2022

Centurion UNIVERSITY

Shaping Lives...
Empowering Communities...

COURSE BOOK

Bachelor of Science Animation and Multimedia

CBCS

School of Media and Communication

Centurion University of Technology and Management

http://www.cutm.ac.in

The Media and Entertainment (M&E) industry is going through transformation with several waves of digitalization. This pace of progress in the industry has led to dearth of availability of professionals who can develop the adequate content for the industry using digital platforms. The B.Sc. Animation and Multimedia course offered by Centurion University of Technology and Management attempts to bridge the gap by developing professionals who can lead the industry with sound digital knowledge and skills.

Programme Objectives:

The programme of B.Sc. Animation and Multimedia aims at satisfying the demand for skilled and well-honed media and entertainment professionals by integrating the multiple domains of the industry. The program has focused on developing knowledge and skills in Web Development, Mobile App Development, Digital Publishing, Digital Painting, Digital Sound, Gaming and VFX, Digital Film Making, Animation and Story Boarding. There will be one year internship in the industry to gain hands-on skill and become industry ready by end of the programme.

- B.Sc. Animation and Multimedia discipline is an under-graduate degree course that helps the students to learn about the modern and advanced study of 2D and 3D animation techniques, using latest software.
- Through this course the students can get detailed idea on different animation techniques, VFX, digital painting and digital publishing.
- The course is perfect combination who wants to show their creativity in the field of digital film producing technology, animation techniques, visual effects, webpage designing and are passionate to work with gaming companies, animation studios and entertainment firms.
- The course is a perfect combination for those who wants to build their career as Web designer, software developer, graphic designer, animation graphic artist, game developer, game tester, art director and more.

Eligibility:

Students should have passed 10+2 in any stream or its equivalent public examination conducted by any recognised Board of Education in India or abroad.

Programme Duration:

The 4-year degree course of B.Sc. Animation and Multimedia will consist of eight semesters. One academic session of one year will be devoted to two semesters. The last two semesters will be spent by the candidate in industry as interns. Candidates shall be admitted to B.Sc. Animation and Multimedia 1st Semester only and thereafter required to qualify all Eight Semesters consequently to earn the degree. Minimum credit requirement for the degree:**180**

Career Opportunity:

After completion of B.Sc. Animation and Multimedia, one can join Digital Media Houses, Film Industry, Gaming Industry and Universities as a Social Media Manager, Digital Content Writer, Multimedia Broadcast Journalist, Media Operations Analyst, Digital Journalist, Video Journalist, Digital Media Planner and Executive, Faculty, etc.

Scheme of Examination:

Internal Examination: 40%

University End-semester examination: 60%

Course Structure

Basket	**Basket Category**	**Minimum Credits to be acquired**	**Scope**
I	Core Discipline	84	Core
II	Domains (Any Two)	52	Choice
III	Ability Enhancement Courses	08	Core
IV	Internship	36	Choice
	Total Credits	**180**	

CORE DISCIPLINE

Sl No	Code	Course	Credit	Type T+P+P
1		Creative writing	6	1+3+2
2		Idea to Story	6	1+3+2
3		Developing the Story Board	6	0+4+2
4		Culture, Communication and Society	6	2+2+2
5		Communication and Plastic Arts	6	2+2+2
6		Web Technology	4	0+2+2
7		Web Development	4	0+2+2
8		Introduction to Java	6	0+4+2
9		Mobile App Development	6	0+4+2
10		Digital Sound Production	6	0+3+3
11		Digital Texturing	4	0+2+2
12		Design Thinking	2	0+1+1
13		Communication Research	6	2+2+2
14		Media Laws and Ethics	4	2+0+2
15		Introduction to Social Media	4	0+2+2
16		Fashion Photography	4	0+2+2
17		UI/UX Design	4	0+2+2
			84	

DOMAIN

Sl No	Code	Course	Credit	Type T+P+P
Digital Publishing				
17		Principles of Graphic Design	4	0+2+2
18		Basics of Photoshop	6	0+4+2
19		In-design	6	0+4+2
20		Vector Image Editing	6	0+4+2
21		Project	4	0+0+4
Total			**26**	
Digital Painting				
22		Basic Drawing Techniques	6	0+4+2
23		Graphics Aesthetics	4	0+2+2
24		Photoshop Advanced	6	0+4+2
25		Adobe Illustrator	6	0+4+2
26		Project	4	0+0+4
Total			**26**	
Gaming and VFX				
27		Basics of Maya	6	0+4+2
28		Substance Painter	4	0+2+2
29		Zbrush	6	0+4+2
30		Unity/ Unreal	6	0+4+2
31		Project	4	0+0+4
Total			**26**	
Digital Film Making				
32		Animation	6	0+4+2
33		Cinematography	6	0+4+2

34		After Effect(VFX)	4	0+2+2
35		Video Editing (Premiere CC)	6	0+4+2
36		Project	4	0+0+4
Total			**26**	

ABILITY ENHANCEMENT COMPULSORY COURSE

Sl No	Code	Course	Credit	Type T+P+P
37		Communication Skills	4	1+2+1
38		Environmental Science	4	3+0+1

Internships in Industry: 36 Credits in SemVII and VIII

CORE DISCIPLINE

CREATIVE WRITING

Code :XXXX **Credit: 1+3+2**

Course Rationale:

The course is designed to improve the skill of creative writing among students. It will help them to develop creative writing skills for different mediums according to the need.

Course Objectives:

CO1. To introduce the art of creative writing.

CO2. To make the student user friendly with the content production medium.

CO3. To make the student capable to write contents to present in different media platforms

Learning Outcomes: After completion of the course students

LO1. Will be able to produce creative contents.

LO2. Will be able to use different medium by understanding its advantages and limitations

LO3. Will be able develop knowledge about preparing written content in different formats for different purposes

Course Contents:

Module I:

Introduction to Media Writing, Media writing as communication: Telling stories and engaging the reader, Principles of good writing, Basic tools of writing, Characteristics of media writings, Research, Ideation process and writing

Module II:

Print Writing Formats, Writing: Feature, Profile, Film Review, Interview, Editorial, Column, Obituary, Human interest story writing for magazines

Module III:

Writing for audio medium, Concept, Scope, Scripting, Elements of Script

Module IV:

Online Writing Formats: Characteristics of web writing, technical writing, blogs, writing news for social media,

References:

C. Batty and S.Cain Media Writing: A Practical Introduction

J. G. Stovall Writing for the Mass Media

Melvin M. (2006) News Reporting and Writing. 10e Boston: McGraw-Hill.

R. P. Clark

Writing Tools: 50 Essential Strategies for Every Writer

IDEA TO STORY

Code: XXXX **Credit: 1+3+2**

Course Rationale:

The course is designed to improve the skill of story developing among students from different ideas. It will help them to visualize and design a story properly looking into the need of the medium.

Course Objectives:

- To introduce the Art of visualizing a story from an idea.
- To impart knowledge relating to structure, design and genres of a story.
- To impart knowledge about organizing and presenting the story according to medium.

Learning Outcomes: After completion of the course students

- Will be able to visualize a story from an idea.
- Will be able to develop knowledge relating to structure, design and genres of a story.
- Will be able develop knowledge about organizing and presenting the story according to the medium in a proper manner.

Course Contents:

Module-I

Intro to story, Importance of a story, Psychology of a story, Creative thinking process, play theories, Auteur theories

Module-II

Structure of a story. Visualizing a story, Building Strong, Relatable Characters, Introductions and First Impressions, Applying Your Critical Eye to Introducing Characters, Using contemporary and classic film and TV

Module-III

Writing What You know, understanding the medium, Organizing your writings, Genres and Genre elements

Module-IV

Building your story: writing the outline of your story, Classical and contemporary models for story developing

References:

C. Batty and S.Cain Media Writing: A Practical Introduction
J. G. Stovall Writing for the Mass Media
Melvin M. (2006) News Reporting and Writing. 10e Boston: McGraw-Hill.
R. P. Clark Writing Tools: 50 Essential Strategies for Every Writer

DEVELOPING THE STORY BOARD

Code: XXXX **Credit: 0+4+2**

Learning Objective:

- The paper aims to provide students with a clear understanding of how to develop a storyboard with different software.

Learning Outcomes:

- Students will be able to develop storyboard and storytelling.

Course Contents:

Module I

Introduction to Screenwriting: The visual nature of movies. Screenplays as blueprints. Where to find ideas. Forming a premise. High and low concept. Hollywood vs. Indie. Genre. The usefulness of outlines.

Module-II

Finding a major dramatic question. The three-act structure. The difference between classic plots and subtle plots. Making a story map. Finding a strong protagonist. Handling other characters. Making characters dimensional through desire and contrasts. Creating character profiles. Showing characters through their actions.

Module-III

Format/Description: format of a screenplay. Writing effective screenplay description. Scene defined. Length of the scene. Tenets of good scenes—importance, desire/conflict, structure, compression, visual storytelling. Sequences. Making a step outline. Dialogue's illusion of reality. Compression. Characterization through dialogue. Subtext. Exposition. Stage directions.

Voice over. The value of subplots. Romantic subplots. Other kinds of subplots for the protagonist. Non-protagonist subplots. Subplot structure. Finding subplots in your story. Creating an effective climax. Flashbacks.

Module-IV

Developing tone through genre, world, and lightness/darkness. Consistency of tone. Theme-defined. Types of a theme. Weaving theme into a story, learn with story binder

References:

Storyboarding Book: Storyboarding Book: Panel / Frame with Narration Lines, Visual Storytelling Technology: Create space Independent Pub; Ntb edition (17 September 2017)

Storyboard Journal: Film Storyboarding Planner Drawing Sketching Pad 4 Panel Visual Storytelling Notebook, Narration Lines, Standard for Storyboard Sketchbooks Template: Create space Independent Publishing Platform (9 March 2018)

CULTURE, COMMUNICATION AND SOCIETY

Code-XXXX **Credit: 2+2+2**

Course Rationale:

The course is designed to provide students a basic understanding about the relationship between culture, communication and society and how media as a force influences cultural patterns of a society and brings cultural changes in a society.

Course Objectives:

- To provide an understanding of culture and the process of learning culture.
- To impart knowledge about the process of cultural communication and its impacts.
- To provide an understanding of the impact of digital media culture in the society

Learning Outcomes: After completion of the course students

LO1. Will be able to analyze the relationship between culture, communication and society.

LO2. Will be able to reflect on change in culture.

LO3. Will be able to make effective communication while communicating between individuals of different cultures

Course Contents:

Module: I

Introduction to culture, Relationship between Communication and culture, Socialization and the process of learning culture, Theories of socialization

Module: II

Media culture and its types, mass culture and popular culture, Frankfurt school and Birmingham school, Hegemony, redemption of popular culture, Gender and media culture

Module: III

Digital media and culture. Impact of digital culture: Internet, Video games, Selfies, Mobile Phones, Status updates, new generation youth and the culture of social media

Module-IV

Communication between cultures, Nonverbal communication and culture, cultural barriers and communication as a tool to remove cultural barriers.

References:

Understanding Media and Culture- The Saylor Foundation

An Introduction to Theories of Popular Culture- Dominic Strinati- Routledge

The mirror of Production- Baudrilard

Cultural studies reader- Lawrence Grossberg, Cary Nelson, Paula Treichler, Routledge

Mcquails Mass Communication Theory- Denis Mc.Quail

COMMUNICATION AND THE PLASTIC ARTS

Code: XXXX ` **Credit : 2+2+2**

Course Objectives

- To provide training to the learners to understand the public space and how to communicate in public space by using architecture, sculpture and paintings etc. as the mass media.
- To impart to the learners about historiography of the plastic arts of various medium along with the shifting of the empire in India.
- To engage learners to understand the religious, and socio-cultural institutions associated with the plastic arts in pluralistic traditions of the ancient, medieval and modern India.

Learning Outcomes

After successful completion of the course, the learners will be able to

- communicate in public space by using the plastic arts as the media for mass communication.
- understand historiography of the Indian traditions.
- appreciate the socio-cultural and religious institutions of India.

Course Contents:

Module: I

Communicating with the Public Plastic Arts as Mass Media,Architecture, Sculpture, Paintings

Module: II

Public Art and the Public Space, The Chowk/Piazza, The Wall, The Sidewalk, The Garden

Module III

The March of Empire, Power and the Semiotics of Scale, Monuments and Triumphalism,

The Memorial, The Collosseum/The Red Fort/Taj Mahal/ India Gate

Module: IV

The Language of Faith, Temples, Churches, Mosques, Stupa, Iconography, Frescoes and, paintings, Khajuraho/The Sistine Chapel/Birla Mandir

References:

Baneerjee , Jitendra N. Development of Hindu Iconography, MunshiramManoharlal Publishers, 1956.

Canon, Jon. The Secret Language of Sacred Spaces: Decoding Churches, Cathedrals, Temples, Mosques and Other Places of Worship Around the World, 2013.

Cummings Cathleen Decoding a Hindu Temple: Royalty and Religion in the Iconographic Program of the Virupaksha Temple, Pattadaka.

Didron, M. Milligston E. J. (Translator) .Christian Iconography or The History of Christian Art in the Middle Ages Part 1 , Kessinger Publishing, 2003.

Dev ,Krishna. (Author), Lall, Darshan (Photographer). Sculptural Art of Khajuraho , Antique Collectors Club Ltd, 1994.

WEB TECHNOLOGY

Code: XXXX **Credit : 0+2+2**

Course Objective: The main objective of the course is present the basic web technology concepts that are required for developing web applications. The key components are Architecture of the Web, JavaScript & j Query, AJAX & JSON.

Learning Outcome:

- construction less demanding web application

Course Contents:

Module-I: Architecture of the Web (1)

HTTP Protocols(1): Difference HTTP1.0 and HTTP 1.1, Stateless nature of the protocol, Methods (GET, POST, HEAD, PUT, DELETE), HTTP session, Status codes, Persistent connections, HTTPS

HTML (1): Document Object Model (DOM), Elements, Events
HTML 5(2): Elements, Objects, Events, Canvas, Audio & Video Support, Geo-location Support

CSS (2): Styling HTML with CSS, Inline Styling (Inline CSS),External Styling (External CSS),CSS Fonts, The CSS Box Model, The id Attribute, The class Attribute, HTML Style Tags

Practice

1. Write an HTML code to display your CV on a web page.

2. Write an HTML code to create a home page having three links: About Us, Our Services and Contact Us. Create separate web pages for the three links.

3. Write an HTML code to create a Registration Form. On submitting the form, the user should be asked to login with these new credentials.

4. Write an HTML code to create your Institute website, Department Website and Tutorial website for specific subject.

5. Write an HTML code to create a frameset having header, navigation and content sections.

6. Write an HTML code to demonstrate the usage of inline CSS.

7. Write an HTML code to demonstrate the usage of internal CSS.

8. Write an HTML code to demonstrate the usage of external CSS.

9: Design your own website using HTML CSS

10: Design form using HTML and apply CCS

Module II: JavaScript & j Query
JavaScript (10)

Introduction to Java Script: Variable, statements, Operators, Comments, constructs, Functions, expressions, Java script console, Scope, Events, Strings, String Methods, Numbers, Number Methods, Dates, Date Formats, Date, Methods, Arrays, Array Methods, Booleans, Comparisons
Control Structures: Conditions, Switch, Loop For, Loop While, Break

Functions: Function Definitions, Function Parameters, Function Invocation, Function Closures

Objects: Object Definitions, Object Properties, Object Methods, Object Prototypes

Object Oriented Programming: Method, Constructor, Inheritance, Encapsulation, Abstraction, Polymorphism, Java script Validations, Document Object Model, Document and Events (DOM Manipulation)

HTML DOM: DOM Intro, DOM Methods, DOM Document, DOM Elements, DOM HTML, DOM CSS, DOM Animations, DOM Events, DOM Event Listener, DOM Navigation, DOM Nodes, DOM Node list, Debugging, Type Conversion, Regular expressions, Errors, Debugging

Forms: Forms Validation, Forms API, JS Browser BOM, Window, Screen, Location, History, Navigator, Popup Alert, Timing, Cookies, Java script Windows, Pushing code quality via JSLint tool, Security in Java Script

Practice:

1. Write a Java script to prompt for users name and display it on the screen.

2. Design HTML form for keeping student record and validate it using Java script.

3. Write programs using Java script for Web Page to display browsers information.

4: Validate form page using JavaScript

5.Find all the text nodes inside a paragraph and wrap them with an italic tag

Module-IIIAJAX & JSON

AJAX (3): Design Introduction to Ajax, Web services and Ajax, Ajax using HTML, CSS, Java Script, Ajax Framework and DOM, XML Http Request, Ajax Architecture

Working with JSON (5): JSON – Introduction, Need of JSON,JSON Syntax Rules, JSON Data - a Name and a Value, JSON Objects, JSON Arrays, JSON Uses JavaScript Syntax, JSON Files, JSON parsing, AJAX using JSON and jQuery

Bootstrap

Bootstrap Grid System, Grid Classes, Basic Structure of a Bootstrap Grid

Tables, Images, Jumbotron, Wells, Alerts, Buttons, Button Groups, Badges/Labels, Progress Bars,Pagination, List Groups, Panels, Dropdowns, Collapse, Tabs/Pills, Navbar, Forms, Inputs

Practice:

1. Create a simple application using AJAX to show the table of numbers given by user at runtime.

2.Access web service using Ajax and handle using JSON

WEB DEVELOPMENT

Code: XXXX **Credit: 0+2+2**

Course Objective: to build the student's knowledge of web design and development. Students will learn to develop web application using PHP, use of CMS and WordPress, customising dashboard appearance, etc.

Learning Outcome:

By the end of this course, students should be able

- design and publish a working and atheistic website

Course Content:

Module-I

PHP (10): Introduction to PHP, working with arrays, Functions, Forms, Handling date and Times, Working with Files, Session and state management, Database operations from PHP

Practice:

1. Develop student registration web application using PHP

2.Write a PHP database application that collects comments from users and makes it possible for users to view all the comments that have been submitted. You will need three files: an HTML page with a form where the user can enter a comment; a PHP program to process the input from this form by adding the comment to the database; and a PHP program that displays all the comments.

Module-II

CMS and WordPress Basics, Downloading and Installing WordPress, Creating a MySQL Database, Logging into Your Account, Creating users, Updating Personal Settings, Updating Profile, Editing General Settings, Adding a Post, Using the Visual Editor, Adding Hyperlinks, Using Categories and Tags, Managing Categories and Tags, Controlling the Number of Posts That Are Displayed

Module-III

Managing and Moderating Comments, Trackbacks and Pingbacks, Comment and Trackback Spam, Adding and Deleting a Page, Changing the Page Order, Pasting from Text Files, Adding

a Photo, Adding a Video, Adding Other Content (.pdf,.doc, etc.), Managing Uploaded Content, Media Settings, Adding Links, Changing the Header Image, Customizing the Sidebar with Widgets, Using the Dashboard Managing Recent Comment, Tracking Statistics

Module-IV

Customizing the Dashboard's Appearance, Finding and Assessing Plugins, Installing and Activating, Deactivating Plugins, Deleting Plugins, How to Remove Plugins That Break Your Site, Creating and Editing Users, Overview of the User Roles and Levels, Creating Menus from Pages, Creating Custom Menus, Adding Categories and Pages as Menu Items, Finding and assessing Themes, Uploading and Installing Themes, Changing Themes (How the Site/Blog Looks), Updating Themes

INTRODUCTION TO JAVA

Code: XXXX **Credit: 0+4+2**

Course Objective:

- Students will learn how to write, compile and execute Java programs

Learning Outcome:

- Can develop java applications

Course Content:

Module-I

Features and Installation, Java Programming Basics, Decision Making and Looping, Class and Object, Method Overloading, constructor, Inheritance, Method Overriding

Module-II

Interfaces, Packages and Access Protection, Exception Handling (Fault Tolerant Programming), ArrayList, Vector, Set, Map, Multi-threaded Programming, Synchronization, String Handling

Module-III

Wrappers, Runtime Memory Management, Cloning, Calendar, Date and Time Facilities, Byte

and Character Stream I/O, Serialization, AWT: Container, Components, Layout Managers, Event Handling,

Module-IV

SQL(DDL, DML, TCL) and PL-SQL, JDBC: Establish Database Connection, CURD operation using Statement and PreparedStatement, CallableStatement

MOBILE APP DEVELOPMENT

Code: XXXX **Credit (0+4+2)**

Course Objective:

The student will learn the basics of Android platform and get to understand the application lifecycle

Learning Outcome:

- By the end of the course, student will be able to develop applications

Course Content:

Module-I

Introduction to Android

Follow the concepts of Android; understand Features and Installation of Android Studio and Android Virtual Devices.

Practice -

- Installation of Android Studio
- Create one Hello world Project

Introduction to Android Activities and Layouts

Create Applications; understand Activities and Layouts of Android, and the Activity Lifecycle.

Practice –

- Create Project by Implementing deferent Layouts
- Create an activity and implement the Activity Lifecycle

Module- II

Understand how data passing using Intent, Navigation between two Activity

Practice -

- Receive data from the user by Edit Text and pass the data to another activity using intent.

Broadcast Receiver & Content Provider

Learn the use of Broadcast Receiver, Content Provider

Practice –

- Retrieve the device's battery info. And show in a project
- Use Broadcast Receiver & Content Provider in a Project

Module-III

List, Adapters, and Permission

Android Permissions, List, and use of Adapter.

Practice –

Retrieve data from a given URL and arrange them in a recycler view/ List View.

Create Files, Saving Files

To Create Files, Saving Files in Android

Practice –

- Make one user input Form store the information in a separate Activity, Convert that Activity into a PDF format and store the PDF in device's internal storage.

Module-IV

Network Call

Network call/ API call using Retrofit, OkHttp. Data (XML/JSON) Parsing &

Understand &Implement SQLite database, Firebase. Saving Data in the database

Text Book-

- Head First Android Development
-

http://yuliana.lecturer.pens.ac.id/Android/Buku/professional_android_4_application_development.pdf

Online Source(s):

- https://developer.android.com/guide
- https://developer.android.com/docs
- https://www.tutorialspoint.com/android/index.htm

DIGITAL SOUND PRODUCTION

Code: XXXX **Credit: 0+3+3**

Course Objectives

- The student should know the techniques of handling the different types sound setup
- Improve knowledge of Voice Dubbing and Sound mixing
- To know how to record sound
- Develop knowledge for making Songs.

Learning Outcomes

- Use digital devices for recording sound and play it back.
- Use the range of sounds for recording.
- Can operate Audio Mixture and level the Audio

Course Content:

Module 1

Introduction to Sound , Frequency, Amplitude, Wavelength

Module II

Characteristics of Microphone, Types of microphones Such as Dynamic, Condenser and Ribbon Microphone, Specification of Microphone

Module III

Characteristics of Audio console or Analog Mixture and Digital Mixture

Difference between Analog and Digital Mixture, Preamplifier of a Mixture, Equalization of a Mixture, Fader, Group Fader and Master Fader, Auxiliary Section of Mixture, Panning of A Channel

Module IV

Sound Card, Specification of Sound Card, Digital Recording Synthesis, A/D or D/A Conversion, Sample Rate and Bitrate.

Project Lists

1.Sound Dubbing

2. Mixing Music or Bgm with Voice and Balancing

3.Mixing Sound Track

References

- David Miles Huber : Modern Recording Techniques
- DaveKusek : Hack The Music Business
- John Seabrook : The Song Machine
- P.C. Chatterji: Broadcasting in India
- Lynne Gross: An Introduction to Radio, TV and the Developing Media
- Herbert Zettle: Television Production
- Campbell, Meath &Johnson: A Guide to Radio, TV Writing
- Robert McLeish: The Technique of Radio Production
- Pane Sureyat: Broadcast News Writing
- S.P.Jain: The art of Broadcasting
- Awasthy: Broadcasting in India
- H.R.Luthra: Indian Broadcasting
- Basics of the Video Production Diary- Des Lyver- Focal Press
- Public service broadcasting in the age globalization: IndrajeetBanarjee and Kalinga senebiratne- Amic-2006

- Broadcast Journalism- Andrew Boyd- Focal Press
- Single Camera Video Production- Robert B. Musburger- Focal Press

DIGITAL TEXTURING

Code: XXXX **Credit 0+2+2**

DESIGN THINKING

Code: XXXX **Credit: 0+1+1**

Course Objectives

The course aims to

- Orient the participants on the basics of the design thinking process
- Familiarize participants with the elements and application of Design thinking

Learning Outcome

After completion of the course,

the student will be able to apply the design thinking process to innovative problem solving

Course Contents:

Module: I

Basics of Design Thinking, Design Thinking Mindset (Inspiration, Ideation and Implementation) Design thinking process, (Empathy, Define, Ideate, Prototype, Test). Cases of application of Design thinking approach (Intuit, IDEO, Infosys, IBM, Google, Apple, Jubilant Foods)

This will be in a flip class mode followed by a workshop, to be conducted by an external expert and a faculty anchor.

Module: II

Executing a Design Thinking Project- Apply Interviewing and empathy building technique, drawing inferences from the observations, defining a point of view, Ideation process, developing and testing prototypes and writing a story of a minimum viable solution.

Projects

1. Develop a customer friendly insulin pump design (teams of 3 students to be graded on the application of the process, story boarding and the final design elements).
2. Develop a new customer experience for buying a diamond ring online (teams of 3 students to be graded on the application of the process, story boarding and the final design elements).
3. Develop a new disease monitoring device for health workers working in remote areas. (Teams of 3 students to be graded on the application of the process, story boarding and the final design elements).
4. Designing an integrated machinery for end-to-end functions for small and marginal farmers.

References:

Books: Tom Kelly & Jonathan Littman (2001). "The Art of Innovation" Broadway Publication.

Readings:

- Brown Tim (2008). "Design Thinking", Harvard Business Review

https://hbr.org/2008/06/design-thinking

- Rikke Friis Damand Teo Yu Siang, "What is Design Thinking and Why Is It So Popular?" https://www.interaction-design.org/literature/article/what-is-design-thinking-and-why-is-it-so-popular
- Anubhav Gupta, How design thinking can help companies, Forbes July, 2019
- https://www.forbesindia.com/blog/the-innovation-edge/how-design-thinking-can-help-companies/

COMMUNICATION RESEARCH

Code: CUTM1266 **Credit: 2+2+2=6**

Course Objectives

- The Course will provide an understanding of the basic techniques of social science research to students.
- The Course will help them to have an idea about different elements of Communication and techniques to conduct research on them.
- It will help students to have a clear idea about the functioning of media research Industry
- This will help them to understand about the process of theoretical formulations through research

Learning Outcomes

After learning this course students will be able to:

- Conduct research on different media elements
- Conduct research on radio, TV, advertising and public relations
- Write research reports and project proposals
- Understand process of social science research in a clear manner

Course Contents:

Module-I: Introduction to Communication Research

Definition, Role and Function, Basic and Applied Research, Role of Theory in Research, Ethical Issues and Questions

Module-II: Some Research Methodologies

Quantitative - Qualitative Methods, Content Analysis, Archival Methods, Ethnographic Methods

Module-III: The Survey, Readership, Audience, Consumers, Survey: Schedule, Sample, Focus Groups, Questionnaire Design, Field work, Telephone Polls, Online Polls, Primary and Secondary data

Module-IV: Presenting Research

Writing a proposal – research question, thesis statement, Tools of Data Collection, Data Analysis: Statistical-Coding and Tabulation, Non-Statistical- Descriptive and Historical, Bibliography and Citation

Projects

- Research Ethics
- Steps in Research
- Content Analysis
- Questionnaire Design
- Project Proposal Writing

Reference:

- Asa Berger, Arthur, Media Research Techniques, Sage Publications, 1998
- Croteau David and Hoynes Pine, William, Media/Society: Industries, Images and Audiences Forge Press
- Kothari, C.R, Research Methodology: Methods and Techniques, New age International Ltd. Publishers
- Wimmer and Dominick, Mass Media Research Thomson Wadsworth

MEDIA LAWS AND ETHICS

Code: **Credit: 2+0+2**

Course Rationale:

The course is designed to provide students a knowledge on legal and ethical aspects of media system. This will help them to understand different aspects of media related laws and how to work safely within the legal boundaries.

Course Objectives:

- To introduce the 'Laws of media to learners.
- To impart knowledge in ethical practices in media.
- To develop a better understanding of both laws and ethics among students.

Learning Outcomes:

After completion of the course students

- Will be able to understand different laws associated with the media industry.
- Will be able to understand the ethical practices associated with the industry
- Will be able to develop a clear idea about laws and ethics pertaining to media.

Course Contents:

Module-I:

Indian Constitution—Salient features, Fundamental Rights, Directive Principle of State Policy (DPSP), concept of PIL, Freedom of Speech and Expression, its limitations.

Module-II:

Cinematography Act, Constitutional Amendment, Contempt of Court Act, Indecent Representation of Women Prohibition Act, Censorship Act, Drugs and Magic Remedies Act, Law of Defamation. IPC sections-relevant to media.

Module -III:

Official Secrets Act, Right to Know, Right to Information Act,2005. Cyber Laws, Intellectual Property Rights and Copyright Act. Right to Privacy.

Module -IV:

Introduction to Media Ethics and Digital rights Management. Yellow Journalism, codes relating to Communal writing, right to reply, Media and Human Rights.

Reference:

A.G. Noorani:	India's Constitution & Politics
Durga Das Basu:	Constitution of India
Durga Das Basu:	Law of the Press
B.N. Ahuja:	History of Press and Press Laws
Press Institute of India:	Press and the Law
Sita Bhatia:	Freedom of the Press

INTRODUCTION TO SOCIAL MEDIA

Code: XXXX **Credit:0+2+2**

Course Objectives

- This paper will provide a basic understanding of modern social media communication, its management and influences on society

- This paper also provides how to set up a blog, youtube channel and social media profile and its analysis
- This paper will provide a well understanding of social media

Learning Outcomes

- After completing the paper students will gain a basic understanding of social media and its functioning
- After completing this paper, students will able to work on social media
- They will capable of set up a YouTube channel
- After the complete students will set up a WordPress blog and familiar in SEO

Course Contents

Module-I

Introduction to Social Media, present trends of Social Media, Aggregators, Google Alerts, Blogs.

Module-II

Creating content, Managing content programs, The Legal side of Social media, Copyright and Trademark Implications.

Module-III

Blogs, Blogger, Word press: Set-up, Services, Influencers, Who are they? How to find them, How to use them to benefit your brand, Podcasting: Creation, Hardware, software, Facebook: Creating groups and pages, Tips and Guides, Posts, Paid Promotion, Ads, Contests.

Module-IV

YouTube: Long-form video platforms, setting up a channel, Managing Content, Twitter: Set-up and usage, Tips and Tricks, LinkedIn: Tips and Guides, Review of profiles, revenue generation

Module-V

SEO, what is it? How it is determined, how to affect it, Google's role.

Project

Set up YouTube Channel.

Facebook & Twitter page set up.

Publish a blog on Wordpress.

Reference Books:

Optimize: How to Attract and Engage More Customers by Integrating SEO, Social Media, and Content Marketing - Lee Odden by John Wiley & Sons

The Huffington Post Complete Guide to Blogging- Editors of Huffington post- Simon & Schuster

How to Become a Youtube Superstar: Quick Start Guide- Htebooks – By Create space Independent Pub

Give: The Ultimate Guide to Using Facebook Advertising to Generate More Leads, More Clients, and Massive Roi

FASHION PHOTOGRAPHY

Codeode: XXXX **Credit: 0+2+2**

Course Objectives:

This course provides, how to get your camera to capture what your eye sees to produce better pictures. This paper is designed to teach students how to direct a Fashion photoshoot.

Learning Outcomes:

After completing this course students can

- Identify current trends in fashion imagery.
- Create a studio still life of a fashion or beauty product.
- Students will be able to develop the skills of a photographer
- Create and compose fashion orientated people shots within the studio environment

Course Contents

Module-I

The Photograph, Studio Photography, Understanding the Human Body, Various Fashion StylesInvention and Implications, the photograph and the fashion, Aesthetics of Fashion Photography.The Black and White, Color and its ImpactImage and Text- The Captioned Photo

Module-II

Photographic equipment, controls & tools, Camera: point & shoot, SLRs, DSLRs, SLDs, SLT, Mirrorless, Digital, Camera Settings, Menus, Exposure, Shooting modes and their significance, Photographic Optics: Lenses their use, types & specifications, Aperture - role & significance in image making, Kinds of Shutters - significance & application, ISO settings and their significance, White Factor, Depth of field as an image making tool

Module-III

Understanding Light and its Uses, Light: Visible Spectrum, Colour Temperature, Colour corrections for proper skin tone, Colour corrections for accurate garment or object reproduction, Retouch methods for skin, eyes, and clothing, Effects of Lightning with Specific Purpose, Quality of Light: Hard Light Soft Light, Glamour Lighting, Outdoor Fashion Shoot, Lighting Equipment: On Camera Flash, Its use and limitation, Studio Flashand Accessories for

fashion photography, Lighting Ratio, Types of Lights: Indoor, Outdoor & Mixed, Three Point Lighting

Module-IV

Visual advertising, Model as a prop, The role of the stylist, impact of product advertisement, Beauty point of purchase displays, Fashion and beauty products in advertising, Product lighting styles and techniques

Reference:

Understanding Exposure by by Bryan Peterson

The Photographer's Eye by Michael Freeman

On Photography by Susan Sontag

Butler, Yvonne V. The Advanced Digital Photographer's Handbook,

Focal Press.

Berger, J. Ways of Seeing, Harmonsworth, Penguin, 1972.

Langford, Michael. Fox, Anna,. Smith, Richard Sawdon. Langford's

Basic Photography: The Guide for Serious Photographers, July 23, 2010,

Revised 9th Edition.

Edwards, Steve. Photography: A Very Short Introduction, Oxford.

Sontag, Susan. On Photography, London: Penguin, 2008.

UI/UX DESIGN

Codeode: XXXX **Credit: 0+2+2**

DOMAINS

A. DIGITAL PUBLISHING

PRINCIPLES OF GRAPHIC DESIGN

Code: XXXX **Credit: 0+2+2**

Course Objective:

- Develop and demonstrate the understanding and skilful use of the elements and principles of visual design.
- Gain skill to use digital tools as a powerful means of communication to create, modify and present the message.
- Study the works of contemporary artists, designers as well as the masters in the art field and discuss enriching their vocabulary of design.

Course Outcome:

After completing this course, the student will be able to:

- The concept of a layout and ways to create it.
- Practice styles of fonts and their implications.
- Concept of a logo and methods of create it.

Course Contents

Module I

Introduction to graphic design, definition of graphic design and its specialised industries, Explanation of the various specialities within the industry of graphic design. An understanding of graphic design's role in future industries, Introduction to professional organisations and affiliations that will enrich the student's understanding of the profession.

Module II

Design basics, Design elements and principles, illustrated studies reinforcing the concepts and vocabulary of design, Refinement of final studies using Corel Draw software, Introduction to vector-based computer software Corel Draw.

Module III

Introduction to typography, Introduced to the evolution of the alphabet and letter-form design, typographic theory and vocabulary, type anatomy and type principles,

Module IV

Colour, learn the vocabulary associated with colour theory. working knowledge of the concepts by completing several computers-based colour studies using templates provided.

Reference:

1. The Essential Principles Of Graphic Design Hardcover, by Debbie Millman (Author).
2. Graphic Design: The New Basics: Second Edition, Revised and Expanded Paperback, by Ellen Lupton (Author), Jennifer Cole Phillips (Author)

BASICS OF PHOTOSHOP

Code: XXXX **Credit: 0+3+3**

Course Objectives

- To learn basic traditional drawing concepts of basic composition, using shadow and highlight to create the illusion of volume,
- Understand the ability to use design thinking strategies in an iterative design process.
- Enrich the skill level of graphic design through the topics

Learning Outcomes

- The students can work on graphic design, photo-editing, digital illustration for film and television.
- Learning different Adobe tools will help students to make their own creative products.
- Having a clear understanding of the subject related concepts and of contemporary issues

Course Contents:

Module I

- Introduction to Adobe Photoshop.
- Understanding the Interface.
- Understanding New Document Setting.
- Understanding the Tools.

Module II

- Working with images.

- Understanding Pixels and Resolution.
- Getting started with Layers.

Module III

- Photo retouching.
- Using quick mask mode.
- Working with the pen tool.

Module IV

- Introduction to colour correction.
- Creating Special Effects.
- Saving with different file formats.

Project List

- Book covers design.
- Magazine cover design.
- Poster design.
- Brochure design.

References:

1. Adobe Photoshop CC Classroom in a Book Paperback – by Faulkner Andrew (Author), Chavez Conrad (Author).
2. Photoshop CC in Simple Steps Paperback, by DT Editorial Services (Author)

INDESIGN

Code: XXXX **Credit:0+3+3**

Course Objectives

The fundamentals of using the digital layout as a primary publishing tool and the basic concepts and terminology associated with typography and page layout. Topics include an overview of industry-standard software for page layout and design, and various methods of reproduction for print and electronic delivery. The material covered will include graphic terminology, type specification, and evolution of the printed piece from concept to final printed project.

Learning Outcomes

•Apply fundamentals of page layout

• Practice importing text and graphics into page layout programs

• Integrate tools and techniques analysing elements to produce the final product

• Apply real-world production skills used by graphic designers and production personnel

• Define the terms and language of page layout and design.

Course Contents:

Module I

- Introduction to Adobe InDesign.
- Understanding the Interface.
- Understanding the Tools.

Module II

- Page setup and layout.
- Illustration and drawing.
- Objects.
- Typography

Module III

- Text processing.
- Automatic page numbering.
- Checking and correcting spelling.
- Colour

Module IV

- Applying paragraph and character styles.
- Working with tables.
- Formatting rows and columns.
- Import and Export.
- Exporting and Digital publications.

Projects:

- Book Layout Design.
- Magazine Layout Design.
- News Paper Layout Design.

- Catalogue Design.
- Brochure Design.

References:

1. Digital Publishing with Adobe InDesign CS6 1st Edition by Sandee Cohen (Author), Diane Burns (Author).
2. Adobe InDesign CS6 Step by Step Training Spiral-bound, by Noble Desktop (Author)

VECTOR IMAGE EDITING

Code: **Credit: 0+4+2**

Course Objectives

- This course concentrates on basic Vector editing tools which help the students to work with vectors. They have to study CorelDraw for vector image editing.

Learning Outcomes

• Apply fundamentals of page layout
• Practice importing text and graphics into page layout programs
• Integrate tools and techniques analyzing elements to produce final product
• Apply real world production skills used by graphic designers and production personnel
• Define the terms and language of page layout and design.

Course Contents:

Module I

Study of vector images- its advantage and application areas, Various Vector editing soft wares, difference between vector and raster images, know the work space, starting a new composition, Discovering the UI area.

Module II

Study of tools: Drawing tools, Shape and transform tools, Layer templates, Adding colour, Layer tracing methods.

Module III

Working with text, advanced options of text, Organizing illustrations with layers. Working with Symbols, 3D Mapping, and Flash Integration, Working with transparency and blending modes.

Module IV

Advanced blending techniques, Use of gradient mesh, Special Effects and Third party plug ins, Exporting and saving files.

Projects:

- Books Cover Design.
- Magazines Cover Design.
- Catalog Design.
- Brochure Design.
- Poster Design.
- Create and publish Newsletters, Magazines, and Newspapers.
- Design Logos, Business Cards, and Letterhead.
- Design Banners and Billboards.

References:

CorelDRAW 2020 - Training Book with many Exercises Paperback – by Peter Schiessl (Author).

B. DIGITAL PAINTING

BASIC DRAWING TECHNIQUES

Code: XXXX **Credit: 0+4+2**

Course Objectives:

- This course to development of skills in creating characters for animation that is aesthetically satisfying and are of industry standard.
- To become familiar with the basic methods, techniques & tools of drawing
- This course provides students the fundamental skills required to develop character design that is considered appealing by the animation industry and leading up to the portfolio course.
- This course provides students with an understanding of the anatomy of a human, a creature or a cartoon character.

Learning Outcomes:

- The students will get used to the idea of iteration and refinement in designs, better serving the storyboard and character design
- Students will gain confidence in making decisions about the development of their artwork.

Course Contents:

Module I

Introduction to drawing fundamentals: Human Anatomy, Anatomy of Different Age Groups.

Proportions, Basic Understanding of the Skeletal and Muscle System.

Human Forms in Perspective.

Module II

Body Structure, Proportion and Construction of Body Parts.

Study of Poses

Module III

Anatomy of Animals and Birds.

Body Structure, Basic Forms, Proportion and Construction of Body Parts.

Use of Perspectives While Drawing Animals, and Birds.

Understanding Motion and Grace

Module IV

Cartoon Characters, Understanding Cartoon Characters.

Cartoon Constructions.

Distortion of Proportions, Cartoon Faces, Eyes, Mouths,

Hairs, Nose, Hands, Feet. Facial Expressions

Reference:

1. Drawing fundamental by Sabankumar Maharana
2. Figure Study Made Easy: Aditya Chari.
3. Bird Anatomy for Artists: Natalia Balo.

GRAPHIC AESTHETIC

Code: XXXX **Credit: 0+2+2**

Course Objective:

• Learn ways to apply aesthetic sensibilities into their works and explore ways to balance between formal theories with practical applications.

Course Outcome:

After completing this course, the student will be able to:

- The basics of two-dimensional design, including the elements and principles of art.
- Graphic Design and implications of color theory
- Role of criticism in interpreting Graphic Design.
- Use the variety of tools and techniques in developing design.

Course Contents

Module I

Introduction to Aesthetics in Design, History of graphic design, Modern graphic design, Research based graphic design.

Module II

Aesthetic Principles. Information aesthetics, Harmony principle, Harmony typography, Colour theories, Harmony in colour, Colour wheels, Colour systems, Colour information.

Module III

Aesthetic theories, Philosophy of beauty, Philosophy of art, Aesthetic experience in instructional design,

Module IV

Layout theory, Layout and design, Effective layout, Grids and Blocking, Study of Grids in layout design, Design theme, Editorial Spread design,

Reference:

1. Graphic Design, Third Edition: A History Paperback, by Stephen J. (Author)
2. Introducing Aesthetics: A Graphic Guide Paperback, by Christopher Kul-Want (Author), Piero (Illustrator)

ADVANCE PHOTOSHOP

Code: T+P+P **Credit: 0+4+2**

Course Objectives

- To impart knowledge of digital painting by using Adobe Photoshop.
- To achieve proficient technical and aesthetic skills using various tools to generate a broad range of two-dimensional images.

Learning Outcomes

- This course will help students to prepare for career in story boarding, character designing, matte painting, texturing art etc.

Course Contents

Module: I

Using the Brush Tool, Working with Colors& Swatches, Creating & Using Gradients, Creating & Working with Brushes, Using the Pencil & Eraser Tools,Painting with Selections

Module: II

photo retouching, The Red Eye Tool, The Clone Stamp Tool, The Patch Tool & the Healing Brush Tool The Spot Healing Brush Tool, the Color Replacement Tool, The Toning & Focus Tools, Painting with History

Module: IIII

Introduction to color correction, Color Spaces &Color Modes, The Variations Command, The Auto Commands, Adjusting Levels, Adjust Curves, Non-Destructively, with Adjustment Layers

Module: IV : Quick Mask Options, Painting a Selection, Saving & Removing a Selection from the Background, Understanding Paths & the Pen Tool, Creating Straight & Curved Paths, Creating Combo Paths, Creating a Clipping Path, Smart Filters, Creating Text Effects, Applying Gradients to Text

Project List

- Digital Painting.
- Matte Painting.
- Character Designing.

ADOBE ILLUSTRATOR

Code: XXXX **Credit: 0+4+2**

Course Objectives

- To impart knowledge of digital illustration by using Adobe Illustrator.
- To achieve proficient technical and aesthetic skills using various tools to generate a broad range of two-dimensional images.
- To learn basic traditional drawing concepts of basic composition, using shadow and highlight to create the illusion of volume,
- To use atmospheric and linear perspective to create the illusion of space.

Learning Outcomes

- This course will help students to prepare for a career in storyboarding, character designing, logo designing etc.
- The students can work on graphic design, digital illustration for film and television.
- Learning different Adobe tools will help students to make their own creative products.

Course Contents:

Module I

- Introduction to Adobe Illustrator.
- Understanding the Interface.
- Document Setting.

Module II

- Understanding the Tools.
- Introducing Layers.

Module III

- Drawing with the Pencil Tool.
- Drawing with the Pen Tool.
- Using the Shape and Transform Tools.

Module IV

- Working with Effects and Filters.
- Working with Gradients, Meshes and color Blends.
- Adding and Formatting Text.
- Moving, Aligning and distributing Objects.
- Saving with Different File Formats.

Project List

- Logo Design.
- Character Designing.
- Digital Illustration for Film/Television.

References:

1. Adobe Illustrator CC For Dummies 1st Edition by David Karlins.
2. Adobe Illustrator CC For Dummies, David Karlins.

C. GAMING AND VFX

BASICS OF MAYA

Code: XXXX **Credit: 0+4+2**

Course Objectives

- Students will develop their concepts will be sketched on storyboards and their production flow will be documented in a conceptual paper that defines your respective approach.
- Throughout the course, students will be studying and evaluating the processes and execution of animation. While animating, students will be exposed to traditional methods of criticism and identify their personal workflow that best fits their needs.

Learning Outcomes

- Examine the application of the 12 principles of animation to 3D character animation and digital performance.
- Analyze 3D animation procedures that work across all 3D software platforms.
- Create and deliver cinematic, gaming and VFX quality animations and simulations to meet the needs of their respective industries.
- Research, propose, and predict applications of 3D character animation, motion capture, and digital performance beyond entertainment.

Software used: Autodesk Maya

Autodesk Maya 2019 is supported on the following 64-bit operating systems and at a minimum, requires a system with the following 64-bit hardware:

- Microsoft Windows 7, Microsoft Windows 10 Anniversary Update (64-bit only) operating system,
- CPU: 64-bit Intel or AMD multi-core processor with an SSE4.2 instruction set,
- RAM: 8 GB of RAM (16 GB or more recommended)
- Disk Space: 4 GB of free disk space for install
- Pointing Device: Three-button mouse

Course Contents

Module-I

3D Modeling:

- Introduction to the Maya Interface.
- Modelling with NURBS.
- Modelling with Polygon.

Module-II

Texturing:

- Introduction to Materials.
- Working with Hypershade.
- Working with Materials.
- Understanding Different Texture Maps.
- UV Texture Editor.

Module-III

Rigging:

- Understanding Skeleton Joints.
- Basic Biped Controls and working with IK and FK.
- Introduction to various Constraints.
- Set Driven Key
- Skin Bind.
- Paint Skin Weights Tool.

Module-IV

Animation:

- Understanding of Technical Tools of Animation.
- Keyframe Animation.
- Graph Editor.
- Animation Layers.

Project List:

- Making a virtual game

References:

1. Cartoon Animation, Author: Preston Blair.
2. The Animator's Survival Kit, Author: Richard Williams.
3. Disney Animation: The Illusion of Life. Author: Frank Thomas, Ollie Johnston.

SUBSTANCE PAINTER

Code: XXXX **(Credit) : (0+2+2)**

Course Objectives

- To learn powerful texture authoring tool that allows the user to create fully procedural textures that are able to be used in any program that accepts bitmap images.

Learning Outcome

- Industry standard for 3D texture creation, especially for physically-based rendering.
- Unlock creative potential for texturing models for games.

Course Contents:

Module I

Preparing and exporting the high and low poly, Substance painter basics and baking textures,

Module II

Making different materials, Giving an overall dirt pass, Baked light, smart materials and gradient,

Module III

Exporting textures, Making a good render in Marmoset with turntable,

Preparing the head and starting work on in in Substance painter,

Module IV

Skin tones and eyebrows, SubSurfaceScattering in Substance painter, Baking and coloring.

Exporting Maps

Project List

- Texturing 3D Models.

References:

Creating Games with Unity, Substance Painter, & MayaModels, Textures, Animation, & Code By Jingtian Li, Adam Watkins, Kassandra Arevalo, Matthew Tovar

Z BRUSH

Code: XXXX **Credit :0+4+2**

Course Objectives

- Focus on polymesh editing and understand the consequences of the different techniques.
- Master how to bring in models made in other 3d software, how to export, render and present them.

Learning Outcomes

- understand and apply basic theories and methods in 3D computer graphics such as high polygon modeling, texturing and rendering,
- formulate a project description for a smaller personal project, and be able to plan and complete the project,
- communicate in both oral and written form about their visualisation project and it's technical and theoretical background.

Course Contents:

Module I

Introduction to Digital sculpture and how it became important, Interface and how come this is so different from any other graphic software package, Canvas, documents, Projects, Ztools and brushes, Navigating a scene, perspective, floor and symmetry concepts, Modelling basics.

Module II

The use of primitives in ZBrush, Subdivisions and why you need them, Brushes, overview and brush settings, Inverting brushes and smoothing. Brushes and alphas.

Module III

Dynamesh: let Zbrush dynamically grow a mesh, Zspheres creation, adaptive skinning and Zsphere mesh creation., Shadow box mesh creation., Clip brushes, Zsketching, Extracting parts from an existing mesh, Using the Sculptris pro mode, Advanced brush techniques.

Module IV

Polygroups and polygrouping techniques, Working with Booleans, The transpose tool vs the new 3d gizmo tool, Zmodeler brush: blocking out the basics of a model, Modeling techniques: mirroring, Modeling techniques: deformations, Modeling techniques: decimating a model, Working with UV's, Preparing models for export

Project List

- Create high-resolution 3D models for movies and video games,

References:

ZBrush Digital Sculpting Human Anatomy by Scott Spencer

Introduction to Game Design & VR Platform

Mode: T+P+P **Credits: 0 + 4 + 2=6**

Course Objectives:

- Students will learn how to install and setup the unity and will look at game objects both 3D and 2D. will learn how to Rotate, Scale and Move objects in the world before we move into our first script to demonstrate how Unity Objects are controlled via C# programming Script.
- They will learn, how the Unity Physics Engine can affect the Gravity of game objects and the have a quick look at how 3D games are made with physics to effect the game objects.

Learning Outcomes:

- how to install the game engine your system then how to navigate around each panel in Unity to feel comfortable and understand the layout.
- A basic look at how the physics engine affects game objects and how to apply textures to a Unity terrain and Game Object.
- They will learn to increase and decrease the terrain and Adding Trees, Plants, Grass, water, wind and they will learn to use a first-person controller to walk around your created terrain in their Scene window.
- They will learn to use the unity asset store and download Free Assets, how to import images and apply it in our Game Object.

Project List:

- 3D Virtual Game Environment.

- 3D walkthrough game Environment with a First-Person Controller.
- A Simple Game for Window.

Software Used: Unity Engine

Unity 2019.4.28f1 LTS is supported on the following 64-bit operating systems and at a minimum requires a system with the following 64-bit hardware to use Unity Engine Smoothly in your System:

- Microsoft Windows 8/8.1 or 10 (64-bit operating system required).
- CPU: 64-bit Intel Core i5 or higher or AMD multi-core processor with SSE4.2 instruction set.
- RAM: 8 GB of RAM (16 GB or more recommended)
- Disk Space: 8 GB of free disk space for installation.
- Pointing Device: Three-Button Mouse.

Course Contents:

Module-I

Installing the Unity Game Engine and Understanding the workspace layout

How to download and install Unity 3D on Windows or PC**,** Understanding the Unity 3D workspace gain confidence using the software, Guide to Unity's Layout, Setting Up Project's Scene, 3D Object and their Position in the workspace, The Unity asset store and importing your first 3D character model, Importing and applying animations to a model from the Unity 3D app store, Import and edit a terrain in Unity 3D

Module-II

Unity Editor Layout-Part1, Creating Unity Project, Scene View, Game View and its control bar usage, Hierarchy Windows

Unity Editor Layout-Part2, Inspector Window, Add components in inspector Window, Toolbar

Unity Editor Layout-Part3, Unity Menu Bar Provides us and its use, File button, Edit Button, Asset's button, Game Object button, two ways of creating Game Objects in scene, Window button.

Module-III

Terrain, Lights and Shadows, Create a level, Handle Lights, Different types of light, Shadows Graphics Properties

Sky Box: Apply global skybox, Apply Sky Box on Camera, Switch camera using its 'Depth' Property

Materials and Prefabs: Types of Materials, Apply texture on Materials, Applying Materials to game Object and Terrain, Creating and usage of Prefabs in Unity

Asset Store: Asset Store overview, Download, import, export and use of assets from Unity Asset Store.

Module-IV

Unity Physics, Colliders and Components: Rigidbody component, Properties of Rigidbody component, Box Collider, Sphere Collider, Capsule Collider and Mesh Collider.

Creating Game Environment: Creating Terrain, creating a Forrest, Designing a Village with low poly models. Build your game

D. DIGITAL FILM MAKING

ANIMATION

Code: XXXX **Credit: 0+4+2**

Course Objectives

- This course was designed to be the ultimate boot-camp for anyone who wants to master the digital film and game industries.
- This master class covers everything 3D Modeling and Animation.
- Through each section of this course you will complete fun and simple projects that make learning these complex programs simple.
- By the end of this course you will have a deep understanding of Modeling, Texturing, Rigging, Animation, Lighting, Rendering and projects work flow in Maya

Learning Outcomes

- After the completion of the course, students will have demonstrated the ability to create quality animation performance through a creative and professional portfolio using principles of animation.
- The students will have exhibited a personal and professional commitment to artistic growth and cultural literacy that conveys passion, confidence a collaborative and independent spirit, refined communications skills and the adaptability to work within a dynamic animation community.

Course Contents

Module-I

3D Modeling:

- Introduction the Maya Interface.
- Modeling with NURBS.
- Modeling with Polygon

Module-II

Texturing:

- Introduction to Materials.
- Working with Hypershade.
- Working with Materials.

- Understanding Different Texture Maps.
- UV Texture Editor.
- Rendering Setup.
- Indirect Illumination.
- Batch Rendering.
- Render with different passes.

Module-III

Rigging:

- Understanding Skeleton Joint.
- Basic Biped Controls and working with IK and FK.
- Introduction to various Constraints.
- Set Driven Key.
- Skin Bind.
- Paint Skin Weights Tool.

Module-IV

Animation:

- Understanding of Technical Tools of Animation.
- Keyframe Animation.
- Graph Editor.
- Animation Layers.

Module-V

Lighting:

- Introduction to Basic Lighting Concepts.
- Three Point Lights.
- Mental ray physical sun and sky.
- Lighting effects.

Module-VI

Dynamic:

- Understand about the Dynamic.
- Active Body and Passive body.
- Particle work, Water, Cloth Simulation.
- 3D Fluid Container, 2D Container.

- Type of Force Field.

Project List:

- Making Animated Short Movie.

References:

1. Cartoon Animation, Author: Preston Blair
2. The Animator's Survival Kit, Author: Richard Williams
3. Disney Animation: The Illusion of Life. Author: Frank Thomas, Ollie Johnston

CINEMATOGRAPHY

Code: XXXX **Credit**: 0+4+2

Course Objectives

- This course teaches the technical skills and creative principles required for single camera ('film style') video field shooting and production
- The student will gain experience in planning and shooting
- Entertainment- and/or information-based video projects
- The course will provide hands-on skills in audio, video recording technology, composition, lighting and production

Learning Outcomes

- Improve skills in contemporary video technology and operation of cameras, audio, lighting and other television production equipment
- Achieve critical appreciation for the aesthetics of sound and image production
- Improve literacy in film and video, including shot composition and projects
- Develop or improve skills in digital nonlinear post-production

Course Contents

Module: I

Introduction to Camera, how a camera works

Role of a Camera Operator in different field

Camera Settings, setting a DSLR, Setting a camcorder

Module: II

Camera Aesthetics

Introduction to Photography Compositions, Good and Bad composition, Camera Aperture and camera shutter speed

Single and Multi-camera Set Up

Module: III

Dynamics of Videography

Lens Management, uses and features of lenses

Types of Basic Shots and their uses

Camera Angles and its impact and effects

Camera Basic Movements and creative shots

Type of Lenses: Zoom, Telephoto, Micro and prime lenses

Module: IV

Photography Design

Introduction to Lighting

Basic of light, Three Point Lighting

Every Photographer must know

Use of artificial and natural light for your Photography, Camera filters and colour Temperature

Project Lists

1.Video Documentary

2. Short Film

3.Video Project

4.Feature story

References

Chris Gatcum: The Beginner's Photography Guide

Harris Watts: On Camera How to Produce Film and Video

J.KrisMalkiewicz: Talks with Hollywood's Cinematographers and Gaffers Film Lighting

Vishal Diwan: Click You

David Johnston: Landscape Photography Handbook

AFTER EFFECTS (VFX)

Code: XXXX **Credit:0+2+2**

Course Objectives:

- This Course should enlighten the students on the advancement made in the field of visual effects to appreciate and understand where the technology used today developed from.
- It also inspires students to experiment with different types of visual effects techniques to think of process improvements ideas for compositing and visual effects.

Learning Outcomes:

On successful completion of the course students will be able to:

- Create visual elements suitable for compositing as optical and visual effects.
- Create workflows and pipelines for compositing.

Software used: Adobe After Effects.

Module I

Fundamentals of compositing, Introduction to Aftereffects Interface,Create a new composition, Timeline panels, Adding footage, Resolution, Quality.

Module II

Adjustment layers, Solid layers, Pre-Composition, Layers, Basic Animation Rotation, Scale, Transform, Anchor point, Key frames, Text animation,

Module III

Layer Management Selecting - Moving layers, Trim in and out points, Motion blur, Masking Create Masks - Transforming masks, Mask points, Feather - Animating masks, Blending modes, Track mattes luma, Alpha matte, Animated mattes

Module IV

Effects and Presets Applying effects, Effects and presetpanel,Garbage mattes to support keying, Chroma Keying, Colour correction, Tracking Motion tracking, Motion stabilization, Time warp,

Project:

Creating a VFX Demo Reel.

Reference

1. Compositing Visual effects: Steve Wright

2. The art and science of Digital Compositing : Ron Brinkmaan

3. Digital Compositing in Depth: Doug Kelley.

4. Motion Graphics: Graphic Design For Broad cast and Film: Steve Curran

5. Creating Motion Graphics with AE: Trish Meyel.

VIDEO EDITING (PREMIERE CC)

Code: **Credit: 0+4+2**

Course Description :

- The course Certificate in Video Editing is a 4 credit paper which is a practice and project based subject.
- Candidate who have qualified 10th and +2 candidate eligible for the course.
- A candidate must have his own laptop or computer
- Trained faculties, Leading Video Editor from Industry, Doubt Clearing Class, Video Editing Lab

Course Objective

- This course is intended for learners who have an interest in video editing. This course will give an insight for those who do not have any knowledge and experience in the editing field but are keen to learn editing.
- It covers all the essential features of video and audio editing software
- The students will gain experience in video editing for YouTube and video projects

Learning Outcomes

- The image presentation using different video and sound effects.
- Manage your old images/ videos.
- Improve literacy in film and video, including shot composition and continuity editing.

Course Contents:

Module I

Basics of Video Editing, Introduction to Video Standards and Terminology, Shooting better videos, Basic Shots, Sequence and Movements of Camera. Understanding timeline, Importing files as footage in and out and rough editing.

Module II

Working with Tools and Shortcut Keys, The Timeline Using Multiple Sequences Clip Project Management Basic Video Editing Basic Editing Concept and Tools, Audio recording and editing and effects with BGM, the trimming modes, Gaining, Fading and Balancing Using Audio Effects and Transitions.

Module III

Creating Insert and Overlay Edits Editing in the Timeline Setting in and Out Points in the Timeline Panel, Adding text to your video, effect control, applying transitions Adjusting Transitions Customizing Transitions Various Transitions Effects, Video transition and effects.

Module IV

Creating titles from scratch Superimposing a title, Colour management and corrections, Editing with tool panel tools Fine tuning edits using the trim monitor panel, Mattes, Transparency and Opacity Create transparency, solid colours with keys mattes Matte other than the alpha channel, render the project and export the project.

Reference Book:

1.The Video Editing Handbook by Aaron Goold

2. The Digital Filmmaking Handbook by Mark Brindle

3. The Beginner's Photography Guide: The ultimate Step by step manual for getting the most from your Digital Camera DK Flexibound

AECC

COMMUNICATION SKILLS

Code: T+P+P **Credit: 1+2+1**

Course Rationale:

The course is designed to improve the communication skill among students. The course will help students to understand the process of communication and how to use it in everyday life for effective management of career and their communication environment. It will help them to understand the skills and techniques associated with different types of communication process.

Course Objectives:

- To provide an understanding of communication process to the learners.
- To impart knowledge in using different communication tools effectively.
- To develop technical Reading, writing and speaking and nonverbal communication skills of the learners.
- To impart knowledge about organizational communication.

Learning Outcomes: After completion of the course students

- Will be able to understand communication process and its complexities.
- Can communicate skillfully through reading, writing and speaking.
- Will understand and manage organizational communication up to a level .

Course Contents:

Module-I:

Communication as a process, elements of communication, 7c's of Communication, Levels of Communication, forms of communication, Basic theories of Communication.

Module-II

Nonverbal communication, nonverbal communication and culture, effective speaking, interview skills,

Module-III

Understanding communication flow in Organizations, formal, informal, vertical, horizontal and diagonal communication, using tools of organizational communication

Module-IV

Importance of Writing Skills and Principles of Effective Writing, Writing Process: Pre-writing, Drafting and Re-Writing, Paragraph Writing, Summaries and Abstracts writing

References:

1.Business Communication; Asha Kaul

2. Communication: C.S. Rayudu

3. Basic communication skills for Technology, Andreja. J. Ruther Ford, 2nd Edition, Pearson Education, 2011

4. Communication skills, Sanjay Kumar, Pushpalata, 1stEdition, Oxford Press, 2011

5. Organizational Behaviour, Stephen .P. Robbins, 1stEdition, Pearson, 2013

6. Brilliant- Communication skills, Gill Hasson, 1stEdition, Pearson Life, 2011

ENVIRONMENTAL SCIENCE

Code: **Credit:**

Course Objectives

- To understand the concept of multi-disciplinary nature of Environmental Science where different aspects are dealt with a holistic approach.
- Students will develop a sense of community responsibility by becoming aware of environmental issues in the larger social context.
- One must be environmentally educated.

Learning Outcomes

- Understand the natural environment and its relationships with human activities.
- Characterize and analyse human impacts on the environment.
- Integrate facts, concepts and methods from multiple disciplines and apply to environmental problems.
- Design and evaluate strategies, technologies and methods for sustainable management of environmental systems and for the remediation or restoration of degraded environments.

Course Contents:

Module: I

Environment and its multidisciplinary nature; Need for public awareness; Renewable and non - renewable resources–forest, water, mineral, land, food and energy resources; Structure and function of ecosystems of forest, grass land, desert and aquatic types.

Module: II

Biodiversity and its conservation: Biodiversity at global, national and local levels; Threats to biodiversity -Habitat loss; wild life poaching and man-wildlife conflicts; Endangered and endemic species; conservation measures. Causes, effects and control measures of pollution, air, water and noise pollution; nuclear hazards; solid-waste management
–Causes, effects and control measures; Management of disasters due to natural causes of floods, earthquakes, cyclones and landslides.

Module-III

Social issues and the environment; Sustainable environment, Water conservation measures; Rain water harvesting; Resettlement and rehabilitation of people; Climate change and global warming; Acid rain; Ozone layer depletion; water land reclamation; Consumerism and waste products; Features of Environment Protection Act, Air pollution and Control of Pollution Acts; Water Pollution and its Control Act. Effects of Pollution explosion on environment and public health; Need for value education to Protect environment and resources.

Text Book:

1. Anubhav Kaushik & C.P. Kaushik: Environmental Studies -New age International Publishers.

Reference Books:

1. Benny Joseph: Environmental Studies -Tata Mac Graw Hill
2. E. Bharucha: Text book of Environmental Studies for under graduate courses–Universities Press. (Book prepared by UGC Committee).