



ADITYA ENGINEERING COLLEGE

An Autonomous Institution

Approved by AICTE • Permanently Affiliated to JNTUK • Accredited by NAAC with 'A' Grade

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 Mechanical Engineering

Syllabus Revision for the Academic Year 2018-2019				
S.No	Semester	Course Code	Course Name	% of content revised for the existing year
1	I	171HS1T01	English – I	0
2	I	171BS1T01	Mathematics - I	0
3	I	171HS1T02	Environmental Studies	0
4	I	171BS1T03	Engineering Chemistry	0
5	I	171ES1T02	Engineering Mechanics	0
6	I	171ES1T01	Computer Programming	0
7	I	171HS1L01	English Communication Skills Lab - I	0
8	I	171BS1L01	Engineering Chemistry Lab	0
9	I	171ES1L01	Computer Programming Lab	0
10	II	171HS2T03	English - II	0
11	II	171BS2T02	Mathematics - II	0
12	II	171BS2T06	Mathematics - III	0
13	II	171BS2T07	Engineering Physics	0
14	II	171ES2T03	Engineering Drawing	0
15	II	171ES2T05	Basic Electrical and Electronics Engineering	0
16	II	171HS2L02	English Communication Skills Lab - II	0
17	II	171BS2L02	Engineering Physics Lab	0
18	II	171ES2L02	Engineering Workshop and IT Workshop	0
19	III	171ES3T13	Metallurgy & Materials Science	5
20	III	171ES3T11	Mechanics of Solids	22
21	III	171ES3T12	Thermodynamics	0
22	III	171HS3T04	Managerial Economics and Financial Analysis	0
23	III	171ES3T14	Fluid Mechanics & Hydraulic Machinery	0
24	III	171ME3T01	Computer Aided Engineering Drawing Practice	0

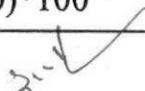
PRINCIPAL
Aditya Engineering College
SURAMPALAM


S.No	Semester	Course Code	Course Name	% of content revised for the existing year
25	III	171ES3L05	Basic Electrical And Electronics Engg. Lab	20
26	III	171ES3L06	Mechanics of Solids and Metallurgy Lab	20
27	III	171HS3A09	Professional Ethics & Human Values	0
28	III	171HS3A10	Employability skills-I	100
29	IV	171ME4T02	Kinematics of Machinery	10
30	IV	171ME4T03	Thermal Engineering -I	0
31	IV	171ME4T04	Production Technology	10
32	IV	171ME4T05	Design of Machine members-I	20
33	IV	171ME4T06	Industrial Engineering and Management	26
34	IV	171ME4T07	Machine Drawing	30
35	IV	171HS4T08	Intellectual Property rights and patents	0
36	IV	171ME4L01	Production Technology Lab	20
37	IV	171ES4L07	Fluid mechanics and Hydraulic Machinery Lab	24
38	IV	171HS4A11	Employability Skills -II	100
39	V	R1631031	Dynamics of Machinery	0
40	V	R1631032	Metal Cutting and Machine Tools	0
41	V	R1631033	Design of Machine members-II	0
42	V	R1631034	Operations Research	0
43	V	R1631035	Thermal Engineering -II	0
44	V	R1631036	Theory of Machines Lab	100
45	V	R1631037	Machine Tools Lab	0
46	V	R1631038	Thermal Engineering Lab	0
47	V	R1631029	IPR&Patents	0
48	VI	R1632031	Metrology	0
49	VI	R1632032	Instrumentation and Control systems	0
50	VI	R1632033	Refrigeration and Air Conditioning	0
51	VI	R1632034	Heat Transfer	0
52	VI	R163201A	Entrepreneurship	100
53	VI	R163201D	Waste Water Management	0
54	VI	R1632036	Heat Transfer Lab	0
55	VI	R1632037	Metrology & Instrumentation Lab	0
56	VI	R1632038	Computational Fluid Dynamics Lab	100

PRINCIPAL
Aditya Engineering Coll.
SIRAMPALAI

S.No	Semester	Course Code	Course Name	% of content revised for the existing year
57	VI	R1632029	Professional Ethics & Human Values	0
58	VII	RT41031	Automobile Engineering	0
59	VII	RT41032	CAD/CAM	0
60	VII	RT41033	finite Element Methods	0
61	VII	RT41034	Unconventional Machining Process	0
62	VII	RT41035	MEMS	0
63	VII	RT41036	Nano technology	0
64	VII	RT41037	Material Characterization techniques	0
65	VII	RT41038	Design for Manufacture	0
66	VII	RT41039	Automation in Manufacturing	0
67	VII	RT4103A	Industrial hydraulics and Pneumatics	0
68	VII	RT4103L	Simulation Lab	0
69	VII	RT4103M	Design/Fabrication project	0
70	VIII	RT42031	Production Planning and control	0
71	VIII	RT42032	Green Engineering Systems	0
72	VIII	RT42033A	Experimental Stress Analysis	0
73	VIII	RT42033B	Mechatronics	0
74	VIII	RT42033C	Advanced Materials	0
75	VIII	RT42033D	Power Plant Engineering	0
76	VIII	RT42034A	Non Destructive Evaluation	0
77	VIII	RT42034B	Advanced Optimization techniques	0
78	VIII	RT42034C	Gas Dynamics and Jet Propulsion	0
79	VIII	RT42034D	Quality & Reliability Engineering	0
80	VIII	RT42035	Project Work	0
Total number of courses in the academic year 2018-2019				80
Number of courses having revision in syllabus content $\geq 20\%$ in the academic year 2018-2019				13
Percentage of syllabus revision carried out in the academic year 2018-2019 = $(13/80)*100$				= 16.25


Program Coordinator


PRINCIPAL
Aditya Engineering College
SURAMPALAM


Head of the Department
Department of Mechanical Engineering
Aditya Engineering College (A)
SURAMPALAM-533 437



ADITYA ENGINEERING COLLEGE

An Autonomous Institution

Approved by AICTE • Permanently Affiliated to JNTUK • Accredited by NAAC with 'A' Grade

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

Department of Mechanical Engineering

Date: 14-11-2018

Minutes of the III meeting of BOS scheduled on 12-11-2018

The III meeting of the BOS (Board of Studies) of ME was held on 12-11-2018 at 10:00 AM in the Ajivika Conference Hall, Bill Gates Bhavan, AEC. Prof. A. Saravanan, chairperson presided over the meeting.

Agenda 3.1: Welcome address by Chairperson-BOS

Prof A.Saravanan, BOS chairperson invited the distinguished members of BOS to the III BOS Meeting.

Agenda 3.2: Ratification of minutes of the previous Board of Studies meeting

The members of BOS have ratified the points discussed in the previous Board of Studies meeting held on 30/11/2017.

Agenda 3.3: Discussion on proposed AR17 B.Tech(ME) Program- VI, VII & VIII semesters syllabus and ratification of the same

BOS members approved the syllabus of VI, VII & VIII Semester Syllabus and ratified the same.

After long discussion with the BOS members on the syllabus, the following suggestions are made:

VI Semester

- Suggested to keep a note in Refrigeration & Air conditioning for allowing psychometric charts in external examinations
- Suggested to keep Dynamometers in Metrology & Instrumentation and control systems in any elective of the curriculum.
- Suggested to include grippers in unit -II and proximity sensors in unit -IV of Robotics
- Suggested to include welding symbols in Design for Manufacturing
- Suggested to introduce types of testing and introduction to destructive testing in Non-Destructive Testing
- Suggested to replace Beam Machining in unit V of unconventional machining process by Radiant Energy Machining.

PRINCIPAL

ADITYA ENGINEERING COLLEGE
SURAMPALAM - 533 437

- Suggested to verify size of the accumulators and intensifiers in unit-III of Industrial Hydraulics & Pneumatics.
- Suggested to include boring and internal threading operations in drilling on lathe experiment and delete gear cutting on slotter in augmented experiments
- Suggested to replace Composite slab by Composite material in second experiment of Heat Transfer Lab.

VII Semester

- Suggested to remove Fluid flow problems, 2D Heat and Structural problems in Finite Element Methods.
- Suggested to replace heading of unit-II by Diesel Power Plants & Gas Power Plants.
- Suggested to remove Jet Propulsion in Gas dynamics and Jet Propulsion
- Suggested to remove induction motors in fault diagnostics, thermal images in thermography of condition monitoring
- Suggested to keep material handling in FMS in place of material transportation.
- Suggested to replace NC Lathe by CNC Lathe.

VIII Semester


- Suggested to remove Basic Design Methods of Heat Exchangers in Unit-I, shell and tube heat exchangers in Unit-II of Thermal Equipment Design
- The members of BOS discussed and ratified the list of new courses. The percentage of courses introduced in the academic year 2018-19 for B.Tech (ME) Program is 6.09%. The List of courses introduced is enclosed as Annexure-I.
- The members of BOS discussed and ratified the revision of syllabus. The percentage of courses revised in the academic year 2018-19 for B.Tech (ME) Program is 16.25% and for M.Tech (TE) Program is 6%. The List of courses revised is enclosed as Annexure-II.

Open Electives offered by Mechanical Engineering:

1. Computer Science Engineering and Information Technology
 - I. Robotics
 - II. Nano technology and its applications
 - III. Operations Research
- Suggested to add robot programming in Unit-II and remove programming languages and software packages in Unit-V of Robotics.
2. Electronics and Communications Engineering
 - I. Green Fuel Technologies
 - II. Robotics
 - III. Alternative Energy Sources


PRINCIPAL
ADITYA ENGINEERING COLLEGE
SURAMPalem - 533 437

- Suggested to add robot programming in Unit-II and remove programming languages and software packages in Unit-V of Robotics.
3. Civil Engineering
 - I. Green Fuel Technologies
 - II. Green Energy Systems
 - No suggestions are made for above subjects.
 4. Agricultural Engineering
 - I. Computational Fluid Dynamics
 - II. Industrial Engineering and Management
 - III. Operation Research
 - IV. Production technology for Agricultural Machinery
 - Suggested to remove equations governing Fluid Flow and heat transfer of Unit-II, Finite difference applications in Conduction and Convection of CFD.
 - Suggested to remove Total Quality Management in Industrial Engineering and management
 - Suggested to remove Mechatronics System in Unit-I and add some sub topics in PLCs in Unit -IV of Mechatronics
 - Suggested to follow JNTU Syllabus of Production Technology for Agricultural Machinery
 5. Petroleum Technology
 1. Alternate Energy Source for Automobiles
 2. Computational Fluid Dynamics
 - Suggested to remove equations governing Fluid Flow and heat transfer of Unit-II, Finite difference applications in Conduction and Convection of CFD.
 6. Electrical and Electronics Engineering:
 1. Robotics
 2. Optimization Techniques
 - Suggested to add robot programming in Unit-II and remove programming languages and software packages in Unit-V of Robotics.
 7. Mining Engineering
 1. Robotics
 2. Mechanical Engineering Lab
 - Suggested to add robot programming in Unit-II and remove programming languages and software packages in Unit-V of Robotics which helps the student to get more placement opportunities.
 - Suggested to remove Study of Boilers and Moment of Inertia of Fly Wheel Experiments in Mechanical Engineering Lab.


PRINCIPAL
ADITYA ENGINEERING COLLEGE
SURAMPALEM - 533 437

Agenda 3.4: Discussion on the proposed AR19 B.Tech (ME) Program&AR19 M.Tech (TE) Program as per the guidelines of APSCHE&AICTE

- The BOS members approved the proposed AR19 B.Tech (ME) Program&AR19 M.Tech Program as per the guidelines of APSCHE&AICTE

Agenda 3.5: Discussion on MOOCS Courses in the curriculum and ratification of the same.

- BOS members ratified the courses MOOCS-I in V Semester and MOOCS-II in VI Semester in the curriculum.

Agenda 3.6: Discussion on AICTE Approved Model Curriculum on 2018-2019 Academic year and ratification of the same.

BOS members suggested to discuss the Model Curriculum of AICTE in the next schedule BOS meeting.

Agenda 3.7: Analysis of student's feedback & Action taken Report

BOS Chairperson expressed that the student feedback & action taken report process was initiated at end of each semester.

Agenda 3.8: Analysis of stakeholder's feedback on Curriculum

BOS Chairperson presented the analysis report of stakeholder's feedback on Curriculum. The BOS members noted the same and the action taken report is enclosed in Annexure III.

Agenda 3.9: Discussion on Analysis of results

The BOS chairperson presented odd semester pass percentage for the A.Y.2018-2019. The BOS members noted the same.

Agenda 3.10: Any other item with the approval of Chairman.

NIL


Agenda 3.11: Scheduling of next Board of Studies meeting.

The next BOS meeting is tentatively scheduled in the month of July 2019.

Agenda 3.12: Vote of Thanks

Prof A. Saravanan, BOS Chairperson presented the Vote of thanks.


PRINCIPAL
ADITYA ENGINEERING COLLEGE
SURAMPALEM - 533 437


BOS Chairperson
Head of the Department
Department of Mechanical Engineering
Aditya Engineering College (A)
SURAMPALEM-533 437



ADITYA ENGINEERING COLLEGE

An Autonomous Institution

Approved by AICTE • Permanently Affiliated to JNTUK • Accredited by NAAC with 'A' Grade

Recognised by UGC under sections 2(f) and 12(B) of UGC Act, 1956

Aditya Nagar, ADB Road, Surampalem - 533437, Near Kakfnada, E.G.Dt., Ph:99498 76662

Department of Mechanical Engineering

Annexure-I

List of New Courses in the Academic Year 2018-19

S. No	Program	Semester	Course Code	Course Name
1	B. Tech (ME)	III	171HS3A10	Employability Skills – I
2	B. Tech (ME)	IV	171HS4A11	Employability Skills – II
3	B. Tech (ME)	V	R1631036	Theory of Machines Lab
4	B. Tech (ME)	VI	R163203A	Entrepreneurship
5	B. Tech (ME)	VI	R1632038	Computational Fluid Dynamics Lab


BOS Chairperson

Head of the Department
Department of Mechanical Engineering
Aditya Engineering College (A)
SURAMPALEM-533 437



PRINCIPAL
ADITYA ENGINEERING COLLEGE
SURAMPALEM - 533 437



ADITYA ENGINEERING COLLEGE

An Autonomous Institution

Approved by AICTE • Permanently Affiliated to JNTUK • Accredited by NAAC with 'A' Grade

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

Department of Mechanical Engineering

Annexure-II

List of Courses Revised in the Academic Year 2018-19

S. No	Program	Semester	Course Code	Course Name
1	B. Tech (ME)	III	171ES3T11	Mechanics of Solids
2	B. Tech (ME)	III	171ES3L05	Basic Electrical and Electronics Engineering Lab
3	B. Tech (ME)	III	171ES3L06	Mechanics of Solids and Metallurgy Lab
4	B. Tech (ME)	IV	171ME4T05	Design of Machine Members – I
5	B. Tech (ME)	IV	171ME4T06	Industrial Engineering and Management
6	B. Tech (ME)	IV	171ME4T07	Machine Drawing
7	B. Tech (ME)	IV	171ME4L01	Production Technology Lab
8	B. Tech (ME)	IV	171ES4L07	Fluid Mechanics & Hydraulic Machinery Lab
9	M. Tech (TE)	II	172TE2E12	Advanced Automobile Engineering
10	M. Tech (TE)	II	172TE2E16	Equipment Design for Thermal Systems

BOS Chairperson

Head of the Department
Department of Mechanical Engineering
Aditya Engineering College (A)
SURAMPALEM-533 437

PRINCIPAL

ADITYA ENGINEERING COLLEGE
SURAMPALEM - 533 437



ADITYA ENGINEERING COLLEGE

An Autonomous Institution

Approved by AICTE • Permanently Affiliated to JNTUK • Accredited by NAAC with 'A' Grade

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

Department of Mechanical Engineering

Annexure III

Action Taken Report on Stakeholders Feedback in the Academic Year 2018-19

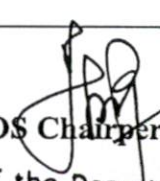
S. No.	Agenda Item No.	Stakeholders Recommended	Action Taken
1	3.13	Introduce employability skills as a part of curriculum so that students can be industry ready.	As suggested from the employer, employability skills has be implemented in the upcoming semesters.
2	3.8	Better to add GD & T related to Machine Drawing so that student may have knowledge on production symbols.	Introduced limits, fits, tolerances to Machine Drawing subject.
3	3.3	Better to introduce advanced material testing experiments so that student may have good knowledge on materials and its properties.	As per suggestions and discussions made with the professionals and dean academics, fatigue testing has be added to the material science lab.
4	3.3	It has be an added advantage if student had knowledge on advanced testing and materials.	As per the suggestions received, Non – Destructive Evaluation and Nano Technology has be introduced.
5	3.8	It is better to know how the operations are managed in the industries.	As per the suggestions received, Industry Engineering & Management has be introduced to the curriculum.
6	3.8	Please reduce the DMM syllabus.	As per suggestions and discussions made with dean academics, necessary action has be implemented.

PRINCIPAL

ADITYA ENGINEERING COLLEGE
SURAMPALAM - 533 437

7	3.8	Should be aware of the latest drafting and engineering techniques.	According to the suggestions, and changes from time to time, Engineering drawing subject name can be revised.
8	3.3	Students must have knowledge on the fuels and its types.	According to the suggestions, experiment on the fuels has be added to the lab when discussion made with the experts and professors.
9	3.8	Better to introduce additional industry oriented courses to enhance the student skill.	As per the suggestions, value added courses has be introduced to have skill oriented training.
10	3.3	As more topics included in the design of machine members – 1, it is better to reduce the topics	As per the feedback received and discussions made, revision of the subject has be initiated.
11	3.7	Please remove dress code to the last semester students.	As per the suggestion received, necessary action has be implemented.
12	3.7	Better to provide additional training on subjects to beat the competitive exams.	As per suggestion received and discussions made with dean academics, GATE classes has be introduced.
13	3.8	Student participation is required for the project to be completed successfully.	As per suggestions, projects are encouraged for students and various industry visits will be planned.
14		Better to provide more electives.	As per the suggestions, more PE's and OE's will be introduced.
15		It is better to change the question paper pattern in the semester examination.	As suggested and discussion with experts, to overcome the deficiency new question paper will be formulated for the final semester examination.
16	3.7	Better to provide more technical sessions, webinars on advanced topics.	As suggested, industrial orientation sessions from industry experts and global engineers will be initiated.


PRINCIPAL
ADITYA ENGINEERING COLLEGE
SURAMPALEM - 533 437


BOS Chairperson
Head of the Department
Department of Mechanical Engineering
Aditya Engineering College (A)
SURAMPALEM-533 437