COURSE STRUCTURE

AND

SYLLABUS FOR

POSTGRADUATE PROGRAMMES (M. Tech)

IN

COMPUTER SCIENCE AND ENGINEERING

2nd year (Semester III)

(APPLICABLE FROM AY 2024-2025 ADMITTED BATCH ONWARDS)

CENTRAL INSTITUTE OF TECHNOLOGY KOKRAJHAR

CSE PG 3rd Semester Course Structure & Syllabus

(In line with AICTE / NEP)

Semester – 3

Sl No.	Course Type	Course Code	Subjects	Scheme of Studies per Week			Credits
				L	T	P	
1.	Seminar and Term Paper-I	MCS371	Seminar and Term Paper on any of the following areas NLP/HCI/Quantum Computing/Image Processing/Computer Vision/Robotics/IoT/Blockchain /GenAI/IDS/SDN/VANET/DL/ ML/Other Emerging Areas *	0	0	6	3
2.	Seminar and Term Paper-II	MCS372	Seminar and Term Paper on any of the following Open areas Business Analytics/Industrial Safety/Operations Research/Cost Management of Engineering Project/Waste to Energy/Composite Materials/Precision Agriculture/Other Open Areas *	0	0	6	3
3.	Dissertation/Industrial Project-I	MCS391	M.Tech Project Phase - I	0	0	28	14
Total				40			20

*** Any one from the listed topics**

COURSE STRUCTURE

AND

SYLLABUS FOR

POSTGRADUATE PROGRAMMES (M. Tech)

IN

FOOD ENGINEERING AND TECHNOLOGY

2nd year (Semester III)

(APPLICABLE FROM AY 2024-2025 ADMITTED BATCH ONWARDS)

CENTRAL INSTITUTE OF TECHNOLOGY KOKRAJHAR

2ND YEAR: 3RD SEMESTER (JULY-DEC)

A. Theory Courses						
SN	**Course Code**	**Course Name**	**L**	**T**	**P**	**C**
Total of A			**0**	**0**	**0**	**0**

B. Laboratory/Project/Seminar Courses						
SN	**Course Code**	**Course Name**	**L**	**T**	**P**	**C**
1	MFE391	Dissertation-I	0	0	18	18
2	MFE392	Seminar-II	0	0	2	2
Total of B			**0**	**0**	**20**	**20**

C. Audit/Non-credit Courses						
SN	**Course Code**	**Course Name**	**L**	**T**	**P**	**C**
Total of C			**0**	**0**	**0**	**0**
Grand Total (A+B+C)			**0**	**0**	**20**	**20**

COURSE STRUCTURE

AND

SYLLABUS FOR

POSTGRADUATE PROGRAMME (M. Tech)

IN

GREEN ENERGY TECHNOLOGY (GET)

2nd year (Semester III)

(APPLICABLE FROM AY 2024-2025 ADMITTED BATCH ONWARDS)

CENTRAL INSTITUTE OF TECHNOLOGY KOKRAJHAR

COURSE STRUCTURE

Sl. No.	Course Code	Course Title	L	T	P	C	Department
1	MGE391	Dissertation Phase-I	0	0	40	20	IE
2	MGE392	Seminar-II	0	0	2	2	IE
		Total	**0**	**0**	**42**	**22**	

Course Title: Dissertation Phase-I
Course Code: MGE391 **Credit: 20**

Total contact hours: 40 hours/week **L-T-P: 0-0-40**

Course Objectives:

1. To familiarize the students to identify the research problems, approach the problem in a way for achieving the best solution.
2. To train the students to analyze any problem in the field of Green Energy Technology and to find the sustainable method for resolving the problem using various scientific and technical tools.

The students will have to study the existing literature on a particular topic and find the research gap for formulating a problem. The solution given for a research problem will be evaluated continuously and the students will have to present the conducted work in front of internal/external evaluators orally as well as practically. The students will also have to prepare a standard dissertation report for its evaluation by the examiners.

Course Outcomes: On completion of the course, students will be able to

1. Approach a technical problem in the area of Green Energy Technology or any relevant areas for its probable and optimal solutions.
2. Design and develop/simulate a prototype for a research issue.
3. Prepare a standard dissertation report.

Course Title: Seminar-II
Course Code: MGE392 **Credit: 2**

L-T-P: 0-0-2

Course Objectives:

1. To enhance the scientific oral presentation skills.
2. To familiarize the students with the state-of-the-art topic in the field of green energy technology.

The students will have to undergo a survey of the latest literature and research topics related the advancements in the area of green energy technology over the last few years. The presented topics should encompass the introduction, technical concepts behind the technology, sustainability analysis, drawbacks and pros, future scopes, etc. The seminars will be evaluated by internal/external examiners and the same contributes to the grades of the course.

Course Outcomes: On completion of the course, the students will be able to

1. Give an effective seminar presentation in any platforms.
2. Able to present and answer the queries posed by the audience or evaluators.

COURSE STRUCTURE

AND

SYLLABUS FOR

POSTGRADUATE PROGRAMMES (M. Tech)

IN

WATER RESOURCES AND HYDRAULIC

ENGINEERING

2nd year (Semester III)

(APPLICABLE FROM AY 2024-2025 ADMITTED BATCH ONWARDS)

CENTRAL INSTITUTE OF TECHNOLOGY KOKRAJHAR

CE PG 3rd Semester Course Structure & Syllabus

(In line with AICTE / NEP)

Semester – 3

Sl No.	Course Code	Subjects	Scheme of Studies per Week			Credits
			L	T	P	
1.	MCE371	Project-I	0	0	20	20
Total			**0**	**0**	**20**	**20**

*** Any one from the listed topics**

Course Code:	PCE371
Course Title:	Project - I
Course Credit:	20 (L: 0 T: 0 P: 20)

Course objective:	The objective of the course is to facilitate the development of knowledge-based skills in carrying out research in water-related science, engineering and technology by undertaking detailed literature review, finding research gaps, framing research questions, collecting and compiling data and information, carrying out site or laboratory investigations and/or undertaking detailed analyses, producing results, drawing inferences, writing research reports, and disseminating the research outcomes through conference and seminar presentations, project defense, etc.
Pre-requisites:	Study of courses related to water, such as hydrology, hydraulics, irrigation engineering, water resource engineering and management, groundwater hydrology, environmental engineering, hydraulic structures, river engineering, etc. during the BE/BTech and the first year of the M.Tech program.
Course outcomes:*	After completion of this course students will be able to 1. engage in self-learning various topics related to water resource development, engineering and management, 2. survey literature such as books, national/international refereed journals, conference proceedings, theses and technical reports, and contact resource persons for collection of or clarification on the literature, 3. write technical reports. 4. develop oral and written communication skills to present and defend their works in front of technically qualified audience and the society.

Unit/ Module no.	Topic	Nos. of contact hours
1	The project work will start in the beginning of semester III, and should be a problem having research, industry-application, conference-presentation and journal-publication potential. The project work should involve scientific research, design, generation/collection and analysis of data, determining solution, and must preferably bring out individual contribution. The broad areas for topic selection shall include: • Water resources assessment, development, engineering and management • Hydraulics and hydraulic engineering • Interdisciplinary/multidisciplinary area having a component related to water • Data science applications in water resources data management and modelling, Hydro informatics, Use of AI and ML in WR&HE The student has to be in regular contact with his guide/supervisor, and the topic of dissertation must be mutually decided by the guide/supervisor and student. The examination shall consist of the preparation of report consisting of a detailed problem statement, a literature review, and research gap(s). The preliminary results, if available, of the problem (before undertaking details works for Dissertation - II) may also be discussed in the report. The work has to be presented in front of the examiners' panel set up by the Head and the PG coordinator of the department. For assessment, Dissertation-I will have a mid-semester presentation and an end-semester presentation. The mid-semester presentation will include identification of the problem based on literature review and gap-finding on the topic referring to latest literature. End-semester presentation will be done along with the report on identification of topic for the work and the methodology adopted involving scientific research, collection and analysis of data, determining solutions, presenting results, if available, and must bring out individual contribution. Continuous assessment of Dissertation – I and Dissertation – II at Mid-Sem and End-Sem will be monitored by the departmental committee. The project work shall be such as to preferably have a high potential of either publication of a technical article related to the project/dissertation in a SCOPUS- or SCI-indexed journal, or presentation in conferences and colloquia organized by renowned and reputed organizations, associations, etc.	40

Textbooks:

To be related to the research topic selected for the project.

Reference Books:

Scientific Journals and reference books with respect to selected research topics.

COURSE STRUCTURE

AND

SYLLABUS FOR

POSTGRADUATE PROGRAMMES (M. Des)

IN DESIGN

2nd year (Semester III)

(APPLICABLE FROM AY 2024-2025 ADMITTED BATCH ONWARDS)

CENTRAL INSTITUTE OF TECHNOLOGY KOKRAJHAR

(M. Des. Course Structure in Multimedia Communication and Design)
UPDATED VERSION AS PER NEP

SEMESTER - 3						
Sl. No.	**Course Code**	**Course Title**	**L**	**T**	**P/S**	**C**
01	MMD31*	***Elective-II*** (*Practical Based Course*) 1. Game Design for digital media 2. Internet media: Web and beyond 3. Digital Technology in Video Production	0	0	12	6
02	MMD391	**Project – 1 (Minor Thesis Project)** *(Experimental / Developmental Animation / Digital media Project: Production)* (Based on specialization)	0	0	28	14
	Contact Hrs = 40	**Total**	0	0	40	20

COURSE CONTENTS

SEMESTER – 3

Course Title: ELECTIVE – 2 **L-0, T-0, P/S-12, C-6**

Course Code: MMD31*

Elective subject – 1 (Code: MMD311): Game design for digital media

Elective subject – 2 (Code: MMD312): Internet media – Web and beyond

Elective subject – 3 (Code: MMD313): Digital technology in video production

As all these are project-based courses, hence the contents of these courses will be planned and informed by the concerned course instructors as and when the courses will be floated.

MMD391: Project – 1 (Minor Project) **L-0, T-0, P/S-28, C-14**

The semester project – 3 or minor project will be based on Experimental / Developmental Animation / Digital media Project: Production (Based on specialization).

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