

Criterion VII - Institutional Values and Best Practices

7.3 Institutional Distinctiveness

7.3.1. Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words

The curriculum and its structure of GMR Institute of Technology are designed based on the philosophy of Outcome Based Education with a composition of courses spread out in the various categories and syllabi is prescribed by the respective Boards of Studies from time to time.

The students have an option of taking nine electives based on their interest/career path spanned across 5th to 8th semesters from the list of electives prescribed in the curriculum. In line with New Education Policy, under Choice Based Credit System (CBCS) the students also have the flexibility to choose one elective from the list of open electives offered by the other programs of study in consultation with their respective department.

Career Path Electives (CPE):

The curriculum provides opportunities to the students to gain expertise in the emerging technologies in the form of Career path with expertise by offering elective courses in a sequential mode from 5th semester onwards. The students can choose any one of these career paths during the 5th semester and shall continue in the same career path by selecting specific electives in the 6th and 7th semesters in a sequence and finally leading to a Capstone project aligning with the career path in the 7th /8th semester.

All the students who successfully complete the elective course aligned as per the CPE will have their Consolidated Grade Memos mentioning the title of the career path. Further, they will also receive a certificate/citation issued by the college.

After choosing CPE during 5th semester and if any student fails to take up the specific electives courses as per the sequence in the subsequent semesters and select the electives from the general pool of electives, the student will be automatically gets out of the CPE. All those students who don't take up the Capstone project in the CPE domain will also get out the CPE.

In case of the students who are going for FSI/SAP in 7th semester shall take the respective elective course on self-study mode and further, complete the Capstone project in the 8th semester on campus

In case of the students who are going for FSI in 8th semester shall take the respective elective course on self-study mode and further, complete the Capstone project in the 7th semester itself

In case of the students going for FSI as a pre-placement offer during 8th semester, he/she shall take up the elective courses on self-study mode and complete the Capstone project in.the industry. The


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assessment pattern pertaining to the career path courses will be similar to those of other theory and integrated courses.

The students who are not interested in any of these career paths can choose any of the other core electives as furnished in the respective list of the electives in the curriculum.

This facility of Career Path is beneficial to students as it offers specific training sequentially during 5, 6, 7, & 8 Semesters in their specified emerging domains, within their curriculum. Further, the Capstone Project helps the students in skillset enhancement and competence in their chosen domains.



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CRITERION VII - INSTITUTIONAL VALUES AND BEST PRACTICES
7.3 INSTITUTIONAL DISTINCTIVENESS- CAREER PATH COURSES

S. No	Departments	Name of the Career Path	List of subjects in 5 th Semester	List of subjects in 6 th Semester	List of subjects in 7 th Semester	List of subjects in 8 th Semester
1	Civil Engineering	Building Information Modeling	Principles of Building Architecture	Building Services	Building Information Modeling	Repair and Rehabilitation of Structures
		Sustainable Highway Systems	Geometric Design and Highway Materials	Highway Design and Simulation	Highway Project Formulation and Economics	Remote Sensing and GIS
		Pre Engineered Building	Prefabricated Structures	Pre Engineered Buildings	BIM for Pre-Engineered Building	Pavement Management System
2	Electrical and Electronics Engineering	Green Energy	Green Energy Technologies	Electric Vehicle Drive Train Systems	Battery Management Systems	Power System Deregulation
		Smart Grid	Micro and Smart Grid Technologies	Power Electronic Applications to Green Energy Systems	Hybrid Renewable Energy Systems Design	Power System Dynamics & Control
		Electric Vehicles	Electrical Vehicle Technologies	Control and Instrumentation of Smart Grid Systems	Communication and Security in Smart Grid	High Voltage Engineering
3	Mechanical Engineering	Automotive Electronics	Automotive Informatics	Sensors & Actuators for Automotive Electronics	Automotive Instrumentation and Diagnostics	Power Plant Engineering
		Digital Manufacturing	Fundamentals of Digital Manufacturing	Artificial Intelligence & Robotics	3D Printing	Supply Chain Management
		Smart	Data Analytics & Operations Management	Smart Supply Chain Analytics	Quality Assurance & Reliability Engineering for Sustainability	Industrial Tribology
4	Electronics and Communication Engineering	Chip Design	RTL Coding Techniques	ASIC Verification using system Verilog	Analog and mixed signal VLSI design	Real-Time Systems Design and Analysis
		Embedded Systems	Data Acquisition System	Embedded System Design and IoT	Real Time Operating Systems	Image Processing for Engineering Applications
		Communication and Signal Processing	Information Theory and Coding Techniques	Image processing	Multimedia communications	Computer Architecture
5	Computer Science Engineering	Artificial Intelligence and Machine learning	Exploratory Data Analysis	Deep Learning	Natural Language Processing	Natural Language Processing
		Full stack Development	Web Programming Languages	Web Application Development Framework	Web Application Databases	Web Application Databases
7	Information Technology	AI&ML	Exploratory Data Analytics	Deep Learning	Natural Language Processing	Green Computing
		Full Stack Development	Web Programming Languages	Web Application Developments Framework	Web Application Databases	Design Patterns
		Cyber Securit	Fundamentals of Security	Cyber Security	3 Cloud Security	Professional Ethics
8	Artificial Intelligence and Machine Learning Engineering	Full Stack Developer:	Computer Vision & Pattern Recognition	Machine Learning for Business Intelligence	Conversational AI	Fundamentals of Social Network Analysis
		Cloud Computing:	Web Programming Languages	Web Application Developments Framework	Web Application Databases	Information Retrieval Systems
		ML Ops:	Fundamentals of Cloud Computing	Cloud Services using AWS	Cloud Security Essentials	Fundamentals of Devops
9	Artificial Intelligence and Data Science Engineering	Full Stack Developer:	Computer Vision & Pattern Recognition	Machine Learning for Business Intelligence	Conversational AI	Fundamentals of Social Network Analysis
		Cloud Computing:	Web Programming Languages	Web Application Developments Framework	Web Application Databases	Information Retrieval Systems
		ML Ops:	Fundamentals of Cloud Computing	Cloud Services using AWS	Cloud Security Essentials	Fundamentals of Devops