MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC - Autonomous)
(Approved by AICTE, New Delhi &Affiliated to JNTUA, Anantapuramu)
P.B.No. 14, Angallu, Madanapalle – 517325, Chittoor Dist., Andhra Pradesh, India.
www.mits.ac.in Phone: 08571-280255, 280706 Fax: 08571 – 280433

Department of Mechanical Engineering

Date: 08/08/2016

Composition and Approval of Program Assessment Committee (PAC)

Following members are nominated and approved for constitutions of Assessment Committee (PAC).

1. Dr P Suryanarayana Raju, Head of the Department, Mechanical Engineering, MITS
2. Dr G Harinath Gowd, Professor, Mechanical Engineering, MITS
3. Dr Prasanna Kumar Duvvi, Professor, Mechanical Engineering, MITS
4. Dr S Baskaran, Associate Professor, Mechanical Engineering, MITS
5. Dr I Arun, Associate Professor, Mechanical Engineering, MITS

Responsibilities of the committee:

1. Monitors attainment of COs, POs and PSOs
2. PAC evaluates programme effectiveness and process necessary changes
3. Preparation of periodic reports, records on program activities, progress and status reports.

HoD/ME

Principal

Principal
Madanapalle Institute of
Technology & Science
MADANAPALLE

Copy to

- The Principal
- The Vice Principal (Academics)
- Programme Assessment Committee
- Department File

Madanapalle Institute of Technology & Science
(An Autonomous Institution)
Affiliated to JNTUA, Anantapur & Approved by AICTE, New Delhi
(An ISO 9001-2008 Certifies Institution)
Post Box No. 14, Angallu, Madanapalle – 517325.
Ph. 08571-280255, 280706, Fax: 08571-280433
Web: www.mits.ac.in

DEPARTMENT OF MECHANICAL ENGINEERING

Minutes of Meeting and Recommendations of PAC

Department PAC meeting was held on 20/08/2016, following are the discussions and resolutions made in the meeting.

1) The course attainment for Co1, Co2, Co4 are not satisfactory for the subject **Differential Equations & Laplace Transforms**, and the faculty has to solve more problems on differential equations for attaining the target level.

2) No COs have met the target level for **Mechanics of Solids**. To improve the attainment level in all the COs teachers are advised to concentrate more on the first unit in the syllabus which has a brief introduction to engineering mechanics.

3) In **Thermodynamics** CO2, CO3 and CO6 have not attained the target level. The faculties are asked to give More assignments on the topics properties of substances, analyse the systems using first law and second law of thermodynamics.

4) In **Fluid mechanics**, Faculty are advised to plan and execute the lectures on conservation equations and external flows more carefully in the subsequent semesters to attain the CO2 and CO6.

5) In machine design, CO3 and CO5 have not met the target level and therefore problems related to design of riveted joints and bolted joints will be solved and also problems and assignments will be given related to helical, co-axial and leaf springs.

6) Requested to maintain each lab in good condition and timely evaluation has to be done.

Madanapalle Institute of Technology & Science
(An Autonomous Institution)
Affiliated to JNTUA, Anantapur & Approved by AICTE, New Delhi
(An ISO 9001-2008 Certifies Institution)
Post Box No. 14, Angallu, Madanapalle – 517325.
Ph. 08571-280255, 280706, Fax: 08571-280433
Web: www.mits.ac.in

DEPARTMENT OF MECHANICAL ENGINEERING

Minutes of Meeting and Recommendations of PAC

Department PAC meeting was held on 20/08/2016, following are the discussions and resolutions made in the meeting.

1) The course attainment for Co1, Co2, Co4 are not satisfactory for the subject **Differential Equations & Laplace Transforms**, and the faculty has to solve more problems on differential equations for attaining the target level.

2) No COs have met the target level for **Mechanics of Solids**. To improve the attainment level in all the COs teachers are advised to concentrate more on the first unit in the syllabus which has a brief introduction to engineering mechanics.

3) In **Thermodynamics** CO2, CO3 and CO6 have not attained the target level. The faculties are asked to give More assignments on the topics properties of substances, analyse the systems using first law and second law of thermodynamics.

4) In **Fluid mechanics**, Faculty are advised to plan and execute the lectures on conservation equations and external flows more carefully in the subsequent semesters to attain the CO2 and CO6.

5) In machine design, CO3 and CO5 have not met the target level and therefore problems related to design of riveted joints and bolted joints will be solved and also problems and assignments will be given related to helical, co-axial and leaf springs.

6) Requested to maintain each lab in good condition and timely evaluation has to be done.

7) Frame the syllabus of R18 considering all these considerations accordingly.

8) Since the 3 year and final year students are still in R13 further discussion on the attainment is not discussed in detail.

9) Industry related labs are established to train students in the state-of-the-art tools and techniques which are in high demand in the market.

1. Dr. Suryanarayana Raju Pakalapati, Professor and Head:
2. Dr. Harinath Gowd, Professor:
3. Dr. Prasanna Kumar, Professor:
4. Dr. Baskaran S., Assoc. Professor:
5. Dr. I. Arun, Assoc. Professor:

PRINCIPAL
Madanapalle Institute of Technology & Science
PO Box NO 14, Kadiri Road, Angallu
MADANAPALLE 517 325 A P

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(UGC-AUTONOMOUS)
Affiliated to JNTUA, Ananthapuramu & Approved by AICTE, NewDelhi
Recognised Research Center, Accredited by NAAC, NBA for CSE, ECE, EEE, ME, MBA

World Bank funded Institute, Recognised by UGC under the sections 2(f) and 12(B) of the UGC act 1.956
Recognised as Scientific & Industrial Research Organization by DSIR of DST

Department of Mechanical Engineering

Actions taken based on the results of evaluation of each of the COs, POs & PSOs

POs & PSOs Attainment Levels and Actions for improvement – R2014 & Batch 2014-2018

Pos	Target Level	Attainment Level	Observations
PO1.Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.			
PO1	0.75	0.77	Target is achieved. However, CO attainment is low a few courses including 14ME110. This was delivered in MOOCs mode and students struggled to score good grades in the final exam conducted by NPTEL
Action.1: For the subsequent batches' faculty, provided more support to the students taking MOOCs classes in terms of giving them in class practice for solving 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.			
PO2	0.75	0.76	Target is achieved. However, attainment is low in some relevant courses like 14ME102 and 14ME110.
Action 1: To address the low CO attainment in the course Mechanics of Solids (14ME102), faculty are instructed to stress more on the first unit which is on Engineering Mechanics. Action 2: It was noticed that students are lacking the required basics for design courses since there is no course on Engineering Mechanics. This course is being added in R18 regulation.			
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 the public health and safety, and the cultural, societal, and environmental considerations.			
PO3	0.75	0.77	Target is achieved. However, attainment is low in Project work (14ME502).
Action 1: Faculty guides are instructed to concentrate more the methodologies employed by the students in performing the project tasks.			
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.			

PO4	0.75	0.77	Target is achieved. However, attainment is low in some related courses. The actions taken for addressing the above POs are expected to affect this PO as well

Action 1:
Action N:

PO5.Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and
IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO5	0.75	0.79	Target is achieved, Attainment is low in some practical courses like ME210 CAD/CAM Lab.

Action 1: Faculty are instructed provide thorough inputs to the students during the lab hours so that they can correctly use the software tools for design and analysis of mechanical components.
Action 2: Workshops and trainings are conducted to provide additional training for the students in modern tool usage.

PO6.The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health,
safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO6	0.75	0.81	Target is achieved. However, there are very limited courses in the curriculum which address this PO.

Action 1: Topics related societal aspects in engineering profession are to be covered, wherever relevant, in core engineering courses.

PO7.Environment and sustainability: Understand the impact of the professional engineering solutions in societal
and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO7	0.75	0.74	Target not achieved. There are only a few courses that directly address this PO. Topics should be taught in other courses to address the environment and sustainability issues.

Action 1: More out of syllabus topics to be covered in engineering courses to cover the environment and sustainability related issues.
Action 2: Faculty are instructed to concentrate on environmental issue in Lab instruction as well as in student projects

PO8.Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO8	0.75	0.71	Target not achieved. There are only a few courses that directly address this PO. Topics should be taught in other courses to address the environment and sustainability issues.

Action 1: Faculty are advised to cover topics beyond syllabus to address the ethical issues in engineering practice. Action 2: Guest lectures are arranged on what level of performance is expected from engineering graduates in Industry.

PO9.Individual and team work: Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO9	0.75	0.78	Target is achieved. However, very few courses directly address this PO.
Action 1: SAE student chapter is started in the Department through which many students are participating in design competitions and other team events.			
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.			
PO10	0.75	0.78	Target is achieved. However, employer feed back points to deficiency in communication skills among the graduates.
Action 1: Additional verbal training is provided to the students.			
PO11. Project management and finance: Demonstrate knowledge and understanding of the engineering 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.			
PO11	0.75	0.79	Target is achieved. However, only few courses address this PO
Action 1: The faculty advisors for the professional society activities like SAE design competetions are instructed to teach proper project management methodologies to student teams to ensure on-time and on-budget completion of the designs.			
PO12. Life-long learning: Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change. PSOs are initially framed in preparation for design of the program core curriculum.			
PO12	0.75	0.78	Target is achieved. However, courses in the curriculum only weakly address this PO
Action 1: Guest lectures by prominent engineering professionals are arranged for students so that they learn further extensions of basic concepts they learn in college and grow an appreciation for continouous learning.			
PSO1: Apply concepts and principles from Applied Mechanics to design, develop and evaluate mechanical systems for a specified purpose.			
PSO1	0.75	0.77	Target is achieved. However, attainment is low is some design courses.
Action 1: Additional training is provided to students in final years which was aimed at improving their performance in technical rounds of campus placement drives. Action 2: Mock interviews are conducted, and students are sensitized to the nature of questions that are asked in the technical interviews and breadth and depth of core engineering topics that are covered in interviews. Action 3: GATE training is provided by the department faculty to improve the performance of the students in all core subjects.			
PSO2: Employ governing laws of thermodynamics, fluid flow and heat transfer for design and analysis of thermo-fluid systems.			
PSO2	0.75	0.76	Target is achieved. However, attainment is low is some thermal engineering courses.

Action 1: Additional training is provided to students in final years which was aimed at improving their performance in technical rounds of campus placement drives.			
Action 2: Mock interviews are conducted, and students are sensitized to the nature of questions that are asked in the technical interviews and breadth and depth of core engineering topics that are covered in interviews. Action 3: GATE training is provided by the department faculty to improve the performance of the students in all core subjects.			
PSO3: Utilize the knowledge and learning of materials and manufacturing sciences to design, plan and monitor production operations in an Industry.			
PSO3	0.75	0.77	Target is achieved. However, attainment is low is some production courses.
Action 1: Additional training is provided to students in final years which was aimed at improving their performance in technical rounds of campus placement drives. Action 2: Mock interviews are conducted, and students are sensitized to the nature of questions that are asked in the technical interviews and breadth and depth of core engineering topics that are covered in interviews. Action 3: GATE training is provided by the department faculty to improve the performance of the students in all core subjects.			