



ARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

CO ATTAINMENT ACTION TAKEN REPORT

Program: M.Tech.
Course Name: ADVANCED CAD
Course Code: 2214001
Course Coordinator: DR. JANI S

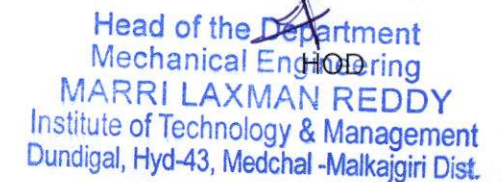
Year / Sem: I-I
Academic Year: 2023-2024
Regulation: MLRS-R22
Section: A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Apply the CAD process and geometric modelling concepts to effectively perform design tasks.	2.40	2	2.32	2.10	Attained
2	Develop and manipulate wireframe models, parametric curves using analytic and synthetic curve representations.	2.40	3	2.52	2.10	Attained
3	Evaluate surface entities and parametric surface representation methods using analytic and synthetic approaches.	3.00	2	2.80	2.10	Attained
4	Analyze solid modeling techniques including boundary representation, CSG, sweeping methods, and feature modeling for effective 3D representation	3.00	2	2.80	2.10	Attained
5	Utilize CAD transformations, visualization, data exchange and dimensioning concepts in design problems.	2.40	2	2.32	2.10	Attained
		Final CO		2.55	2.10	

- Action Taken:**
1. Enhance sessions to improve effective use of CAD tools, graphic standards configuration, and engineering design practices.
 2. Advanced assignments on parametric wireframe, surface, and solid modeling using B-rep, CSG, and sweeping techniques were introduced to strengthen analytical and modeling skills.
 3. Industry-oriented mini-projects and visualization tasks involving 2D/3D transformations, projections, and rendering were implemented to improve real-world application and visual representation skills.


FACULTY


COURSE COORDINATOR


Head of the Department
Mechanical Engineering
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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : ADDITIVE MANUFACTURING
Course Code : 2214002
Course Coordinator : P.SATYA KRISHNA

Year / Sem : I-I
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Understand the fundamentals of automated process and distinct between AM and CNC, other related technologies.	2.40	2.00	2.32	2.25	Attained
2	Analyse the utility and application of liquid and solid based AM systems	3.00	2.00	2.80	2.25	Attained
3	Apply the concepts of powder based AM systems and Rapid tooling in manufacturing process.	3.00	2.00	2.80	2.25	Attained
4	Utilize the AM Data formats and software's for effective additive manufacturing applications.	2.40	3.00	2.52	2.25	Attained
5	Explore various practical applications of AM in design collaboration, simulation, and distributed manufacturing.	1.80	2.00	1.84	2.25	Not Attained
Final CO				2.46	2.25	

Action Taken: 1. Used **video demonstrations and recent research articles** to improve application-level understanding. 2. Planned inclusion of **mini-projects** related to simulation and distributed AM in future offerings. 3. Additional practical sessions and student seminars on emerging AM applications will also be conducted.


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Course Coordinator


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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.

Course Name : FINITE ELEMENT AND BOUNDARY ELEMENT METHODS

Course Code : 2214011

Course Coordinator : DR. SRAVANTHI KUNDURU

Year / Sem : I-I


Academic Year : 2023-2024

Regulation : MLRS-R22

Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Understand the mathematical foundation behind the equations used in solving 1D problems.	3.00	3.00	3.00	2.10	Attained
2	Identify appropriate mathematical models for solving common 2D and 3D engineering problems.	3.00	3.00	3.00	2.10	Attained
3	Solve dynamic and thermal engineering problems using numerical method.	2.40	3.00	2.52	2.10	Attained
4	Demonstrate knowledge of plate bending analysis and nonlinear finite element methods for plate element applications.	2.00	2.00	2.00	2.10	Not Attained
5	Make use of professional-level finite element software in solving engineering problems involving the boundary element method.	2.40	2.00	2.32	2.10	Attained
Final CO				2.57	2.10	

Action Taken: 1. Sustained analytical discussions on plate theory and nonlinear FEM concepts. 2. Additional numerical problems, and concept-based assignments on plate elements and nonlinear analysis need to be practiced to strengthen problem solving skills. 3. Continued numerical solution techniques through step-by-step examples.


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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : AUTOMATION IN MANUFACTURING
Course Code : 2214014
Course Coordinator : Dr. K. CHAITANYA

Year / Sem : I-I
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Describe automation principles, strategies, and levels in production systems.	3.00	2.00	2.80	2.40	Attained
2	Understand the principles, strategies, and levels of automation in modern production systems.	3.00	3.00	3.00	2.40	Attained
3	Analyze assembly line balancing using standard methods.	3.00	2.00	2.80	2.40	Attained
4	Evaluate transfer line performance with and without buffers.	1.80	3.00	2.04	2.40	Not Attained
5	Design efficient automated assembly systems for production.	2.40	3.00	2.52	2.40	Attained
		Final CO		2.63	2.40	

Action Taken: 1. Explained concepts using **step-by-step numerical examples**. 2. Introduced **simulation-based demonstrations** for better visualization.
3. Encouraged team-based problem-solving on transfer lines.

K. Chaitanya
Faculty

K. Chaitanya
Course Coordinator

S. P.
Head of the Department
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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.

Course Name: RESEARCH METHODOLOGY & IPR

Course Code: 2215502

Course Coordinator: Mr. B. SATYANARAYANA

Year / Sem : I-I

Academic Year: 2023-2024

Regulation: MLRS-R22

Section: A/

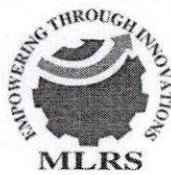
Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Describe the meaning, sources, and key characteristics of a good research problem and common errors in its selection.	2.40	3.00	2.52	2.25	Attained
2	Conduct a comprehensive literature review and demonstrate ethical standards in research for the avoidance of plagiarism.	2.40	2.00	2.32	2.25	Attained
3	Write structured research reports and proposals effectively and present research ideas before review panels.	2.40	3.00	2.52	2.25	Attained
4	Explain forms of intellectual property with national, international patenting and IPR procedures.	3.00	2.00	2.80	2.25	Attained
5	Analyze the scope and rights associated with patents, and explore recent trends in IPR across domains like biotechnology, software and traditional knowledge.	2.40	2.00	2.32	2.25	Attained
Final CO				2.50	2.25	Attained

Action Taken: 1. Continued use of illustrative examples and case discussions for problem identification. 2. Encouraged awareness of patent filing processes through case studies. 3. Continued analytical discussions on patent rights and emerging IPR trends.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : ADVANCED COMPUTER AIDED DESIGN LAB
Course Code : 2214040
Course Coordinator : SRIDEVI CHAGANTIPATI


Year / Sem : I-I
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : A/

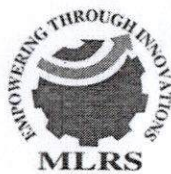
Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Develop 3D parts from 2D profiles using CAD tools	3.00	3.00	3.00	2.70	Attained
2	Model complex machine components using part and assembly module features.	3.00	3.00	3.00	2.70	Attained
3	Analyse FEA analysis on trusses, beams, and composite components to determine deflections and stresses.	3.00	2.00	2.80	2.70	Attained
4	Evaluate the structural behaviour and performance of mechanical components.	3.00	3.00	3.00	2.70	Attained
5	Examine the performance of mechanical components through dynamic and thermal analyses	3.00	3.00	3.00	2.70	Attained
		Final CO		2.96	2.70	Attained

Action Taken: 1. Given additional assembly modeling tasks involving constraints and feature-based design. 2. Maintained analytical and simulation-based evaluations of mechanical components. 3. Strengthened understanding through validation of analytical and simulation results.


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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : 3D PRINTING LAB
Course Code : 2214041
Course Coordinator : P.SATYA KRISHNA


Year / Sem : I-I
Academic Year: 2023-2024
Regulation: MLRS-R22
Section: A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Prepare 3D CAD models and convert them into printable formats.	3.00	2.00	2.80	2.70	Attained
2	Operate and calibrate different types of additive manufacturing machines.	3.00	3.00	3.00	2.70	Attained
3	Select appropriate materials and parameters for specific applications.	3.00	2.00	2.80	2.70	Attained
4	Inspect and evaluating the quality of printed parts through dimensional and visual checks.	3.00	3.00	3.00	2.70	Attained
5	Understand practical challenges and applications of additive manufacturing in real-world scenarios.	3.00	3.00	3.00	2.70	Attained
			Final CO	2.92	2.70	

Action Taken: 1. Continued hands-on training using CAD software and slicing tools. 2. Encouraged repeated machine operation practice by improving, parameters confidence and accuracy. 3. Encouraged mini-projects addressing real-life additive manufacturing challenges.


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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.

Course Name : ENGLISH FOR RESEARCH PAPER WRITING

Course Code : 2210401

Course Coordinator : Dr. B SOLOMON

Year / Sem : I-I

Academic Year : 2023-2024

Regulation : MLRS-R22

Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Apply principles of clarity and conciseness to structure sentences and paragraphs effectively	3.00	3.00	3.00	2.70	Attained
2	Analyze different sections of a research paper in understanding their purpose and construction.	3.00	3.00	3.00	2.70	Attained
3	Evaluate research findings and arguments using appropriate hedging, critical language, and paraphrasing techniques to avoid plagiarism.	3.00	3.00	3.00	2.70	Attained
4	Create well-structured sections of a research paper by applying appropriate academic writing skills.	3.00	2.00	2.80	2.70	Attained
5	Make use of standard academic phrases and editing techniques to prepare a research paper that meets the criteria for first-time submission.	3.00	3.00	3.00	2.70	Attained
		Final CO		2.96	2.70	

Action Taken: 1. Continued emphasis on sentence construction exercises and paragraph organization tasks. 2. Encouraged section-wise breakdown and discussion of published articles. 3. Continued practice sessions on paraphrasing, summarizing, and plagiarism avoidance.


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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
 Course Name : COMPUTER INTEGRATED MANUFACTURING
 Course Code : 2224003
 Course Coordinator : Dr. S.P.JANI

Year / Sem : I-II
 Academic Year : 2023-2024
 Regulation : MLRS-R22
 Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Understand the fundamentals and evolution of CIM and concurrent engineering concepts.	2.40	2.00	2.32	2.40	Not Attained
2	Apply SQL commands to generate and manipulate manufacturing databases.	2.40	3.00	2.52	2.40	Attained
3	Analyze product plan and planning strategies like DFM, MRP, and FMS layouts.	3.00	2.00	2.80	2.40	Attained
4	Evaluate different CIM network architectures and enterprise-wide integration models.	2.40	3.00	2.52	2.40	Attained
5	Develop lean manufacturing strategies to minimize waste and enhance productivity.	3.00	2.00	2.80	2.40	Attained
Final CO				2.59	2.40	

- Action Taken:
1. Strengthened learning through practice-based assignments and exercises.
 2. Continued analytical problem-solving using real-world manufacturing scenarios.
 3. Improve student understanding, and concept-oriented discussions on CIM evolution and concurrent engineering concepts were conducted


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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : MANUFACTURING SYSTEMS: SIMULATION MODELLING
& ANALYSIS
Course Code : 2224004
Course Coordinator : P. SATYAKRISHNA

Year / Sem : I-II
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Understand the fundamentals of systems, types of models, and the role of simulation in analyzing complex problems.	3.00	2.00	2.80	2.10	Attained
2	Develop simulation model for the said system.	3.00	3.00	3.00	2.10	Attained
3	Generate random variates and learning various simulation languages.	3.00	3.00	3.00	2.10	Attained
4	Analyse through simulation the model and present the results to specified confidence level.	2.40	3.00	2.52	2.10	Attained
5	Apply simulation for flow shop systems and job shop systems.	1.80	2.00	1.84	2.10	Not Attained
Final CO				2.63	2.10	2.10

Action Taken: 1. Explained scheduling logic using **step-by-step modeling and block diagrams**. 2. Provided **extra laboratory assignments** focused on shop-floor simulation. 3. Introduced **case studies and video demonstrations** of real manufacturing systems.


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Course Coordinator


Head of the ~~HOD~~ Department
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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : INTELLIGENT MANUFACTURING SYSTEMS
Course Code : 2224017
Course Coordinator : DR. SRAVANTHI KUNDURU

Year / Sem : I-II
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Explain the structure and components of Computer Integrated Manufacturing (CIM) systems.	3.00	2.00	2.80	2.25	Attained
2	Analyze the architecture of intelligent manufacturing and knowledge-based systems.	2.40	3.00	2.52	2.25	Attained
3	Apply machine learning and neural networks in intelligent manufacturing applications.	2.40	2.00	2.32	2.25	Attained
4	Develop process plans using generative and feature-based planning methods.	2.40	3.00	2.52	2.25	Attained
5	Evaluate group technology methods and clustering algorithms for manufacturing cell design.	3.00	2.00	2.80	2.25	Attained
Final CO				2.59	2.25	

Action Taken: 1. Encouraged comparative analysis of different intelligent manufacturing frameworks. 2. Continued application-oriented instruction using real-world manufacturing examples. 3. Strengthened learning through case studies and industrial examples.

S. Swathi
Faculty

S. Swathi
Course Coordinator

S. Swathi
HOD
Head of the Department
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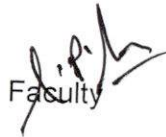
CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : MECHATRONICS
Course Code : 2224020
Course Coordinator : DR. S.P. JANI


Year / Sem : I-II
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : A/

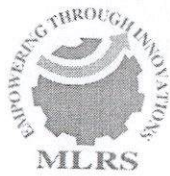
Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Design mechatronic subsystems by integrating appropriate sensors, transducers, and control elements for automation tasks.	3.00	3.00	3.00	2.25	Attained
2	Explain working principles of solid-state electronic devices, signal conditioning, and MEMS technologies with their engineering applications.	2.60	2.00	2.48	2.25	Attained
3	Analyze various actuation systems, including electro-hydraulic and electro-pneumatic servo mechanisms for control applications.	2.00	2.00	2.00	2.25	Not Attained
4	Apply digital electronics, microprocessors, microcontrollers, and PLCs to design and implement control strategies for automated systems.	2.00	3.00	2.20	2.25	Not Attained
5	Evaluate mechatronic systems through interfacing, data acquisition, system modeling, and simulation, considering future technological trends.	3.00	2.00	2.80	2.25	Attained
Final CO				2.50	2.25	

Action Taken: 1. Explained concepts using **schematics, animations, and step-by-step numerical examples**. 2. Provided **additional assignments and case studies** related to servo control applications 3. Additional practical sessions on PLC programming, microcontroller interfacing, and digital electronics were planned


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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : MINI PROJECT WITH SEMINAR
Course Code : 2224044
Course Coordinator : DR. JANI S P


Year / Sem : I-II
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Investigate complex domain engineering problems using core and interdisciplinary knowledge.	3.00	2.00	2.80	2.70	Attained
2	Apply advanced analytical and design techniques to develop viable structural solutions.	3.00	3.00	3.00	2.70	Attained
3	Evaluate the effectiveness and feasibility of proposed designs through simulations and modeling.	3.00	2.00	2.80	2.70	Attained
4	Communicate technical concepts and project results effectively through oral and written presentations.	3.00	3.00	3.00	2.70	Attained
5	Collaborate efficiently in teams to manage project tasks and integrate multidisciplinary insights.	3.00	2.00	2.80	2.70	Attained
Final CO				2.88	2.70	Attained

Action Taken: 1. Encouraged use of advanced tools and methods in project work. 2. Strengthened result interpretation during review presentations. 3. Sustained structured reviews, presentations, and report evaluations.


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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.

Course Name : SIMULATION OF MANUFACTURING SYSTEMS LAB

Course Code : 2224042

Course Coordinator : P. SATYA KRISHNA

Year / Sem : I-II

Academic Year : 2023-2024

Regulation : MLRS-R22

Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Make use of Automod and FlexSim for manufacturing system simulation.	3.00	3.00	3.00	2.70	Attained
2	Design and analysing hydraulic and pneumatic circuits.	3.00	2.00	2.80	2.70	Attained
3	Implement PLC-based automation using ladder logic.	3.00	3.00	3.00	2.70	Attained
4	Evaluate AJM process parameters and material removal rate.	3.00	2.00	2.80	2.70	Attained
5	Perform pocket and slot milling operations on CNC machines	3.00	3.00	3.00	2.70	Attained
Final CO				2.92	2.70	Attained

Action Taken: 1. Continued PLC programming exercises with real-time execution and debugging. 2. Provided additional sessions on circuit design and operation.
3. Strengthened understanding through troubleshooting exercises and simulations.


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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : COMPUTER AIDED MANUFACTURING LAB
Course Code : 2224043
Course Coordinator : P. SATYA KRISHNA


Year / Sem : I-II
Academic Year: 2023-2024
Regulation: MLRS-R22
Section: A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Develop CNC part programs and simulate tool paths for various turning operations to ensure machining accuracy.	3.00	2.00	2.80	2.70	Attained
2	Generate CNC programs for milling operations such as face, slot, pocket, thread, and profile milling using CAM software.	3.00	3.00	3.00	2.70	Attained
3	Demonstrate setup, operation, and parameter selection on CNC turning and milling machines to achieve optimal machining performance.	3.00	2.00	2.80	2.70	Attained
4	Evaluate machined components for dimensional accuracy, surface finish, and geometric conformity using simulation and inspection tools.	3.00	3.00	3.00	2.70	Attained
5	Simulate robotic pick-and-place operations using AristoSim software for automation integration.	3.00	2.00	2.80	2.70	Attained
			Final CO	2.88	2.70	Attained

Action Taken: 1. Continue hands-on CNC programming exercises and introduce advanced turning cycles and industrial case studies to further strengthen programming skills 2. Maintain current teaching practices and incorporate complex milling projects involving multi-feature components and CAM optimization techniques. 3. Enhance Learning through integration of robotic simulation with automation projects.


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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : PEDAGOGY STUDIES
Course Code : 2220006
Course Coordinator : Dr. K. CHAITANYA

Year / Sem : I-II
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Explain key concepts related to curriculum, teacher education, and learning theories.	3.00	3.00	3.00	2.70	Attained
2	Outline various pedagogical practices used by teachers in formal and informal classrooms in developing countries.	3.00	2.00	2.80	2.70	Attained
3	Analyze the strengths of evidence supporting effective pedagogical strategies and teacher attitudes impacting classroom learning.	3.00	3.00	3.00	2.70	Attained
4	Assess the alignment of professional development programs with classroom practices, including barriers such as resources and class size.	3.00	3.00	3.00	2.70	Attained
5	Apply knowledge of research design and pedagogy to identify future directions and gaps in teacher education and curriculum research.	3.00	2.00	2.80	2.70	Attained
Final CO				2.92	2.70	

Action Taken: 1. Continued conceptual teaching supported by frameworks, models, and examples. 2. Maintained use of comparative case studies and contextual examples. 3. Strengthened critical thinking through structured review activities.


Faculty


Course Coordinator


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Head of the Department
Mechanical Engineering
MARRI LAXMAN REDDY
Institute of Technology & Management
Dundigal, Hyd-43, Medchal -Malkajgiri Dist.



MARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.

Course Name : COMPOSITE MATERIALS

Course Code : 2234024

Course Coordinator : CH. SRIDEVI

Year / Sem : II-I

Academic Year : 2024-2025

Regulation : MLRS-R22

Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Explain the fundamentals, classification, and applications of composite materials including polymer, metal, ceramic, and natural composites.	3.00	2.00	2.80	2.25	Attained
2	Compare different reinforcements, matrix materials, and manufacturing methods used in composite production.	2.40	3.00	2.52	2.25	Attained
3	Apply macro-mechanical principles in analyzing stress-strain behavior, elastic properties, and constitutive relations of a lamina.	3.00	2.00	2.80	2.25	Attained
4	Analyze laminate mechanics in determining stiffness, in-plane and flexural moduli, and effects on composite performance.	2.40	2.00	2.32	2.25	Attained
5	Design laminated composites considering failure criteria, warpage, and other mechanical design issues for engineering applications.	2.00	2.00	2.00	2.25	Not Attained
Final CO				2.49	2.25	

Action Taken: 1. Continued conceptual teaching supported by material classification charts and application-based examples. 2. Greater emphasis will be placed on design-oriented numerical problems, laminate analysis, failure criteria, and warpage-related applications to improve attainment. 3. Encouraged application-oriented case studies related to on lamina mechanics.


Faculty


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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : FUNDAMENTALS OF NANO TECHNOLOGY
Course Code : 2235503
Course Coordinator : BIYYANI SRINIVASA RAO

Year / Sem : II-I
Academic Year : 2024-2025
Regulation : MLRS-R22
Section : A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Understand the unique physical and chemical properties of materials at the nanoscale and how they differ from bulk materials.	2.40	3.00	2.52	2.10	Attained
2	Compare various synthesis techniques, including top-down and bottom-up approaches, for the fabrication of nanomaterials.	3.00	2.00	2.80	2.10	Attained
3	Apply advanced characterization techniques such as SEM, TEM, EDS, and WDS to analyze the structure and properties of nanomaterials.	1.80	1.00	1.64	2.10	Not Attained
4	Analyze the electronic, optical, mechanical, and thermal properties of nanomaterials to their functional advantages.	2.40	3.00	2.52	2.10	Attained
5	Evaluate the applications of nanomaterials in fields such as electronics, medicine, energy, and environmental science.	2.40	3.00	2.52	2.10	Attained
		Final CO		2.40	2.10	Attained

Action Taken: 1. Demonstrated real micrographs and their interpretation. 2. Provided concise notes on EDS/WDS principles and outputs. 3. Shared annotated examples of diffraction patterns and spectra.

Biyyani Srinivasa Rao
FACULTY

Biyyani Srinivasa Rao
COURSE COORDINATOR

U. R. S.
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CO ATTAINMENT ACTION TAKEN REPORT

Program: M.Tech.

Course Name: DISSERTATION WORK REVIEW -I

Course Code: 2234045

Course Coordinator: Dr. S.P. JANI

Year / Sem: II-I

Academic Year: 2024-2025

Regulation: MLRS-R22

Section: A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Critique the progress of their research based on literature and initial findings.	3.00	3.00	3.00	2.70	Attained
2	Organize experimental or computational data to support hypothesis validation.	3.00	2.00	2.80	2.70	Attained
3	Interpret results obtained from preliminary analyses or simulations	3.00	2.00	2.80	2.70	Attained
4	Justify the chosen methodologies and their modifications as per research needs.	3.00	2.00	2.80	2.70	Attained
5	Plan subsequent research steps to achieve project objectives effectively.	3.00	2.00	2.80	2.70	Attained
Final CO				2.84	2.70	

- Action Taken: 1. Continue conducting regular project reviews, technical seminars, and research presentations.
2. Encourage comparative studies of alternative methodologies and conduct technical discussions to enhance decision-making and research justification skills.


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CO ATTAINMENT ACTION TAKEN REPORT

Program: M.Tech.

Course Name: DISSERTATION WORK REVIEW -II

Course Code: 2244046

Course Coordinator: Dr. K.SRAVANTHI

Year / Sem: II-II


Academic Year: 2024-2025

Regulation: MLRS-R22


Section: A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Assess the completeness and accuracy of the research outcomes against objectives.	3.00	3.00	3.00	2.70	Attained
2	Summarize key findings and their implications for practice.	3.00	2.00	2.80	2.70	Attained
3	Formulate conclusions based on comprehensive data analysis.	3.00	3.00	3.00	2.70	Attained
4	Recommend improvements or future work directions grounded in research results.	3.00	3.00	3.00	2.70	Attained
5	Document research progress clearly and systematically for final submission.	3.00	3.00	3.00	2.70	Attained
		Final CO		2.96	2.70	

Action Taken: 1. Continue encouraging comprehensive literature surveys, critical analysis of published research, and regular progress review presentations.
2. Strengthen industry-academia interactions through expert lectures and collaborative projects.


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CO ATTAINMENT ACTION TAKEN REPORT

Program: M.Tech.
Course Name: DISSERTATION VIVA VOCE
Course Code: 2244047
Course Coordinator: Dr. S.P.JANI

Year / Sem: II-II
Academic Year: 2024-2025
Regulation: MLRS-R22
Section: A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Defend their research methodology and findings confidently during oral examination.	3.00	3.00	3.00	2.70	Attained
2	Demonstrate technical concepts and complex data clearly to an academic panel.	3.00	2.00	2.80	2.70	Attained
3	Respond effectively to critical questions and suggestions from examiners.	3.00	2.00	2.80	2.70	Attained
4	Demonstrate comprehensive knowledge of the subject and related interdisciplinary areas.	3.00	3.00	3.00	2.70	Attained
5	Justify the significance and novelty of their research contributions.	3.00	3.00	3.00	2.70	Attained
Final CO				2.92	2.70	

- Action Taken:
1. Continue conducting mock viva sessions and research presentations to strengthen students' confidence and articulation skills.
 2. Organize interactive question-and-answer sessions and peer-review activities to enhance critical thinking and response skills.
 3. Motivate students to benchmark their work against recent literature and industry practices to further strengthen innovation and research impact.


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