

NIRMA UNIVERSITY

Institute:	Institute of Technology
Name of Programme:	Master of Computer Application (2-Years Programme)
Course Code:	3MCAD353
Course Title:	UI / UX Design
Course Type:	Departmental Elective
Year of Introduction:	2021-22

Credit Scheme

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Course Learning Outcomes (CLO):

At the end of the course, students will be able to –

1. summarize asynchronous code using node.js for developing web applications
2. build MEAN stack web application with Node.js, Express.JS and AngularJS
3. apply concepts of full stack development with modern frameworks
4. develop user interface for applications using specific methods in user experience design

Syllabus:

Total Teaching hours: 45

Unit	Syllabus	Teaching hours
Unit-I	Introduction to UI / UX : Web Application Architecture Technologies used to Web Development, Project Development Process, List of environments involved in Development, Types of Software Companies, Roles of UI Developer, Roles of UI Designer, Difference between UI Developer & UI Designer	03
Unit-II	User Experience (UX): Introduction and principles, vision, process, collaborative design, Integrating UX	05
Unit-III	Node.js: Node.js Introduction, Node.js Modules, Node.js HTTP Module, Node.js File System Module, Node.js URL Module, Node.js NPM, Node.js Events, Node.js Upload Files, Node.js Send an Email	09
Unit-IV	Database connectivity with Node.js: MySQL Create Database, MySQL Create Table, MySQL Insert, Into, MySQL Select From, MySQL Where, MySQL Order By, MySQL Delete, MySQL Drop Table, MySQL Update, MySQL Limit, MySQL Join	08
Unit-V	AngularJS (with ES6): AngularJS Introduction, AngularJS Expressions, AngularJS Modules, AngularJS Directives, AngularJS ng-model Directive, AngularJS Data Binding, AngularJS Controllers, AngularJS Scope, AngularJS Filters, AngularJS Services, AngularJS AJAX - \$http, AngularJS Tables, AngularJS Select Boxes, AngularJS SQL, AngularJS HTML DOM, AngularJS Events, AngularJS Forms, AngularJS Form Validation, AngularJS API, AngularJS Includes, AngularJS Animations, AngularJS Routing	10

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Unit-VI	Express.JS: ExpressJS - Overview, Express.js Request Object, Express.js Response Object, Express.js GET Request, Express.js POST Request, Express.js Routing, Express.js Cookies, Express.js File Upload, Express.js Middleware, Express.js Scaffolding, Express.js Template Engine.	05
Unit-VII	MEAN Stack: What is a MEAN Stack?, MEAN Stack Architecture, Features of MEAN Stack, MEAN Stack Components	05

Self-Study: The self-study contents will be declared at the commencement of semester. Around 10% of the questions will be asked from self-study contents.

- Suggested Readings/References:
1. Basarat Ali Sayed, Beginning Node.js, Apress
 2. Andrew Grant, Beginning AngularJS, Apress
 3. Azat Mardan, Express.js Guide: The Comprehensive Book on Express.js, Leanpub
 4. Simon Holmes, Getting Mean with Mongo, Express, Angular, and Node, Manning Publications
 5. Chris Northwood, The Full Stack Developer, Apress
 6. David Mark Clements, Node Cookbook: Actionable solutions for the full spectrum of Node.js, Packt Publishing
 7. Bill Buxton, Sketching User Experiences: Getting the Design Right and the Right Design, Morgan Kaufmann Publisher, Focal Press
 8. Gothelf, Jeff, Lean UX: Applying lean principles to improve user experience, O'Reilly Media, Inc.
 9. Pamala Deacon, UX and UI strategy : A step by step guide on UX and UI design, Kindle Edition

Suggested List of Experiments:	Sr.	Title	Hours
	1.	To study and implement the below node.JS concept: Cerate Node.js Modules, and Create Node.js HTTP Module for displaying system date and time.	02
	2.	To study and implement the below node.JS concept: Cerate Node.js File System (Read files, create files, Update files, delete files, Rename files)	02
	3.	To study and implement the below node.JS concept: Node.js URL Module and Node.js Events, Node.js Upload Files, and Node.js Email	02
	4.	To study and implement the database connectivity with MySQL for the below using the concept of Node.js: MySQL Create Table, MySQL Insert Into, MySQL Select From, MySQL Where (Assume necessary database)	02
	5.	To study and implement the database connectivity with MySQL for the below using the concept of Node.js: MySQL Order By, MySQL Delete, MySQL Drop Table, MySQL Update, MySQL Limit, MySQL Join (Assume necessary database)	02

6. To study and implement the below AngularJS 04
concept:
AngularJS Modules, AngularJS Directives, AngularJS
Model, AngularJS Data Binding
7. To study and implement the below AngularJS 04
concept:
AngularJS Events, AngularJS Forms, AngularJS
Validation
8. To install MEAN and creating a MEAN Stack 04
Application for Building Server-Side API
9. To study and design the structure UX Design 04
Portfolio.
10. To apply the knowledge of UX and UI and create 04
UX/UI portfolio projects for Blog site

Suggested Case -NA-
List: