ACADEMIC (1-BOARD OF STUDIES) SECTION

आंतर–विद्याशाखीय अभ्यास विद्याशाखेतील विविध संलग्नित महाविद्यालयत चालणारे पद्व्युत्तर विषयांचे सी.बी.सी.एस. पॅटर्नचे अभ्यासक्रम शैक्षणिक वर्ष २०–२१ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक २० जून २०२० रोजी संपन्न झालेल्या ४७ व्या मा. विद्या परिषद बैठकीतील विषय क्र. १३/४७–२०२०** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील आंतर–विद्याशाखीय अभ्यास विद्याशाखेतील पद्व्युत्तर स्तरावरील** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०–२१ पासून लागू करण्यात येत आहेत.

1) M.A- II Year Fashion Design
2) M.A- II Year Music
3) Master of Library and Information Science.(Revised)
4) M.A- II Year Computer Animation, Vfx & Web.
5) Master of Journaslim & Media Science.
6) M.P.Ed. II Year.
7) M.S.W. II Year. (Affileted College)

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१ /परिपत्रक /पद्व्युत्तर–सीबीसीएस
अभ्यासक्रम /२०२०–२१ /६७०

दिनांक : ०१.०९ .२०२०.

स्वाक्षरित / —
उपकुलसचिव
शैक्षणिक (१–अभ्यासमंडळ विभाग)

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) उपकुलसचिव, पद्व्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) साहाय्यक कुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

Faculty of Interdisciplinary Studies

Master in Computer Animation, Vfx & Web Syllabus

M.A Second Year

Semester Pattern

(Choice Based Credit System)

[Effective from June 2020-21]

CBCS - Paper Pattern in the subject of

Master in Computer Animation, Vfx & Web

M.A Second Year Semester Pattern-2020-21

Master in Computer Animation, Vfx & Web Syllabus

Contents

Semester – IIIrd

Paper No.	Title of Paper	CA Marks	ESE Marks	Practical Marks
9	UV Mapping and Texturing	10	40	50
10	Set Designing	10	40	50
11	Core Designing and Connectivity	10	40	50
12	Match moving with Live Action	10	40	50

Semester – IVrd

Paper No.	Title of Paper	CA Marks	ESE Marks	Practical Marks
13	Game Designing	10	40	50
14	Advance Web Development	10	40	50
15	Final Editing in VFX	10	40	50
16	Project - I			100
17	Project - II			100

S.R.T.M. UNIVERSITY, NANDED

Choice Based Credit System (CBCS)

Course Structure (New Scheme)

Faculty of Interdisciplinary Studies

M.A Second Year Semester Pattern-2020-21

Master in Computer Animation, Vfx & Web

Semester – IIIrd & IVth

Semester	Core Course	Paper No	Name of Paper	Lecturer / Week	Total No. of Lecturers	CA	ESE	Practical	Total Marks	Credits
Semester-III	MAVW 9	9	UV Mapping and Texturing	6	72	10	40	50	100	4
	MAVW 10	10	Set Designing	6	72	10	40	50	100	4
	MAVW 11	11	Core Designing and Connectivity	6	72	10	40	50	100	4
	MAVW 12	12	Match moving with Live Action	6	72	10	40	50	100	4
			Total-III	**24**	**288**	**40**	**160**	**200**	**400**	**16**
Semester-IV	MAVW 13	13	Game Designing	6	72	10	40	50	100	4
	MAVW 14	14	Advance Web Development	6	72	10	40	50	100	4
	MAVW 15	15	Final Editing in VFX	6	72	10	40	50	100	4
	MAVW 16	16	Project I	6	72			100	100	4
	MAVW 17	17	Project II	6	72			100	100	4
			Total-IV	**30**	**360**	**30**	**120**	**350**	**500**	**20**
			Total-III&IV	**54**	**588**	**70**	**280**	**550**	**900**	**36**

Aims & objective of the program

Aims:

M. A. V. W. is a four semester full time program, to equip the students with the tools & techniques balanced with theory & practical knowledge which has today taken the shape of Multimedia industry. We focus on providing high end media and entertainment training. the Animation has seen the entry of many global majors who have tapped into India's talent pool for offshore delivery of services. The websites has become important resource and attached in many aspects to our life. Nowadays, websites becomes an interactive platform that is used for receiving information as well as providing information.

Objective:

- To develop student's aesthetic, intellectual & technological abilities through programs that integrates theory & practical.
- To offers students a rigorous & innovative curriculum taught by faculty with outstanding academic & industry experience.

Duration of the course

1) The duration of the Master in Animation, VFX and Web course shall be of two academic years consisting of four semesters with university examination at the end of each semester namely.

a. Master in Animation, VFX and Web, semester I exam

b. Master in Animation, VFX and Web, semester II exam

c. Master in Animation, VFX and Web, semester III exam

d. Master in Animation, VFX and Web, semester IV exam

2) The examination shall be held at such places & dates which are notified by the university.

Note:

- Total Credit for Second Year : 36
- Continue Assessment : 10 Marks
- End of Semester Examination : 40 Mark
- End of Semester Practical Examination : 50 Marks
- Each Theory with Practical is of 4 Credits

Master in Computer Animation, Vfx & Web (MAVW)

It is a Post Graduate (PG) Programme of 2 Years (4 Semesters) duration.

Eligibility for Admission:

A candidate for being eligible for admission to the Second year Degree in Master in Computer Animation, Vfx & Web must have passed the B.A Computer Animation & Web Designing any University.

EXAMINATION PATTERN

CA (Continue Assessment) - 10 Marks

Marks Distribution

- 10 Marks for home assignment

ESE - Theory Paper - 40 Marks

Marks Distribution

- Question No 1 is compulsory = 10 Marks
- Question No 2 to 6 solve any 3 = 30 marks

Practical's - 50 Marks

Marks Distribution

- 30 Marks for Practical 2 Questions (15 + 15)
- 5 Marks for Oral
- 15 Marks for Practical Record Submission (CD/DVD/ONLINE)

UV Mapping and Texturing

Theory & Practical Paper

Total Credits 04   **No. of Lectures 72**

CA	ESE	Practical	Total
10	40	50	100

Learning Objective:

- o   To be a good Lighting & Texturing Artist
- o   Doing freelance projects of Lighting & Texturing in Interior & Exterior Scene, etc.

Utility:

- o   Classroom & Lab Training in Vital features of lighting and Texturing.
- o   Be able to make lighting and Texturing in short films and Animated films.

Pre-requisites: Knowledge of 3Ds Max

Theory

Unit 1: Understanding Material Properties, Working With Slate Material Editor Using the Standard Material, Working with Maps, Using Compound Material

Unit 2: Using the Shading Type, Material Modifiers, Mapping Modifiers, Using Unwrap UV Modifiers, Using the Edit UV Interface

Unit 3: Learning work with camera, Creating Camera Objects, Setting Camera Parameters, Understanding the basic of light

Unit 4: Know the light types Crating and Positioning Light Objects, Viewing a Scene From a Light, Altering Light Parameters

Practical

Name of Practical

1. Material Classification

2. Mapping

3. Unwrap Model

4. Creating Texture in Photoshop

5. Adjust Textures in UV Layout

6. Apply texture on Object

7. Types of Lights

8. Lighting Texturing and Environment Setup

Software: Autodesk Maya

References Books:

- o Mastering Mental Ray: Rendering Techniques for 3D and CAD Professionals
- o Photoshop for 3D Artists,
- o Advanced Maya Texturing and Lighting: Lee Lanier
- o Maya Studio Projects Texturing and Lighting: Lee Lanier

Career Options: Lighting & Texturing Artist in Film Production & Add.

M.A Second Year Semester Pattern-2020-21

(CBCS)

Master in Computer Animation, Vfx & Web

Semester –IIIrd MAVW 10

Set Designing

Theory & Practical Paper

Total Credits 04   **No. of Lectures 72**

CA	ESE	Practical	Total
10	40	50	100

Learning Objective:

o   To be a good 3D BG Modeler
o   Doing freelance projects of Background Models etc.

Utility:

o   **Set Designing** is a technique in computer graphics for producing a 3D digital representation of any object or surface.
o   An artist uses special software to manipulate points in virtual space(called vertices) to form a mesh: a collection of vertices that form an object.

Pre-requisites: Knowledge of 3Ds Max

Theory

Unit 1: Introduction to 3D graphics, 3D Object's Coordinate System: X, Y and Z axis. How to identify the X, Y and Z axis by itscolor (Red, Green, Blue), 3D softwares available, What is 3D Animation? 3D production pipeline, 3D animation and their applications in animation movies, visual effects, advertisements, 3D visualisation, simulation, training videos Etc

Unit 2: 3Dimensions –viewports–standard primitives –transformations –file formats and operations –selection –cloning–group –ungroup –alignment –basic rendering -Array –Array Transformations –Splines –Common Rollouts -editing splines –architectural tools –max scene files –modifiers-World space modifiers –object space modifiers –modifier stack – instanced modifier -Compound Objects –types

Unit 3: Modeling –Nurbs–converting objects to NURBS-Mesh Modeling –converting objects to editable mesh –sub objects –Vertex, Edge, Face, Polygon, Element-Edit Mesh Modifier – Editable Poly Modeling -Material Editor –toolbar buttons-assigning materials to objects – material editor options-material properties –material types -Concepts of Light –Omni Lights , spotlight , Target Lights, Free Lights , Directional Light, Area Lights –Mental Ray –Skylight,

Creating Max Basic Lights –Lights Parameters-Positioning Lights, Creating Max light in exterior and Interior Environment

Unit 4: Exterior Modeling: Buildings, Street, House, children's park Etc. Interior Modeling: Room and furnitures. Exterior lighting, Interior Lighting: Global illumination, Final Gather. Rendering: Render settings, Batch rendering, Rendering image sequences

Practical

Practical List

1. Introduction to Software

2. Overview on Set Designing

3. Basics of Architecture

4. Set Visualization

5. Concept of Interior and Exterior

6. Background Designing

7. Conceptual BG

8. Create a Architectural Structure with Interior

9. Texturing and Lighting

10. Walkthrough

11. Create a BG with Texturing and Lighting

Software: Autodesk Maya

References Books:

- o The Modeling and Animation Handbook: Alias
- o Modeling with Maya and ZBrush ... - Amazon.co.uk
- o Exploring 3D Modeling With Maya
- o Anatomy of the Artist – Thompson & Thompson

Career Options:

- o In film and television production there are jobs for Modeling.
- o The games industry is a big employer, and for any major game title, more than half of the production budget will go on art production.

M.A Second Year Semester Pattern-2020-21

(CBCS)

Master in Computer Animation, Vfx & Web

Semester –IIIrd MAVW 11

Core Designing and Connectivity

Theory & Practical Paper

Total Credits 04   **No. of Lectures 72**

CA	ESE	Practical	Total
10	40	50	100

Learning Objective:

o By the end of the course the student will be familiarized with the design of the webpage and create an interactive and dynamic Wordpress Website.

Utility:

o Understand the concept of design and implementation of Wordpress to design a particular design of their creativity.

Pre-requisites: Knowledge of Photoshop

Theory

Unit 1: Wordpress – Overview, What Is Content Management System (Cms)?, Features, Advantages, Disadvantages, Wordpress – Installation, System Requirements For Wordpress, Download Wordpress, Create Store Database, Set Up Wizard

Unit 2: Wordpress – Dashboard, Dashboard Menu, Screen Options, Welcome, Quick Draft, Wordpress News, Activity , Settings, General Settings , Writing Settings, Reading Settings, Discussion Settings, Media Settings, Permalink Settings, Plugin Settings

Unit 3: Categories - Add Category, Edit Category, Delete Category, Arrange Categories Posts - Add Posts, Edit Posts, Delete Posts, Preview Posts, Publish Posts, Media- Media Library, Add Media, Insert Media, Edit Media

Unit 4: Pages - Wysiwyg Editor, Text Insertion, Publish, Page Attribute, Featured Images, Publish Pages, Edit Pages, Delete Pages

Unit 5: Tags - Edit Tags, Delete Tags, Links, Add Links, Edit Links, Delete Links, Comments - Add Comments Edit Comments Moderate Comments Plugins, Install Plugins Customize Plugins, User Roles, Add Users, User Photo Edit Users Delete Users, Personal Profile

Practical

Practical List

1. Wordpress – Installation

2. Dashboard

3. Categories

4. Create a Pages

5. Create a Tags

6. Create Wordpress Website

Software: Adobe Photoshop

Reference Book:

1. Developing Web Applications, Ralph Moseley and M. T. Savaliya, Wiley-India

2. Web Technologies, Black Book, Dreamtech Press

3. HTML 5, Black Book, Dreamtech Press

4. Web Design, Joel Sklar, Cengage Learning

5. Internet and World Wide Web How to program, P. J. Deitel & H. M. Deitel, Pearson

Reference Links:

1. http://www.w3schools.com

Career Options: Web Design

(CBCS)

Master in Computer Animation, Vfx & Web

Semester –IIIrd MAVW 12

Match moving with Live Action

Theory & Practical Paper

Total Credits 04   **No. of Lectures 72**

CA	ESE	Practical	Total
10	40	50	100

Learning Objective:

o Understanding Tracking objectives

o Read and understand the user and technical specifications of equipment and software.Gather and watch raw footage/material.Gather references of work-products and productions thatcould provide ideas and help conceptualise possibilities for post-production

Utility:

o Preparing materials and equipment for the post production processManaging interim work-products during post-production Ensuring work-products are distribution/exhibition ready as per the required technical specifications

Pre-requisites: Knowledge Of Maya, Max, Nuke

Theory

Unit 1: Understanding Tracking objectives, which could includeTracing live action images for Animation Creating cameras for softwares

Unit 2: Matchmoving -Uses and advantages of matchmoving, Creating cameras footage movement, Final inspection,

Unit 3: Point Clouds: Creating track points, point Clouds

Unit 4: Tracking: Motion tracking, Motion stabilization, Camera tracking . Problems faced during tracking.

Unit 5: Uses of tracking and camera movement.

Practical

Name of Practical

- o Creating Lences
- o Creating Camera
- o Creating pointclouds
- o Creating Undestroted Pates

Software: Equalizer, Maya, Max

References:

- Industrial Light & Magic: Into the Digital Realm by Mark Cotta Vaz
- Inside VFX: An Insider's View Into The Visual Effects And Film Business (Kindle Edition)

Career Options for a Subject:

- Matchmove Artist
- Tracking Artist
- Rotomation Artist

Game Designing

Theory & Practical Paper

Total Credits 04   **No. of Lectures 72**

CA	ESE	Practical	Total
10	40	50	100

Learning Objective:

- Uses a project based curriculum that teaches programming skills, animation, and
- game design, using Adobe Flash
- Exploring different character animation technique.
- To enable students to manage Animation Projects from its Conceptual Stage to the final product creation.

Utility:

- Understand and apply techniques Flash
- Acquire knowledge about various principles of Flash and its usage.
- Will gain the knowledge of handling a project at industrial requirement.

Prerequisites: Flash

Theory

Unit 1: Basic Animation, Introduction to The Game, Photoshop & Flash, Game Analysis Centipede, Game Scripting & Coding, Game Programming Language, Source Code Program, Game & Graphic Code

Unit 2: Game Visualization, Game Idea: Visualization & Story Telling, Game Analysis: Tetris, The essence of Game 1, Game Analysis: Loom, Essence of Game 2, Game Development & Documentation, Game Design Documents, Character Designing, Flash Based Game Designing

Unit 3: Character Make, Modeling, Texturing & Lighting Games, Game Lord, Rigging & Animation for Games, FX For Games, Game Analysis: The Sims, Sound for Games

Unit 4: Game Planning, Theft Auto III, Game Interface Designing, Rigging & Animation for Games , FX For Games, Game Analysis: The Sims, Sound for Games, Projects, Portfolio

Practical

Name of Practical

- Game Analysis

- Game Visualization

- Game Idea: Visualization & Story Telling

- Character Make

- Game Planning

Software: Flash

References: Timing for Animation by John Halas.,

The Animator's Survival Kit by Richard E. Williams

Career Options for a Subject:

Career Options for a Subject:

- Game Visualization Artist

- Game Visualization

- Game Project Coordinator

Advance Web Development

Theory & Practical Paper

Total Credits 04   **No. of Lectures 72**

CA	ESE	Practical	Total
10	40	50	100

Learning Objective:

- Understand and apply techniques about WordPress,
- Acquire knowledge about various principles of WordPress and its usage.
- Will gain the knowledge of handling a project at industrial requirement.

Utility:

- At the end of the course the student will learn basic concepts of WordPress,,

Prerequisites: Knowledge of Drawing, Photoshop

Theory

Unit 1: Introduction, Demo Website Tour, Getting Best & Fastest Hosting, Installing FREE SSL

Unit 2: Installing WordPress, Basic & Important WordPress Settings, Installing FREE Theme & Plugins, WooCommerce Quick Setup, WooCommerce General Settings, WooCommerce Products & Inventory

Unit 3: Product Tax, VAT & GST, Product Shipping, Shipping Classes, PayPal & Stripe Payment Gateway Integration, Other WooCommerce Settings, Creating Simple Product, Creating Variable Product, Creating Digital Downloadable Product, Creating Home Page

Unit 4: What is Elementor Page Builder?, Home - First Hero Section, Making Website Mobile & Tablet Friendly, Featured Categories Section, Brands Carousel, Product Tabs SectionColorful Info Section, Creating Blog Posts, Creating Track Order Page, About Us & Contact Page, Wishlist Setup

Unit 5: Creating Menus, Shop & Blog Sidebars, Final Customization & Design, Demo Checkout & order Management

Practical

Name of Practical

- Theme & Plugins
- Installing WordPress
- Creating WooCommerce General Settings
- Creating Product Tax, VAT & GST
- Creating Shipping
- Creating Simple Product
- Creating Elementor

Software: Adobe Photoshop

Reference Book:

1. Developing Web Applications, Ralph Moseley and M. T. Savaliya, Wiley-India

2. Web Technologies, Black Book, Dreamtech Press

3. HTML 5, Black Book, Dreamtech Press

4. Web Design, Joel Sklar, Cengage Learning

5. Internet and World Wide Web How to program, P. J. Deitel & H. M. Deitel, Pearson

Reference Links:

1. http://www.w3schools.com

Career Options: Web Design

Final Editing in VFX

Theory & Practical Paper

Total Credits 04			No. of Lectures 72

CA	ESE	Practical	Total
10	40	50	100

Learning Objective:

- Learning advanced techniques for compositing and visual effects development; including CGI elements, camera match moving, multi-pass rendering and digital compositing.

Utility:

- Compositing is an essential part of visual effects, which are everywhere in the entertainment industry today in feature films, television commercials, and even many TV shows. And it's growing. Even a non-effects film will have visual effects. □ It might be a love story or a comedy, but there will always be something that needs to be added or removed from the picture to tell the story.

Prerequisites: Knowledge Of Maya, Max, Equalizer

Theory

Unit 1: Procedures: Keying, Rotoscopy, Tracking And Stabilizing–Parenting –Masking – Alpha –Parallax –Color Correction –Adding Text –Render And Export.

Unit 2: Introduction to color correction tools with sin city FX example, Day to Night (extract luma matte), mountain Lava FX, Use of Deep pixel tools using channel Boolean and openexr file, , Benefit of Macros, one point, two point and four point tracking, Stabilize shot, Extend the tracking information.

Unit 3: Compose 3d render passes, tools to remove chroma, Basic chroma remove, Garbage masking for keying, chroma remove in grainy footage, Part by part chroma remove, create macro design according your pipeline

Unit 4: Tracking: Motion tracking, Motion stabilization, Camera tracking . Problems faced during tracking.

Unit 5: Rotoscope using tracking Technique, introduction to 3D tools, Render 3d space, Interaction 3d tools with 2D tools, create shadow for a chroma shot using camera and lighting

Practical

Name of Practical

1. Camera projection
2. introduction to particle tools
3. Basic types of Emitters
4. Compositions

Software: Nuke, After Effects

References Books:

- PRINCIPLES OF MULTIMEDIA – Ranjan Parekh, 2007, TMH. (Unit I, Unit V)
- Multimedia Technologies – Ashok Banerji, Ananda Mohan Ghosh – McGraw Hill

Career Options for a Subject:

- Compositor
- Color Grade Artist
- Paint Artist

(CBCS)

Master in Computer Animation, Vfx & Web

Semester – IVth MAVW 16

VFX Project

Practical Paper

Total Credits 04   **No. of Lectures 72**

Practical	Total
100	100

Learning Objective:

- Learning advanced techniques and Will gain the knowledge of handling a complete compositing tools .

Utility:

- To understand and explore complete compositing and vfx

Prerequisites: Knowledge of Maya, After Effects

Name of Practical

- One Demo reel Including multiple Shots

Software: Nuke, Fusion, after effects

References:

- Adobe® After Effects® CS6 Visual Effects And Compositing Studio Techniques

Career Options for a Subject:

- Compositing Artist
- VFX Artist
- Editor

M.A Second Year Semester Pattern-2020-21

(CBCS)

Master in Computer Animation, Vfx & Web

Semester – IVth MAVW 17

3D Project

Practical Paper

Total Credits 04   **No. of Lectures 72**

Practical	Total
100	**100**

Learning Objective:

- o To be a good 3D BG Modeler and lighting Artist
- o Doing freelance projects of Background Models etc.

Utility:

- o To understand and explore complete Modeling, texturing and lighting

Prerequisites: Knowledge of Maya

Name of Practical

- • One Demo reel Including multiple set models

Software: Maya

References:

- o Advanced Maya Texturing and Lighting: Lee Lanier
- o Maya Studio Projects Texturing and Lighting: Lee Lanier

Career Options for a Subject:

- • Bg Modeler
- • Lightining Artist
- • Texturing Artist

This question Paper contains 1 printed page

AJ-11-2019

FACULTY OF INTERDISCIPLINARY STUDIES

M.A (Second Semester) EXAMINATION

MARCH/APRIL 2020

MASTER IN COMPUTER ANIMATION, VFX & WEB

(Advance Digital Art)

(Wednesday, 20,03,2019) **Time: 10.00 a.m. to 12.00 noon**

Time-2 Hours *Maximum Marks – 40*

N.B. :- (i)   Q. No. 1 is compulsory.

   (i)   Solve any *three* questions out of last 5 questions

1.   10

2.   10

3.   10

4.   10

5.   10

6.   10