for approval.
- e. A student has to get minimum passing grades/ marks for such courses for which the credits transfers are to be made.
- f. Credits transfers availed by a student shall be properly recorded on academic record(s) of the student.
- g. In exceptional cases, the students may opt for higher credits than the prescribed.

**Credit Framework under Four-Years UG Engineering Program with Multiple Entry and Multiple Exit options:**

- The Four-year Bachelor’s Multidisciplinary Engineering Degree Program allows the students to experience the full range of holistic and multidisciplinary education in addition to a focus on the chosen major and minors as per their choices and the feasibility of exploring learning from different institutions.
- The minimum and maximum credit structure for different levels under the Four-year Bachelor’s Multidisciplinary Engineering UG Program with multiple entry and multiple exit options are as given below:

**Credit Framework**

Levels	Qualification Title	Credit Requirements		Semester	Year
		Minimum	Maximum		
4.5	One Year UG Certificate in Engg./ Tech.	40	44	2	1
5.0	Two Years UG Diploma in Engg./ Tech.	80	88	4	2
5.5	Three Years Bachelor’s Degree in Vocation (B. Voc.) or B. Sc. (Engg./ Tech.)	120	132	6	3
	4-Years Bachelor’s degree				

Levels	Qualification Title	Credit Requirements		Semester	Year
		Minimum	Maximum		
6.0	(B.E/B.Tech. or Equivalent) in Engg./ Tech. with Multidisciplinary Minor	160	176	8	4
6.0	4-year Bachelor’s degree (B.E/B.Tech. or Equivalent) in Engg./ Tech.- Honors with Research and Multidisciplinary Minor	180	194	8	4

- Multiple exit options at each level. Student will be given a specific Qualification mentioned in the table depending on the level at which he/she decides to have an exit. Ex. If a student decides to exit after completion of two years (level 5.0) of the program, he will be given a Diploma in Engineering with specific exit condition mentioned in the syllabus of the specific branch. He/she can rejoin the program with the multiple entry option at the level next where he/she chose to exit previously. (Student can join at level 5.5 if successfully completed level 5.0 previously at the time of exit).
- Minimum credit requirements of each level are mentioned in the credit framework table.
- There are 4 distinct options available at level 6.0.
- First one is basic level 6.0 option where minimum 160-maximum 176 credits are mandatory which can be completed as per the Semester-wise Credit distribution structure mentioned in the table given below. Here, the Bachelor's Engineering Degree in chosen Engg./ Tech. Discipline with multidisciplinary minor (min.160-max.176 Credits) i.e. **“B. Tech. in Mining Engineering with Minor in Computer Engineering”** (160-176 credits) enables students to take up five-six or required additional courses of 14 credits in the discipline other than Mining Engineering distributed over semesters III to VIII. Here in the case of **“B. Tech. in Mining Engineering with Minor in Computer Engineering”** (160-176 credits) student is supposed to take up 50% or more courses to complete the 50% or more credits (from assigned 14 credits) from **Computer Engineering minor bucket**. The remaining courses to complete the assigned 14 credits can be covered from other discipline's minor buckets.
- Remaining three level 6.0 options are the advanced options where the student is given an opportunity to get extra qualification by earning some extra credits (18-20 extra credits). These three options are given below:
- Level 6.0: The **Bachelor's Engineering Degree with Honours** in chosen Major Engg./ Tech. Discipline i.e. in Mining Engineering with Honours with Multidisciplinary Minor (180-194 credits) enables students of Mining Engineering to take up five-six additional courses of 18 to 20 credits in the Mining Engineering discipline distributed over semesters III to VIII. The decision regarding the mechanism of distribution of these 18-20 credits over semesters III to VIII, which are over and above the min.160-max. 176 Credits prescribed for the duration of four years will be taken by Academic Authorities of University. **Student must have CGPA equal to or greater than 7.5 at the end of second semester to go for this option.**
- Level 6.0: The **Bachelor's Engineering Degree with Research** in i.e. in Mining Engineering with Research with Multidisciplinary Minor (180-194 credits) enables students of Mining Engineering to take up a research project of 18 to 20 credits in the Mining Engineering discipline distributed over semesters VII to VIII. **Student must have CGPA equal to or greater than 7.5 at the end of sixth semester to go for this option.**
- Level 6.0: The **Bachelor's Engineering Degree in chosen Engg./ Tech. Discipline with Double Minor** (Multidisciplinary and Specialization Minor, 180-194 credits), i.e. **“B. Tech. in Mining Engineering with other selected discipline in Engineering (as MDM) with Specialization Minor in Computer Engineering”** (180-194 credits) enables students to take up five-six additional courses of 14 credits in the discipline other than Mining Engineering (for completion of multidisciplinary minor) and 18 to 20 extra credits in the **Computer Engineering discipline** distributed over semesters III to VIII. Here, the **other selected discipline in Engineering should be different from Specialization Minor i.e. Computer Engineering**. This enables students to take up

five-six or required additional courses of 18 to 20 credits in the **Computer Engineering** discipline distributed over semesters III to VIII, which are over and above the min.160-max.176 Credits. The decision regarding the mechanism of distribution of these 18-20 credits over semesters III to VIII, prescribed for the duration of four years will be taken by Academic Authorities of University. **Student must have CGPA equal to or greater than 7.5 at the end of second semester to go for this option.**

**Semester-wise Credit distribution structure for Four Year UG**  
**Engineering Program - One Major, One Minor**

Semester		I	II	III	IV	V	VI	VII	VIII	Total Credits
Basic Science Course	BSC/ESC	06-08	08-10		--	--	--	--	--	14-18
Engineering Science Course		10-08	06-04		--	--	--	--	--	16-12
Programme Core Course (PCC)	Program Courses	--	02	08-10	08-10	10-12	08-10	04-06	04-06	44-56
Programme Elective Course (PEC)		--	--	--	--	04	08	02	06	20
Multidisciplinary Minor (MD M)	Multidisciplinary Courses		-	02	02	04	02	02	02	14
Open Elective (OE) Other than a particular program		--	--	04	02	02	--	--	--	08
Vocational and Skill Enhancement Course (VSEC)	Skill Courses	02	02	--	02	--	02	--	--	08
Ability Enhancement Course (AEC -01, AEC-02)	Humanities Social Science and Management (HSSM)	02	--	--	02	--	--	--	--	04
Entrepreneurship/Economics/Management Courses		--		02	02	--	--	--	--	04
Indian Knowledge System (IKS)			02		--	--	--	--	--	02
Value Education Course (VEC)		--	--	02	02	--	--	--	--	04
Research Methodology	Experiential Learning Courses	--	--	--	--	--	--		04	04
Comm. Engg. Project (CEP)/Field Project (FP)		--	--	02	--	--	--	-	-	02
Project		--	--	--	--	--	--		04	04
Internship/ OJT		--	---			--	--	12	-	12
Co-curricular Courses (CC)	Liberal Learning Courses	02	02		--	--	--	--	-	04
<b>Total Credits (Major)</b>		<b>20-22</b>	<b>20-22</b>	<b>20-22</b>	<b>20-22</b>	<b>20-22</b>	<b>20-22</b>	<b>20-22</b>	<b>20-22</b>	<b>160-176</b>

Students need to follow the Semester-wise Credit distribution structure for Four-year UG Engineering Program as prescribed above.

- There are seven vertical categories with specific credits distributed in specific semesters.
- Student can choose a Program Elective Course (PEC) in that specific semester from the given subjects.
- Multidisciplinary course (MDM) and Open Elective (OE) courses can be chosen from the MDM and OE Buckets depending on student's choice. Completion of total credits given in the last column of the table for each vertical is mandatory.
- Students can complete 40% of the courses through online platforms like NPTEL/SWAYAM. The NPTEL SWAYAM course content should be at least 80% similar to the course content in the syllabus.

**Dr. Babasaheb Ambedkar Technological University, Lonere**  
**Course Structure for B. Tech. in Mining Engineering**  
**(Affiliated Institutes)**  
**Semester III (w.e.f. A.Y. 2025-26)**

Category Type	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credits
			L	T	P	ISE	MSE	ESE	Total	
BSC	25AF1000BS301	Engineering Mathematics- III	3	-	-	20	20	60	100	3
PCC1	25AF1701PC302	Mining Geology	2	1	-	20	20	60	100	3
PCC2	25AF1701PC303	Introduction to Fluid Mechanics and Mechanics of Solid	2	1	-	20	20	60	100	3
PCC3	25AF1701PC304	Introduction to Mining Engineering	3	-	-	20	20	60	100	3
OE-I	25AF1701OE305	OPEN ELECTIVE-I	3	-	-	20	20	60	100	3
MDM	25AF1701MD306	Multi-Disciplinary Minor-I	-	-	-	20	20	60	100	-
AES	25AF1000VE307	Modern Indian Language A. Marathi B. Hindi C. Sanskrit	2	-	-	50	-	50	100	2
VSEC	25AFCOIAE308	Constitution of India	2	-	-	-	-	-	AU	GR
VEC	25AF1000VE309	Life of Bharat Ratna Dr. Babasaheb Ambedkar	1	-	-	50	-	-	50	1
PCC Lab	25AF1701PCL310	Mining Geology Lab	-	-	2	25	-	25	50	1
PCC Lab	25AF1701PCL311	Fluid Mechanics and Strength of Material Lab	-	-	2	25	-	25	50	1
<b>Total</b>			<b>18</b>	<b>2</b>	<b>4</b>	<b>240</b>	<b>140</b>	<b>470</b>	<b>850</b>	<b>20</b>

MDM to be offered to other departments: **Basics of Mining Engineering (3 Credits)**

OE\*: The students can opt for the Open Elective from the Open Elective bucket declared for the particular semester.

MDM\*\*: The students will have to choose the MDM course being offered by other disciplines available/offered at the college)

**Dr. Babasaheb Ambedkar Technological University, Lonere**  
**Course Structure for B. Tech. in Mining Engineering**  
**(Affiliated Institutes)**  
**Semester IV (w.e.f. A.Y. 2025-26)**

Category Type	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credits
			L	T	P	ISE	MSE	ESE	Total	
PCC1	25AF1701PC401	Basic Mining Machinery	2	1	-	20	20	60	100	3
PCC2	25AF1701PC402	Mine Surveying	3	-	-	20	20	60	100	3
PCC3	25AF1701PC403	Rock Mechanics	3	1	-	20	20	60	100	3
PCC4	25AF1701PC404	Industrial Engineering & Management	3	-	-	20	20	60	100	3
OE-II	25AF1701OE405	OPEN ELECTIVE-II	2	-	-	20	20	60	100	2
MDM	25AF1701MD406	MDM Bucket List	-	-	-	20	20	60	100	-
VSEC	25AF1000VE407	Universal Human Values-II	3	-	-	20	20	60	100	3
VEC	25AF1000VE408	Life of Chhatrapati Shivaji Maharaj	1	-	-	50	-	-	50	1
PCC Lab	25AF1701PCL409	Mine Surveying lab	-	-	2	25	-	25	50	1
PCC Lab	25AF1701PCL410	Rock Mechanics Lab	-	-	2	25	-	25	50	1
VSEC	25AF1701VSE411	Internship-I/Mine Visit-I	-	-	-	-	-	-	-	-
<b>Total</b>			<b>17</b>	<b>2</b>	<b>4</b>	<b>240</b>	<b>140</b>	<b>470</b>	<b>850</b>	<b>20</b>

MDM to be offered to other departments: **Introduction to Geo-Mechanics ( 2 Credits)**

OE\*: The students can opt for the Open Elective from the Open Elective bucket declared for the particular semester.

MDM\*\*: The students will have to choose the MDM course being offered by other disciplines available/offered at the college)

**Exit Option-II:** Qualifier for UG Diploma

Broad areas of Training: **1. Open Cast 2. UG Coal 3. UG Non-Coal**

- To be completed during vacation after Second Year in the industry/institute.
- This should contain the well-defined project activity which is equivalent to 10 Credits.
- It should be carried out for the duration of 08 Weeks.
- The project training should be evaluated by examiners.

**Dr. Babasaheb Ambedkar Technological University, Lonere**  
**Course Structure for B. Tech. in Mining Engineering**  
**(Affiliated Institutes)**  
**Semester V (w.e.f. A.Y. 2026-27)**

Category Type	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credits
			L	T	P	ISE	MSE	ESE	Total	
PCC1	25AF1701PC501	Surface Mine Technology	3	-	-	20	20	60	100	3
PCC2	25AF1701PC502	Mine Environment & Ventilation Engineering	3	-	-	20	20	60	100	3
PCC3	25AF1701PC503	Underground Coal Mine Technology	3	-	-	20	20	60	100	3
PCC4	25AF1701PC504	Advanced Mine Machinery	3	-	-	20	20	60	100	3
OE-III	25AFARPOE505	OPEN ELECTIVE-III	3	-	-	20	20	60	100	3
MDM	25AF1701HM506	MDM Bucket list	-	-	-	20	20	60	100	-
PEC	25AF1000VE507	Program Elective –I A. Advance Mine Surveying B. Advanced Geology	2	-	-	20	20	60	100	2
PCC Lab	25AF1701PC508	Mine Environment & Ventilation Engineering Lab	-	-	2	25	-	25	50	1
PCC Lab	25AF1701PC509	Advanced Mine Machinery Lab	-	-	2	25	-	25	50	1
PCC Lab	25AF1701PC510	A. Advance Mine Surveying/B. Advanced Geology Lab	-	-	2	25	-	25	50	1
AEC	25AF1701HM511	Internship/ Mine Visit- I Evaluation	-	-	2	50	-	50	100	2
<b>Total</b>			<b>17</b>	<b>-</b>	<b>8</b>	<b>265</b>	<b>140</b>	<b>545</b>	<b>950</b>	<b>22</b>

MDM to be offered to other departments: **Underground Mining Technology & Ventilation (3 Credits)**

OE\*: The students can opt for the Open Elective from the Open Elective bucket declared for the particular semester.

**Dr. Babasaheb Ambedkar Technological University, Lonere**  
**Course Structure for B. Tech. in Mining Engineering**  
**(Affiliated Institutes)**  
**Semester VI (w.e.f. A.Y. 2026-27)**

Category Type	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credits
			L	T	P	ISE	MSE	ESE	Total	
PCC1	25AF1701PC601	Underground Metal Mining Technology	3	-	-	20	20	60	100	3
PCC2	25AF1701PC602	Mine Rescue Engineering	3	-	-	20	20	60	100	3
PCC3	25AF1701PC603	Ground Control in Mines	3	-	-	20	20	60	100	3
PCC4	25AF1701PC604	Drilling and Blasting	3	-	-	20	20	60	100	3
PEC	25AF1701PC605	Program Elective –II A. Mine Planning B. Mine Health and Safety Engineering	3	-	-	20	20	60	100	3
PEC	25AF1701PC606	Program Elective –III A. Mineral Processing Technology B. Environmental Impact Assessment	3	-	-	20	20	60	100	3
MDM	25AF1701MD607	MDM Bucket List	-	-	-	20	20	60	100	-
PCC Lab	25AF1701PCL608	Mine Rescue Engineering Lab	-	-	2	25	-	25	50	1
PCC Lab	25AF1701PCL609	Ground Control in Mines Lab	-	-	2	25	-	25	50	1
VS	25AF1701VS610	Academic Research Writing / Mini Project	-	2	-	50	-	-	50	2
		<b>Total</b>	<b>18</b>	<b>2</b>	<b>4</b>	<b>240</b>	<b>140</b>	<b>470</b>	<b>850</b>	<b>22</b>

MDM to be offered to other departments: **Surface Mining & Environment (3 Credits)**

OE\*: The students can opt for the Open Elective from the Open Elective bucket declared for the particular semester.

**Dr. Babasaheb Ambedkar Technological University, Lonere**  
**Course Structure for B. Tech. in Mining Engineering**  
**(Affiliated Institutes)**  
**Semester VIII (w.e.f. A.Y. 2027-28)**

Category Type	Course Code	Course Title	Teaching Scheme			Evaluation Scheme				Credits
			L	T	P	ISE	MSE	ESE	Total	
PEC (Self-Study/NPTEL)	25AF1701PC801	Program Elective -VI A. Clean Coal Technology B. Tunneling Engineering	3	-	-	20	20	60	100	3
PEC (Self-Study/NPTEL)	25AF1701PC802	Program Elective –VII A. Management Information System B. Mine Safety Engineering	3	-	-	20	20	60	100	3
MDM	25AF1701MD803	MDM Bucket List	-	-	-	20	20	60	100	-
PCC Lab	25AF1701PC804	Project Phase-II/ Internship	-	-	12	50	-	50	100	10
		<b>Total</b>	<b>6</b>	<b>-</b>	<b>12</b>	<b>85</b>	<b>60</b>	<b>205</b>	<b>400</b>	<b>16</b>

MDM to be offered to other departments: **Internship (3 Credits)**

OE\*: The students can opt for the Open Elective from the Open Elective bucket declared for the particular semester.

### **Multi-Disciplinary Minor Courses**

Semester	Subject Code	Subject Name	CA	MSE	ESE	Total Credits
SEM-III	25AF1701MD306	Basics of Mining Engineering	20	20	60	3
SEM-IV	25AF1701MD406	Introduction to Geo-Mechanics	20	20	60	2
SEM-V	25AF1701HM506	Underground Mining Technology & Ventilation	20	20	60	3
SEM-VI	25AF1701MD607	Surface Mining & Environment	20	20	60	3
SEM-VII	25AF1701MD706	Mine Management & Safety	20	20	60	3
SEM-VIII	25AF1701MD803	Internship	20	20	60	3
<b>Total credits required to complete minor degree in Mining Engineering = 14</b>						