

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE DEPARTMENT OF CIVIL ENGINEERING

(UGC Autonomous Institution)
Affiliated to JNTUA, Ananthapuramu, Approved by AICTE, New Delhi
Accredited by NBA - Accredited with NAAC A+ Grade - NIRF Band 251-300 (Engg.)



Date: 30-10-2024

CIRCULAR

It is hereby informed to all the members of Program Assessment Committee (PAC) that the 15th PAC meeting is scheduled on 05-11-2024, Tuesday, 04:00 p.m. at the HOD Cabin (EB-105), MITS, Madanapalle, for addressing and reviewing the assessment method for attainment of Course Outcomes (COs), Program Outcomes (POs) and Program Specific Outcomes (PSOs).

Agenda:

1. Assessment of previous results and analysis of Course outcomes (COs), Program Outcomes (POs) and Program Specific Outcomes (PSOs), for the batch 2020-2024
2. Any other matter with the permission of the chair.


Dr. Dipankar Roy
HoD/CE
Civil Engineering
Madanapalle Institute of
Technology & Science
MADANAPALLE - 517 3

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|--|----------|
| 1. Dr. Dipankar Roy
HoD, Dept. of CE, MITS. | Chairman |
| 2. Dr. Sudheer Kumar Y
Sr.Asst. Professor, Dept. of CE, MITS. | Member |
| 3. Dr. Swapneel S Jaiswal
Sr. Asst. Professor, Dept. of CE, MITS. | Member |
| 4. Dr. Vijayakumar N
Sr. Asst. Professor, Dept. of CE, MITS. | Member |
| 5. Dr. Priyam Nath Bhowmik
Asst. Professor, Dept. of CE, MITS. | Member |
| 6. Mr. Veeresh B
Asst. Professor, Dept. of CE, MITS. | Member |
| 7. Mrs. Anitha K
Asst. Professor, Dept. of CE, MITS. | Member |

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Minutes of 15th Program Assessment Committee (PAC) Meeting Held on 05-11-2024

The 15th PAC meeting has been conducted on 11th November, 2024 at 04:00 p.m. at the HOD Cabin (EB-105), MITS, Madanapalle, for addressing and reviewing the assessment method for attainment of Course Outcomes (COs), Program Outcomes (POs) and Program Specific Outcomes (PSOs).

Agenda:

1. Assessment of previous results and analysis of Program Outcomes (POs) and Program Specific Outcomes (PSOs), for the batch 2020-24.
2. Any other matter with the permission of the chair.

Members Present:

- | | | |
|--|----------|--|
| 1. Dr. Dipankar Roy
HoD, Dept. of CE, MITS. | Chairman | |
| 2. Dr. Sudheer Kumar Y
Sr. Asst. Professor, Dept. of CE, MITS. | Member | |
| 3. Dr. Swapneel S Jaiswal
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Asst. Professor, Dept. of CE, MITS. | Member | |

HoD, welcomed the members of the committee who assembled for reviewing the assessment method of Course Outcomes (COs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) for the Civil Engineering Department.

The following points were discussed during the meeting and the minutes were recorded as below,

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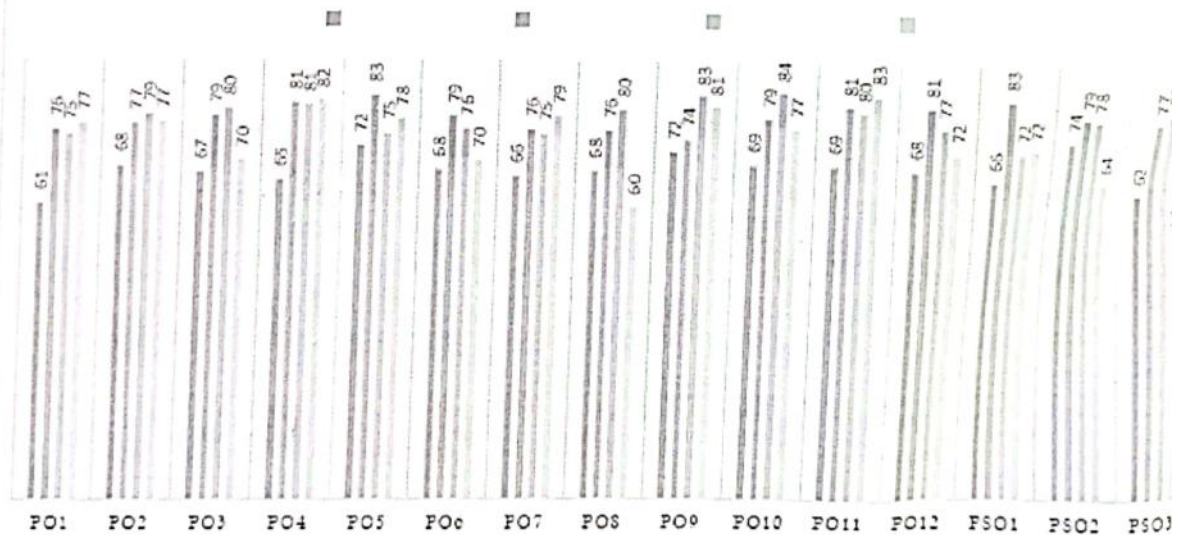
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Overall PO Attainment of AY 2023-24(2020-24 Batch)

PO/ PSOs	Indirect Attainment (20%)				Direct Attainment (80%)	Overall PO Attainment
	Indirect Attainment from Graduate Exit Survey (70%)	Indirect Attainment from Employer Survey (15%)	Indirect Attainment from Alumni Survey (15%)	Overall Indirect Attainment (100%)		
PO1	61	76	75	65	77	80
PO2	68	77	79	71	77	78
PO3	67	79	80	71	70	77
PO4	65	81	81	70	82	77
PO5	72	83	75	74	78	70
PO6	68	79	76	71	70	72
PO7	66	76	75	69	79	76
PO8	68	76	80	71	60	74
PO9	72	74	83	74	81	74
PO10	69	79	84	73	77	64
PO11	69	81	80	73	83	67
PO12	68	81	77	72	72	69
PSO1	66	83	72	70	72	80
PSO2	74	79	78	75	64	75
PSO3	62	77	79	67	53	71

Overall PO Attainment of AY 2023-24 (2020-24 Batch)



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POs & PSOs Attainment Levels and Actions for improvement (2020-24 Batch)

The attainment for the POs is set to 2 (more than or equal to 2 in level) for batch 2020-2024. The following subjects are identified that hasn't achieved the set attainment level for the POs.

PO 1 Statement: Fundamentals: Apply the knowledge of mathematics, science, engineering fundamentals, and Civil Engineering principles to the solution of complex problems in Civil Engineering.

POs	Target Level	Attainment Level	Observation
PO 1	2	3	<ul style="list-style-type: none"> ✓The overall attainment of the PO is above the target level. ✓However, in the following subjects 20CE102, 20CE108, 20CE111, 20CE112, 20CE208 and 20CE209 the PO 1 was not achieved. ✓The above-mentioned subjects are mostly numerical oriented and design based and it is noted that the students did not perform well in numerical and design subjects. Also, two lab courses in the list are of similar analytical types and hence didn't meet the attainment.

Actions:

1. Extra tutorial classes need to be arranged for the subjects 20CE102, 20CE108, 18CE111, 18CE112 in order to make the students excel in numerical subjects.
2. For 20CE208 and 20CE209, Lab Courses, the last hour of the lab will be dedicated to problem solving through analysis.

PO 2 Statement: Problem analysis: Identify, formulate, research literature, and analyze complex Civil Engineering problems reaching substantiated conclusions using first principles of mathematics and engineering sciences.

POs	Target Level	Attainment Level	Observation
PO 2	2	2	<ul style="list-style-type: none"> ✓The attainment of the PO is on target. The courses listed below had low attainment than target value 20CE102, 20CE104, 20CE106, 20CE108, 20CE111, 20CE112 and 20CE210 ✓The subjects 20CE102, 20CE104, 20CE106, 20CE108, 20CE111, 20CE112, 20CE210 has attained less because all these subjects are numerical oriented subjects and related to design and analysis and demands higher level of understanding.

Actions:

1. Solving a greater number of numerical problems in the tutorial class for the courses 20CE102, 20CE104, 20CE106, 20CE108, 20CE111, 20CE112 and 20CE210
2. More number of tutorial or extra classes are required to be conducted for the subject 20CE102, 20CE104, 20CE106, 20CE108, 20CE111, 20CE112 and 20CE210

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PO 3 Statement: Design: Design solutions for complex Civil 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.

POs	Target Level	Attainment Level	Observation
PO 3	2	2	<p>✓The attainment of the PO is on target value. Some courses listed below had low attainment than target value 20CE104, 20CE105, 20CE106, 20CE108, 20CE109, 20CE111, 20CE112 and 20CE210.</p> <p>✓However, the subjects 20CE108, 20CE111 and 20CE112 reached the target level 1, however failed to attain level 2.</p> <p>✓The subject 20CE105, 20CE108, 20CE109, 20CE111 and 20CE112 are numerical and design oriented, hence the attainment is low.</p> <p>✓The subjects 20CE104, 20CE106 and 20CE210 are however Theory based but has 50% of the units as design and analysis and hence the attainment is low</p>

Action:

1. Industry personnel have been invited to deliver lectures in the area of design and analysis.
2. More number of tutorial classes need to be arranged.

PO 4 Statement: Investigation: 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 related to Civil Engineering problems.

POs	Target Level	Attainment Level	Observation
PO 4	2	2	<p>✓Target level of 70% is met. However, some courses listed below had low attainment than target value 20CE105, 20CE107, 20CE111 and 20CE210.</p> <p>✓ However, the subjects 20CE105, 20CE107 and 20CE111 reached the target level 1, however failed to attain level 2.</p> <p>✓20CE105 and 20CE107 are numerical oriented subjects and hence the attainment is low.</p> <p>✓The subjects 20CE111 and 20CE210 however Laboratory courses but are design and numerical oriented and hence the attainment is low</p>

Action:

1. Students are motivated to do research through SHARP program to get the state-of-the-art knowledge design and analyzing the complex civil engineering problem area.
2. Students are proliferated at lower semesters to take up more focus on fundamentals of basic Civil Engineering and mathematical subjects.

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3. Geotechnical Engineering Laboratory has been upgraded as per the need of the day.

PO 5 Statement: Tools: Create, select, and apply appropriate techniques, resources, and modern engineering tools such as CAD, FEM and GIS including prediction and modelling to complex Civil Engineering activities with an understanding of the limitations.

POs	Target Level	Attainment Level	Observation
PO 5	2	2	<p>✓ Target level of 70% is met. However, some courses listed below had low attainment than target value 20CE101, 20CE102, 20CE104, 20CE105, 20CE208, 20CE209 and 20MAT103</p> <p>✓ The subjects 20CE102, 20CE104, 20CE105 attained Level 1 but failed to attend the target level.</p> <p>✓ 20CE101, 20CE102, 20CE105 and 20MAT103 are all numerical subjects which demand depth of mathematical knowledge and hence the attainment is low.</p> <p>✓ 20CE104 is a Theory subject, however the later part of the units is design related and hence the attainment is poor.</p> <p>✓ 20CE208 and 20CE209 are laboratory courses demanding mathematical knowledge related to design and hence the attainment is poor.</p>

Actions:

1. Separate workshops or training program need to be conducted for interested students on structural related to numerical analysis and application to civil engineering problems.
2. The lab instructors have been asked to assist the students in performing the calculations and design, draw the graphical plots using any software in laboratory in addition to plotting manual graphs by pen and paper.

PO 6 Statement: 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 Civil Engineering practice.

POs	Target Level	Attainment Level	Observation
PO 6	2	2	<p>✓ The Target of the PO is attained.</p> <p>✓ But, the subjects 20CE112, 20CE208, 20CE209 and 20CE423 had lower attainment than the target value.</p> <p>✓ The subjects are mostly numerical oriented and analytical; more focus on solving numerical problems is</p>



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			required. ✓20CE208 & 20CE209 are lab subjects which require some analytical skills and hence the attainment is poor.
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Actions:

1. More number of tutorial classes and doubt clearing classes need to be conducted
2. The tutorial classes should comprise of problem analysis and solving sessions.
3. The assignments given to the students should have ample number of numerical problems included them.

PO 7 Statement: Environment: Understand the impact of the professional Civil Engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

POs	Target Level	Attainment Level	Observation
PO 7	2	2	<ul style="list-style-type: none"> ✓The Target of the PO is attained. ✓But, the subjects 20CE103 and 20CE211 had lower attainment than the target value. ✓The subject 20CE103 is mostly numerical oriented, more focus on solving numerical problems is needed. More number of numerical problems should be solved in the classes. ✓20CE211 is a Laboratory course, but failed to reach the target level.

Actions:

1. The number of tutorial classes especially focusing on numerical related to Surveying should be conducted.
2. Industry personnel need to be invited for guest lectures on current engineering practices in Surveying Industry and Transportation Engineering field.
3. Tutorial classes should be conducted in order to enhance the student's problem-solving skills.

PO 8 Statement: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the Civil Engineering practice.

POs	Target Level	Attainment Level	Observation
PO 8	2	2	<ul style="list-style-type: none"> ✓ The Target of the PO is attained, but the subject 20CE415 had however attained Level 1 but failed to reach Level-2. ✓ The subjects 20CE415 is a basic numerical based and hence the attainment is below the target level.

Actions:

1. Continue with the work and action.
2. Tutorial classes should be maximized with focus on numerical.

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PO 9 Statement Teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

POs	Target Level	Attainment Level	Observation
PO 9	2	2	<ul style="list-style-type: none"> ✓ The target of 75% is achieved but the subjects 20CE201 and 20CE210 failed to reach the target level. ✓ The subjects 20CE210 reached Level 1 but failed to reach Level-2. ✓ 20CE201 failed to reach the attainment level since the experiments were not comprised of a teamwork but rather an individual tasks.

Actions:

1. The lab courses need more detailed demonstration and a linkage with some reference videos for the test.
2. The Design Lab needs to be more interactive.

PO 10 Statement: Communication: Communicate effectively on complex Civil 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.


POs	Target Level	Attainment Level	Observation
PO 10	2	1	<ul style="list-style-type: none"> ✓ The Target level for the PO has not been attained. ✓ The reason behind this is poor presentation of the results and drafting in the laboratories. ✓ Mostly the courses like 20CE210 are labs and hence more focus on the designing software and tools and hence failed to achieve the target level.

Actions:

1. The students should be asked to demonstrate their design (procedure and steps) in a nice manner.
2. The drafting and presentation of the subject should be carried out well by the student.

PO 11 Statement: Management: 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 Civil Engineering projects and in multidisciplinary environments.

POs	Target Level	Attainment Level	Observation
PO 11	2	1	<ul style="list-style-type: none"> ✓ The overall target value for the PO has not been achieved. ✓ The Subject 20CE411 talks more about impact



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			assessment and hence failed to achieve the target level
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Actions:

1. The subject should include some Management topics in terms of Environmental threat mitigation.

PO 12 Statement: 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.

POs	Target Level	Attainment Level	Observation
PO 12	2	1	<ul style="list-style-type: none"> ✓ The value for the Overall PO has not achieved the setted target level. ✓ The subjects 20CE106, 20CE415 and 20CE4M10 failed to meet the target level for PO12. ✓ The subjects don't require the skills for life long learning since the use of IS standards which are revised time to time are not done and hence failed to achieve the target level.

Actions:
 1. To incorporate some units in the subjects which talks about design in the respective subjects

PSO 1 Statement: Establish the processes of planning, analysis and design of sustainable civil engineering systems using the concepts of basic science, humanities and engineering sciences.

POs	Target Level	Attainment Level	Observation
PSO 1	2	3	<ul style="list-style-type: none"> ✓ The overall attainment of the PSO is above the target level. ✓ Courses with emphasis on problem solving and logical thinking are observed to have low attainments like the subjects 20CE102, 20CE112, 20CE210 and 20CE415.

Actions:
 1. More industrial visits, Guest Lectures and workshops or seminars on fundamental concepts are to be provided.
 2. The faculty should take elementary classes for basics of Mechanics and Design related subjects before starting the syllabus.

PSO 2 Statement: Provide cost-effective, environment-friendly solutions to civil engineering problems through laboratory experiments and field investigations.

POs	Target Level	Attainment Level	Observation
PSO 2	2	2	<ul style="list-style-type: none"> ✓ The PSO attained was on Target level. However, Lower attainments than the target is observed in the following courses: 20CE102, 20CE105 and 20CE211. ✓ Courses with emphasis on kinesthetic learning and numerical oriented subjects are observed to have low attainments. ✓ There is need of some foundation subject on mechanics at lower semester.

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Actions:

1. The faculty should take elementary classes for basics of math and physics related to subject before starting the syllabus.
2. Tutorial classes emphasizing on problem solving should be carried out more.

PSO 3 Statement: Exhibit professional and ethical values towards project execution through the knowledge of project management and public policies using modern as well as contemporary skills.

POs	Target Level	Attainment Level	Observation
PSO 3	2	2	<ul style="list-style-type: none"> ✓ The targeted level of the PSO was attained. ✓ Only one subject 20CE603 failed to attain the target Level

Actions:

1. The subject should exhibit professional and ethical values towards project execution with the help of the software tool