MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous& NAAC Accredited Institute Affiliated to RGPV, Bhopal)

Online Summer Internship Programme-2020

Details of Internship 2020

S.No.	Name of Department	Name of Modules	Module Coordinator	Brief Description
1.	**Electrical Engineering**	Hands on Training on MATLAB / SIMULINK	Ms. Bhavna Rathore Mr. Rahul Sagwal Mr. Shailendra Pratap Singh	This Module will provide basic knowledge of MATLAB and Simulink. This will include: Analysis & Visualization with vectors & Matrices, working with data files, Tables of data, Conditional data selection, Multiple Vector plots, data Analysis, writing functions, programming with functions, graphical programming environment for modeling, simulating and analyzing multi domain dynamic systems using Simulink, Creating& simulating a Model, Modeling Discrete Systems, Modeling Continuous Systems, Solver Selection & creating Libraries.
2.		Introduction to Solar systems & Solar Photovoltaic (PV) Modeling using PVsyst Software and Simulink	Prof Saurabh K Rajput Prof. Aparajita Kumari Prof. Shweta Kumari	The module will provide basic knowledge of solar technology which becomes one of the popular renewable energy sources today. The module has the following objectives: - To introduce the solar technology basics, solar thermal systems, off grid and grid connected Solar PV system. Modeling of solar plant through the PVsyst software and simulink
3.		Numerical Computational Techniques using MATLAB	Dr. Vikram, Mr. G. K. Naveen Mr. Nipun Gupta	MATLAB is a popular language for numerical computation. The objective of this module is to provide the understanding of computational techniques in the problem-solving using MATLAB and demonstrate its use for scientific computations. These techniques will include: Approximations and Errors, Numerical Differentiation in single and multiple variable, Integration, and Solutions of linear and nonlinear equations.
4.		Hands on Training on OCTAVE (An open source software)	Ms.Punjan Dohare Mr.Tarun Shrivastava	This module will provide an introduction to computing using Octave. It will teach how to use Octave to perform calculations, plot graphs, and write simple programs. This is heavily used in industry and academia, gives the user the opportunity to learn the syntax where funding and license restrictions prevent the use of commercial packages like MATLAB. Octave is an open-source interactive software system for numerical computations and graphics.

5.		Electricity usage for Domestic & Industrial applications.	Prof. Vishal Chaudhary Prof. Praveen Bansal Prof. Kuldeep Swankar	Online training to design different loading arrangements, types of wiring, constructional view of measuring components, types of winding in AC and DC machines, prototype modeling of free energy , DC generators, domestic switch board and their wiring connections, series board , Inverter wiring, cable sizing etc.
6.	**Mechanical Engineering/ Automobile**	State of art of ground Vehicles	Dr. Dharmendra Jain, Prof. Krishan Kumar Yadav Prof. Ajay Singh Rajput	Awareness of the past, current and future journey of ground vehicle.
7.		Introduction to Auto CAD for Engineering Applications	Prof.SharadAgrawal Prof.Utkarsh Srivastava	The objective of this course is to enable students to create a basic 2D drawing in AutoCAD. While not every command or option is covered, students learn the most essential tools and concepts, such as: •Understanding the AutoCAD workspace and user interface. •Using basic drawing, editing, and viewing tools. •Organizing drawing objects on layers. •Inserting reusable symbols (blocks). •Preparing a layout to be plotted. •Adding text, hatching, and dimensions.
8.		SOLIDWORKS with GD&T	Prof.Vaibhav Gupta Prof. Narindra Singh Sikharwar	Make student through with some basic module of SOLIDWORKS software along with Geometrical Dimensioning and Tolerances Features.
9.		Visualization and learning of repair and maintenance of a vehicle	Prof. Shubham Shrivastava, Prof. Subhash Chand Pal Prof. Sumeet kumar singh	Visualization and learning of repair and maintenance of a vehicle 1. Understanding the different types of maintenance. 2.Understanding of importance of the maintenance 3.Knowledge of various components of engine parts 4.Knowledge of various tools and gauges 5.Recognize the accessories of the vehicle 6.Understanding the functioning of various parts of a vehicle 7.Repair and maintenance of a lubricating system of vehicle 8.Repair and maintenance of automotive electrical system 9.Knowledge of safety system
10.		Descriptive Statistics with Python	Prof. Sarvesh Kumar Yadav Prof. Gayanesh Saran Dr. Amrat Dhamniya	To train the students for basics of Statistics with software(Python) which can be used for data analysis and data visualization and create interest within students for

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				Emerging future industry jobs Data Scientist/ Data Analytics/ Machine Learning etc.
11.	**CSE&IT**	Analytics using R Tool	Prof. Arun Kumar	To understand the concept of Analytics using R and building Machine Learning model of real life problem.
12.		Internet of Things (IoT)	Prof. Sneha Garg & Prof. Pooja Agrawal	To acquire practical knowledge of IOT and its interoperability with different domains.
13.		Python Programming with Applications to Machine Learning	Prof. Mir Shahnawaz Ahmad. Prof. Mohit Jain	To acquire conceptual and practical knowledge in Python programming and basics of Machine Learning.
14.		FRONT END WEB DEVELOPER	Prof. Lav Upadhyay Prof. Namrata Agarwal	Explore the enhanced techniques used by web professionals for creating dynamic web Pages.
15.		Google Services	Prof. Abhilash Sonker Prof. Amit K Manjhvar	Acquire Practice Knowledge on various web based Google services.
16.	**Electronics Engineering**	Electronic Circuit Design Using LTSPICE	Prof. Arpita Singhai Prof. Rakesh Naik	The objective of this module is to make the students learn the designing and simulation of electronic circuits using LTspice®, the free circuit simulation package from Linear Technology Corporation (LTC) (www.linear.com).
17.		Python for Engineers	Prof. Saurabh Singh Raghuvanshi	The objective of this online internship is to give the basic idea of the designing using RoboAnalyzer software. The software is designed by researcher of IIT Delhi to help students in the designing of DH parameter, degree of freedom for a Robot.
18.		Training on Scilab	Prof. Deepak Batham Prof. Santosh Sharma	The objective of this module is to make the students learn how to use online Scilab software tool in Engineering calculations, especially in Electronics applications.
19.	**Civil Engineering**	Advancing from BASICS by Practicing through "VIRTUAL LABS" in Civil Engineering	Prof. Shivam Gupta	Students should be able to: Carry out Basic Transportation & Soil experiments according to standards that mainly used in Construction of Pavements ;Basics of all about Pavements. ;Analyze and interpret experimental data. ;Understand the techniques, skills and modern engineering tools necessary for engineering practice.
20.		Basics of Python and its applications in Civil Engineering	Dr. Chetan Sharma	To teach students the basics of future skill technologies using Python language and its application in civil engineering.
21.		Civil Engineering Structural elements drawing using	Dr. Pankaj Kumar	Learn to draw plan and elevation of basic civil engineering structure using AutoCAD.

		AutoCAD		
22.	**Chemical Engineering**	Chemical Reaction Engineering: A flyover between Nano and Macro world	Dr. Arti Sahu Prof. Pratap Singh	Industrial chemical reaction engineering is guided by the need to satisfy market demand, to optimize utilization of feed stocks, and to provide effective procedures for safety and pollution control. The application of chemical reaction engineering principles successfully generates innovative solutions.
23.		Introduction to Analytical instruments	Dr. A. N. Sarve Prof. Sulochana Nagar	The module aims to equip the students with the fundamental knowledge of the theory behind many techniques in analytical chemistry and their use in range of applications, as well as the statistical treatment of data and the limitations of the various techniques.
24.		Introduction of Mineral Processing and Challenges	Dr. R. K. Dubey Dr. S.R. Geed	i)The internship module is intended to provide opportunity for the students studying to upgrade their knowledge in the areas of industrial operation (mine to mill operation). ii) To provide the basic knowledge of process equipment and their working operation related. iii)To able to solve the mass and energy balance related problems.
25.	**Applied Science**	Chromatographic Techniques used in identification	Dr. Hansnath Tiwari	It will impart the knowledge of chromatography techniques which has many advantages over other techniques in analytical studies. As it is very sensitive, reliable and rapid technique, it makes the learner to sustain in the field of R&D.
26.		Uses of Fiber Optics in Current Scenario	Prof. Deobrat Singh	To make the students familiar about various applications of Fiber Optics technology as it plays essential roles in many aspects of our personal and social domain.
27.		Applications of Lasers in Engineering , Technology, Space & Medical Science	Dr. Prachi Sharma	To make the students familiar about various applications of Laser as it plays essential roles in many aspects of our daily life.
28.		Differential Equations and Its Application	Prof. J.K. Muthele	Modeling is the technique of transforming a physical problem to a mathematical model. Thus mathematical model describes natural process or a physical system in terms of Mathematics. The differential equation is one of the best tool to determine the solution of the real world problem. Focus of this internship is to enhance the knowledge of differential equation and its application in various engineering problems.

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29.		Discrete Mathematics	Prof. A. S. Ojha	•To make the students familiar with various techniques of Discrete Mathematics. •Develop the logical skill. •Explore the different applications of real world problems.
30.	**Architecture**	DIGITAL PAINTING	Ar. Noopur Gupta Ar. Versha Sinha	Students will learn •Digital painting techniques •Drawing fundamentals •How to create concept art including 2D, 3D. •Color theory •Character design •Photo realistic painting •Perspective
31.		BUILT & CULTURAL HERITAGE	Ar. Pranshi Jain Ar. Richa Mishra	This course intends to develop an understanding in Built & Cultural Heritage and also will help in creating a link between past, present and future.
32.	**Counselling Cell**	Pro Social Behaviour	Ms. Suman Yadav	Overview of the Module : - Define Behaviour -Differentiate Between Pro social , Altruistic & Antisocial Behaviour - Determinants and Types of Pro Social Behaviour - Personality & the Pro social Context - Assessment Scale for Altruistic & Antisocial Behaviour -Why Is It important To Evolve : From Anti Social To Pro social
33.		Personal Growth: Becoming a better “YOU”	Dr. Sapna Kumari	The purpose of this module is to educate and create awareness among the students about their "Real Self". It will also motivate and provide a direction for new changes and challenges in life. At the same time will help the students in becoming a more positive person by helping them in developing a positive mind.