



ADITYA ENGINEERING COLLEGE

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Recognised by UGC under sections 2(f) and 12(B) of UGC Act, 1956
Aditya Nagar, ADB Road, Surampalem - 533437, Near Kakinada, E.G.Dt., Ph:99498 76662

Program Name : B.Tech. in Mining Engineering

Syllabus Revision for the Academic Year 2019-2020

S.No	Semester	Course Code	Course Name	% of content revised for the
1	1	191HS1T01	Communicative English	90
2	1	191BS1T01	Differential Equations and Linear Algebra	20
3	1	191BS1T02	Engineering Physics	60
4	1	191ES1T01	Programming for Problem Solving Using C	0
5	1	191HS1L01	Communicative English Lab-I	0
6	1	191BS1L01	Engineering Physics Lab	60
7	1	191ES1L01	Programming for Problem Solving Using C Lab	10
8	1	191ES1L02	Basic Engineering Workshop	20
9	1	191MC1A01	Environmental Science	25
10	1	191MC1A02	Constitution of India	100
11	2	191BS2T05	Partial Differential Equations and Vector Calculus	40
12	2	191BS2T06	Chemistry of Materials	70
13	2	191ES2T02	Engineering Graphics and Design	20
14	2	191ES2T03	Essential Electrical and Electronics Engineering	20
15	2	191ES2T04	Engineering Mechanics	20
16	2	191HS2L02	Communicative English Lab-II	0
17	2	191BS2L04	Engineering Chemistry Lab	50
18	2	191ES2L03	Essential Electrical and Electronics Engineering Lab	5
19	2	191ES2L12	Mining Engineering Workshop	100
20	2	191PR2P01	Engineering Exploration Project	100
21	3	171MI3T01	Introduction To Mining Technology	0
22	3	171MI3T02	Basic Mechanical Engineering For Mines	0
23	3	171BS3T10	Probability and Statistics	0
24	3	171ES3T22	Material Engineering	0
25	3	171MI3T03	Mining Geology-I	0
26	3	171ME3T01	Computer Aided Engineering Drawing Practice	0
27	3	171ES3L12	Electrical and Electronics Lab	0
28	3	171ES3L13	Basic Mechanical Engineering Lab	0
29	3	171HS3A09	Professional Ethics and Human Values	0
30	3	171HS3A10	Employability Skills-I	0
31	4	171ES4T27	Kinematics Of Machinery	0
32	4	171MI4T04	Computer Application In Mining	0
33	4	171MI4T05	Mining Geology -II	0
34	4	171MI4T06	Mine Surveying - I	0
35	4	171MI4T07	Surface Mining	0
36	4	171MI4T08	Fundamentals of Rock Mechanics	0
37	4	171MI4L01	Geology Lab	0
38	4	171MI4L02	Computer Application In Mining Lab	0
39	4	171HS4A08	Intellectual Property Rights and Patents	0
40	4	171HS4A11	Employability Skills-II	0
41	5	171MI5T09	Under Ground Coal Mining Technology	0
42	5	171MI5T10	Mine Environment Engineering - I	10

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43	5	171MI5T11	Basic Geo Mechanics	50
44	5	171MI5T12	Mine Surveying - II	10
45	5	171HS5T04	Managerial Economics and Financial Analysis	50
46	5	171MI5E01	Maintenance and Reliability Engineering	100
47	5	171MI5E02	Mine Construction and Management	30
48	5	171MI5E03	Industrial Management and Labor Relations	100
49	5	171HS5T06	Employability Skills – III	100
50	5	171MI5L03	Rock Mechanics Lab	50
51	5	171MI5L04	Mine Surveying Lab	0
52	5	171MI5S01	MOOCs - I	100
53	6	171MI6T13	Under Ground Metal Mining Technology	0
54	6	171MI6T14	Mineral Processing Technology	40
55	6	171MI6T15	Mine Environment Engineering - II	15
56	6	171MI6T16	Mining Machinery	50
57	6	171MI6E04	Advanced Geo Mechanics	40
58	6	171MI6E05	Mine Fire and Spontaneous Heating	70
59	6	171MI6E06	Mineral Exploration	100
60	6	171MI6E07	Advance Surveying Technology	100
61	6	171MI6E08	Mine Subsidence Engineering	100
62	6	171MI6E09	Rock Fragmentation Engineering	50
63	6	171HS6T07	Employability Skills - IV	100
64	6	171MI6L05	Mineral Processing Technology Lab	40
65	6	171MI6L06	Environmental Engineering Lab	0
66	6	171MI6S02	MOOCs - II	100
67	7	R1641261	Computer Applications in Mining	100
68	7	R1641262	Underground Metal Mining Technology	0
69	7	R1641263	Rock Mechanics & Ground Control	0
70	7	R1641264	Mine Legislation & General Safety	0
71	7	R164126A	Rock Slope Engineering	30
72	7	R164126B	Mine Subsidence Engineering	0
73	7	R164126C	Rock Fragmentation Engineering	0
74	7	R164126D	Deep Sea Mining	0
75	7	R164126E	Mine Construction Engineering	0
76	7	R164126F	Tunneling Engineering	0
77	7	R1641019	IPR & Patents	
78	7	R1641267	Computer Applications in Mining Lab	100
79	7	R1641268	Rock Mechanics & Ground Control Lab	10
80	8		Short Survey Camp (One Week)	
81	8	R1642031	Production Planning and Control	0
82	8	R1642261	Mine Economics & Investment	100
83	8	R1642262	Mine Health and Safety Engineering	0
84	8	R164226A	Planning of Underground Metal Mining Projects	0
85	8	R164226B	Planning of Underground Coal Mining Projects	0
86	8	R164226C	Planning of Surface Mining Projects	0
87	8	R1642265	Seminar	100
88	8	R1642266	Project	0
Total number of courses in the academic year 2019-2020				88
Number of courses having revision in syllabus content >= 20% in the academic year 2019-2020				39
Percentage of syllabus revision carried out in the academic year 2019-2020 = (39/88)*100				44.32

Program Coordinator

Head of the Department

Head of the Department
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Department of Mining Engineering

Dt-29/07/2019

Minutes of IV BoS meeting conducted on 27-07-2019

Agenda 4.1: Welcome address by Chairman

Mr. Satyajeet Parida, Chairman of BoS, invited all the distinguished members of BoS to the IV BOS meeting.

Agenda 4.2: Discussion and ratification of the Vision and Mission of the department and Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) of the Programs under the Department.

The BoS members have ratified the Vision and Mission of the department and Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) of the Programs under the Min.E Department.

Agenda 4.3: Discussion on proposed AR19 B.Tech (Min.E) program structure, I & II semesters syllabus and ratification of the same.

The BoS members approved the AR19 B.Tech (Min.E) course structure after making the following changes in the proposed syllabi:

1. The members have advised to remove the course Managerial Economics and Financial Accounting in III semester as mining specific courses related to this particular area of study is available in the higher semesters of AR-19.
2. In place of Managerial Economics and Financial Accounting (MEFA), the members suggested including 2 surveying related courses, which is more of a necessity for mining. So Mine Surveying -II course is included in IV Semester.
3. Basic Mechanical Engineering was removed from IV semester and added in III semester.

Agenda 4.4: Discussion on the courses having focus on employability/entrepreneurship/skill development in the programs of B.Tech. (Min.E), and ratification of the same

The members of BoS ratified the courses having focus on employability/entrepreneurship/skill development in the B.Tech. (Min.E), program.


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Agenda 4.5: Discussion on the new courses offered in the B.Tech. (Min.E), programmes and ratification of the same

Members of BOS noted the new courses offered in the B.Tech. (Min.E), and ratified the same. The Percentage of new courses introduced in the academic year 2019-2020 for B. Tech (Min. E) is 17.05%. The list of new courses is enclosed as Annexure-I.

Agenda 4.6: Discussion on the B.Tech (Min.E), Programmes in which Choice Based Credit System(CBCS)/elective course system is being implemented and ratification of the same.

Members of BoS ratified the Choice Based Credit System (CBCS)/elective course system that is being implemented in B.Tech (Min.E), program.

Agenda 4.7: Discussion on the percentage of syllabus revision done in B.Tech. (Min.E) programme and ratification of the same.

The percentage change in syllabus was discussed and approved by the BoS members. The percentage of courses revised in the academic year 2019-2020 for B.Tech (Min.E) is 44.31%. The list of courses revised is enclosed as Annexure-II.

Agenda 4.8: Discussion on the value-added courses offered for students and ratification of the same.

Members of BoS ratified the various value- added courses identified for the students to be offered.

Agenda 4.9: Analysis of Results

The BoS Chairperson presented the odd and even semesters pass percentage for the A.Y.2018-2019. The BoS members noted the same and appreciated the faculty for the pass percentage.

Agenda 4.10: Analysis of Students Feedback & Action Taken Report

BoS Chairperson expressed that the student feedback & action taken report process initiated at the end of each semester. In academic year 2018-2019 the average student feedback of the faculty for even and odd semester was taken and the same were noted by the BoS members.

Agenda 4.11: Analysis of Stakeholder's Feedback on Curriculum

The stakeholder's feedback on curriculum was discussed and applicable considerations were incorporated. The BOS members noted the same and advised to incorporate the suggestions as per the feasibility. The Action Taken Report is enclosed as Annexure-III.

Agenda 4.12: Any other item/s

1. The members suggested communicating course content delivered in class to the question paper setters.

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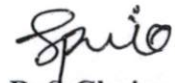
2. The members suggested making arrangements for several other mine visits than the compulsory ones included in curriculum.

Agenda 4.13: Scheduling of the next BOS meeting.

The next BoS meeting is tentatively scheduled in the month of December, 2019.

Agenda 4.14: Vote of Thanks

- Mr. Satyajeet Parida, BoS Chairperson presented the vote of thanks.



BoS Chairperson

Head of the Department
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Department of Mining Engineering

Annexure-I

List of New Courses in the Academic Year 2019-2020

S. No	Program	Semester	Course Code	Course Name
1	B. Tech (Min.E)	I	191MC1A02	Constitution of India
2	B. Tech (Min.E)	II	191ES2L12	Mining Engineering Workshop
3	B. Tech (Min.E)	II	191PR2P01	Engineering Exploration Project
4	B. Tech (Min.E)	V	171MI5E01	Maintenance and Reliability Engineering
5	B. Tech (Min.E)	V	171MI5E03	Industrial Management and Labor Relations
6	B. Tech (Min.E)	V	171MI5S01	MOOCs - I
7	B. Tech (Min.E)	V	171HS5T06	Employability Skills - III
8	B. Tech (Min.E)	VI	171MI6E06	Mineral Exploration
9	B. Tech (Min.E)	VI	171MI6E07	Advance Surveying Technology
10	B. Tech (Min.E)	VI	171MI6E08	Mine Subsidence Engineering
11	B. Tech (Min.E)	VI	171MI6S02	MOOCs - II
12	B. Tech (Min.E)	VI	171HS6T07	Employability Skills - IV
13	B. Tech (Min.E)	VII	R1641261	Computer Applications in Mining
14	B. Tech (Min.E)	VII	R1641267	Computer Applications in Mining Lab
15	B. Tech (Min.E)	VIII	R1642261	Mine Economics & Investment

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BoS Chairperson

Head of the Department

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Annexure-II

List of Courses Revised in the Academic Year 2019-2020

S. No	Program	Semester	Course Code	Course Name
1	B. Tech (Min.E)	I	191HS1T01	Communicative English
2	B. Tech (Min.E)	I	191BS1T01	Differential Equations and Linear Algebra
3	B. Tech (Min.E)	I	191BS1T02	Engineering Physics
4	B. Tech (Min.E)	I	191BS1L01	Engineering Physics lab
5	B. Tech (Min.E)	I	191ES1L02	Basic Engineering Workshop
6	B. Tech (Min.E)	I	191MC1A01	Environmental Science
7	B. Tech (Min.E)	II	191BS2T05	Partial Differential Equations and Vector Calculus
8	B. Tech (Min.E)	II	191BS2T06	Chemistry of Materials
9	B. Tech (Min.E)	II	191ES2T02	Engineering Graphics and Design
10	B. Tech (Min.E)	II	191ES2T03	Essential Electrical and Electronics Engineering
11	B. Tech (Min.E)	II	191ES2T04	Engineering Mechanics
12	B. Tech (Min.E)	II	191BS2L04	Engineering Chemistry Lab
13	B. Tech (Min.E)	V	171MI5T11	Basic Geo Mechanics
14	B. Tech (Min.E)	V	171HS5T04	Managerial Economics and Financial Analysis
15	B. Tech (Min.E)	V	171MI5E02	Mine Construction and Management
16	B. Tech (Min.E)	V	171MI5L03	Rock Mechanics Lab

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17	B. Tech (Min.E)	VI	171MI6T14	Mineral Processing Technology
18	B. Tech (Min.E)	VI	171MI6T16	Mining Machinery
19	B. Tech (Min.E)	VI	171MI6E04	Advanced Geo Mechanics
20	B. Tech (Min.E)	VI	171MI6E05	Mine Fire and Spontaneous Heating
21	B. Tech (Min.E)	VI	171MI6E09	Rock Fragmentation Engineering
22	B. Tech (Min.E)	VI	171MI6L05	Mineral Processing Technology Lab
23	B. Tech (Min.E)	VII	R164126A	Rock Slope Engineering

S. Prasad

BoS Chairperson

Head of the Department
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Annexure III

Action Taken Report on Stakeholders Feedback in the Academic Year 2019-2020

S. No	Agenda Item No.	Stakeholders Recommended	Action Taken
1	4.11	Students are lacking in modern surveying tools in the mining field such as Total station surveying, GPS, etc	To make students understand modern surveying techniques one more surveying Course has been added to the curriculum namely: <ul style="list-style-type: none"> • Mine Surveying -II
2		Mining students are lacking in basic communication skills only few students are good rest are need to be improve.	Different communicative skills courses are added to the curriculum such as: <ul style="list-style-type: none"> ✓ Communicative English ✓ Communicative English lab-I ✓ Communicative English Lab-II
3		Mining students should have depth knowledge about different exploration techniques used for the mineral exploration.	To make students aware of different exploration techniques required in the mining field the following course has been included in the curriculum <ul style="list-style-type: none"> ✓ Mineral Exploration
4		Mining students should be aware of mine subsidence engineering that will help them in different underground mines.	The importance of the mine subsidence is well understood and the same has been included in the curriculum

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			<ul style="list-style-type: none"> • Mine Subsidence Engineering
5		Students should possess knowledge in the feasibility report of a mine and should have the ability to calculate the loss and profit aspect of a mining project.	<p>To make the student aware of feasibility report of a mine and profit and loss aspect of the mine the following course are included in the curriculum they are:</p> <ul style="list-style-type: none"> • Mine Economics & Investment
6	4.11	The Importance of surveying has drastically increase in the mining as lot of new techniques has been in used the surveying.	<p>To make student aware of modern surveying tools one for surveying subject has included in the curriculum</p> <p>✓ Mine Surveying-II</p>
7		The courses which increase the placement of the student should be included in the curriculum.	<p>The course which increases the possibility of the student's placements in the upcoming years are as follows:</p> <ul style="list-style-type: none"> • Internet of Things
8		The no of employability skills in the curriculum should be increased.	<p>The importance of employability skills are well understood so more no of employability skills are included in the curriculum they are:</p> <ul style="list-style-type: none"> • Employability Skills - III • Employability Skills - IV
9		Apart from underground, surface mining, high wall mining, etc. Mining has also started in the sea and ocean which is very new technique in itself so it should be included in the Curriculum.	<p>The importance of the course is well understood and the same has been included in the curriculum namely:</p> <p>✓ Deep sea mining</p>

10		The MOOCs course should be included in the curriculum.	As per the suggestion following Moocs course has been included they are: <ul style="list-style-type: none"> • MOOCs – I • MOOCs - II
11	4.10	The students should be aware of latest computer application in the mining field	The course which address the computer application in the mines are as follows: <ul style="list-style-type: none"> • Computer Applications in Mining • Computer Applications in Mining Lab
12	4.10	Students should be made ready for public speaking skills so that they can speak publicly fluently in mining related courses.	For increasing the skills of students of public speaking they are encouraged for participating in different conferences which help in national and international level. Final syllabus also has subjects which increase their skills they are: <ul style="list-style-type: none"> ✓ Seminar ✓ Project


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Annexure III

Action Taken Report on Stakeholders Feedback in the Academic Year 2020-2021

S. No	Agenda Item No.	Stakeholders Recommended	Action Taken
1	6.12	The mining industry is moving towards sustainability, closure and restoration of the mining areas so students should be aware of these things.	The make student aware of smooth closure and reclamation of the mining areas the following subject was included in the curriculum. ✓ Mine Closure and Reclamation
2		The mining student should have knowledge about geo graphic mapping and remote sensing which plays an important role in detecting different types of ores.	To make mining student aware of the courses related to geographical mapping the following courses include in the curriculum. ✓ Remote Sensing and GIS
3		The Mining students should have proper knowledge of modern surface mining techniques and advance methods used in it.	The modern and advance techniques in the surface mining have been included in the curriculum they are: ✓ Advance Surface Mining Technology
4		Students should be responsible for handling of the man power in the mines. So, they should develop managerial skills in them.	To make each student a good manager they should possess managerial skills in them for that the following subject has been included in the curriculum: • Mine Management
5		Students should be aware of different environmental aspect of mining in the mining.	The subject which creates environment impact awareness among the students they are: ✓ Environmental Impact Assessment
6		Students should have real knowledge of mining field so time to time industry visit should be included in the curriculum.	Industry visit has stopped due to corona, which is about as the corona effect reduced. Internship is included in the syllabus and for

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			final year the internship has been made mandate. ✓ Internship
7	6.3	The syllabus needs few rectifications as the few subjects are not including the automation and new needs of the mining world	The subjects which are improved with new inclusion in the course are as follows: ✓ Surface mining ✓ Rock Fragmentation Engineering ✓ Underground Coal Mining Technology
8	6.12	Students should be aware of new sampling and geostatistical approach for collection of sample in the mining field.	The course which meets the modern approach of sample collection for further analysis of the sample are as follows: ✓ Geo-statistics
9		Students should be more exposed to the real time problems of the mining industry	To make students more aware of industry related problems in mining the following course included: ✓ Industry related project
10	6.11	Students should be allowed for internship and industrial visit	Due to corona industry are not allowing outsider to get entry in their premises, For Internship management has allowed each student to visit mines, also faculties are helping them to get the internship from various companies.
11		Sports culture should be developed in the college and proper timing should be given to it.	Already our Physical education department is there who were helping each and every student to nurture in their individual sports.
12		Students should be aware of modern design prospects of a mine.	The subject which gives the student design prospect of mine are included in the curriculum they are: • Mine Planning and Design Lab

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BoS Chairperson

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