SHIVAJI UNIVERSITY, KOLHAPUR.

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(2009)

Revised Syllabus For

B.Sc. – II Animation (Entire)

(Semester- III)
and
(Semester-IV)

Syllabus to be implemented from June 2014 onwards.

B.Sc. Part II Animation (Entire)

Semester-III

Theory

Paper Code.	Title of the Paper	Period/ Week	Theory Marks
AME 301	Anatomy	03	50
AME 302	Digital Animation-I (ToonBoom)	03	50
AME 303	Digital Animation-II (Flash)	03	50
AME 304	Sound Editing (Sound Forge)	03	50
AME 305	Video Editing	03	50
AME 306	Introduction of 3D (3D MAX and MAYA)	03	50

Semester-IV

Theory

Paper Code.	Title of the Paper	Period/ Week	Theory Marks
AME 401	3D Modeling-I (3D MAX)	03	50
AME 402	3D Texturing-I	03	50
AME 403	3D Lighting-I	03	50
AME 404	3D Rigging –I	03	50
AME 405	3D Animation-I	03	50
AME 406	3D Rendering-I	03	50

Practical Courses

Course No.	Title	Periods/ Week	Examination Marks		
			Internal	Final	Total
AME 211	Animation Lab-I	04	----	100	100
AME 212	Animation Lab-II	04	----	100	100
AME 213	Animation Lab-III	04	----	100	100

SYLLABUS

B. Sc. Part – II Animation (Entire)
Semester - III
Title of the Paper: **Anatomy**

Total Marks: 50
Paper No: **AME - 301**

Topics	Lectures 45
UNIT - I : Introduction of anatomy, Proportion of anatomy, The arm	11
UNIT – II : The Leg, the foot, the torso, head and neck, complete figure .	11
UNIT – III : Animal Anatomy Introduction, Basic Body Plan Individual Muscles, Four-Legged Animals	11
UNIT –IV : Animal With Limb Variation, Miscellaneous animal, Bird	12

Reference Book : Anatomy-A Complete Guide for Artists

B. Sc. Part – II Animation (Entire)
Semester - III
Title of the Paper: **Digital Animation-I (ToonBoom)**

Total Marks: 50
Paper No: **AME - 302**

Topics	Lectures 45
UNIT –I : Introduction of Toonboom, Studio Basics, Drawing	11
UNIT – II : Importing Artwork, Inking and Painting, Adding Sound	11
UNIT – III : Laying Out Elements in3D Space, Animating, Using the Multiplan Camera.	11
UNIT – IV : Creating Effects, Organizing Elements and Timing, Re-using Content Playback and Rendering.	12

Reference Books:-Complete Book of ToonBoom

B. Sc. Part – II Animation (Entire)
Semester - III

Total Marks: 50
Paper No: **AME - 303**

Title of the Paper: **Digital Animation-II (Flash)**

Topics	Lectures 45
UNIT – I : Introduction of Flash, Flash Interface, Selecting Objects and using Layers Workflow	12
UNIT –II : Creating and managing documents, Using imported artwork, Drawing	11
UNIT – III : Working with color, strokes and fills, Laying, Working with graphic objects Using symbols, instances, and library assets.	11
UNIT – IV : Creating animation, Working with sound, Working with video	11

Reference Books:-Adobe Flash Bible, Adobe Helpers

B. Sc. Part – II Animation (Entire)
Semester - III

Total Marks: 50
Paper No: **AME - 304**

Title of the Paper: **Sound Editing (Sound Forge)**

Topics	Lectures 45
UNIT – I : Introduction of Sound Forge, Sound Forge Interface, Selecting Objects and using Layers, Tooltips	10
UNIT – II : Creating Projects, Working with audio, Editing Multichannel audio Using Markers	11
UNIT – III : Recording and Extracting Audio, Editing , Repairing and synthesizing Audio Working With Effects, Using Spectrum Analysis	12
UNIT – IV : Working with synthesizing Audio, Laying Working with Audio Working with videos, Importing and Exporting Audio file	12

Reference Books:-Complete Book of Sony Sound Forge

B. Sc. Part – II Animation (Entire)
Semester - III
Title of the Paper: **Video Editing**

Total Marks: 50
Paper No: **AME - 305**

Topics	Lectures 45
UNIT – I : Introduction of Adobe Premiere, Interface of Adobe Premiere Working with Projects, Capturing and Importing Source Clips	11
UNIT – II : Editing Video, Adding Transitions, Mixing Audio	10
UNIT – III : Creating Titles, Superimposing and Compositing Animating a Clip, Applying Effects	11
UNIT – IV : Producing Final Video, Macintosh Shortcuts, Windows Shortcuts	13

Reference Books:-Adobe Bible, Adobe Helpers

B. Sc. Part – II Animation (Entire)
Semester - III
Title of the Paper: **Introduction of 3D Max and Maya**

Total Marks: 50
Paper No: **AME - 306**

Topics	Lectures 45
UNIT – I : Exploring the interface,Controlling the viewports, Working with files	12
UNIT – II : Creating and editing primitive objects, Selecting Objects and using Layers Transforming objects, pivoting, aligning and snapping .	12
UNIY – III : Cloning objects and creating objects, Grouping linking and parenting objects Maya Introduction	10
UNIT – IV : Maya Interface Overview, File Referencing, Working with files	11

Reference Books:-3D Max Bible and Maya Bible

B. Sc. Part – II Animation (Entire)
Semester - IV
Title of the Paper: **3D Modeling-I**

Total Marks: 50
Paper No: **AME - 401**

Topics	Lectures 45
UNIT – I : Introduction of 3d Max, Basics of Max, Selecting Objects and Using Layers	10
UNIT – II : Transforming Object, Pivoting, Aligning And Snapping Exploring the types of Model, Working with Sub object .	12
UNIT – III : Introducing Modifiers, Drawing and Editing 2D Spines and Shapes Editing Spine Editing Segments	11
UNIT – IV : Modeling with Polygon, Using Graphite Modeling tools	12

Reference Books:-3D Max Bible

B. Sc. Part – II Animation (Entire)
Semester - IV
Title of the Paper: **3D Texturing-I**

Total Marks: 50
Paper No: **AME - 402**

Topics	Lectures 45
UNIT – I : Understanding Material Properties, Working With Slate Material Editor Using the Standard Material	11
UNIT - II : Working with Maps, Using Compound Material	11
UNIT – III : Using the Shading Type, Material Modifiers, Mapping Modifiers	12
UNIT – IV : Using Unwrap UWM Modifiers, Using the Edit UVWs Interface	11

Reference Books:-3D Max Bible

B. Sc. Part – II Animation (Entire)
Semester - IV
Title of the Paper: **3D Lighting-I**

Total Marks: 50
Paper No: **AME - 403**

Topics	Lectures 45
UNIT – I : Learning work with camera, Creating Camera Objects	12
UNIT – II : Setting Camera Parameters, Understanding the basic of light	12
UNIT – III : Know the light types Crating and Positioning Light Objects	11
UNIT – IV : Viewing a Scene From a Light, Altering Light Parameters	10

Reference Books:-3D Max Bible

B. Sc. Part – II Animation (Entire)
Semester - IV
Title of the Paper: **3D Rigging-I**

Total Marks: 50
Paper No: **AME - 404**

Topics	Lectures 45
UNIT – I : Understanding Rigging, Building a Bones System	10
UNIT – II : Using the Bone tools, Forward Kinematics Versus Inverse Kinematics, Creating Inverse Kinematics	11
UNIT – III : Understanding Your Character, Animated Skin Modifiers	12
UNIT – IV : Character Creation Workflow, Creating a CAT Rig Basic Animating a CAT Rig	12

Reference Books:-3D Max Bible

B. Sc. Part – II Animation (Entire)
Semester - IV
Title of the Paper: **3D Animation-I**

Total Marks: 50
Paper No: **AME - 405**

Topics	Lectures 45
UNIT – I : Using the Time Control, Working with Keys, Using the trak Bar Viewing and Editing Key Values, Using the Motion Panel	12
UNIT – II : Using Ghosting, Animating Object, Working with Preview Using the Ram player	10
UNIT – III : Restricting Movement With Constraints, Using Constraints Using the Animation Layers Toolbar, Working with Animation Layers	12
UNIT – IV : Saving and loading Animation Files, Using the Animation Modifiers Editing Animation Curves in the Using Track View, Working with Controls Animating Character With CAT	11

Reference Books:-3D Max Bible

B. Sc. Part – II Animation (Entire)
Semester - IV
Title of the Paper: **3D Rendering-I**

Total Marks: 50
Paper No: **AME - 406**

Topics	Lectures 45
UNIT – I : Working with Render Parameters, Initiating a render job, Common Parameters, Choosing a Render Output Options Adding Pre-render and Post render Script	10
UNIT – II : Using the Render Types, Adding Environment Background Using Exposure Controls, Creating Atmospheric Effects Using Various types of Rendering Effects	11
UNIT – III : Enabling Mental ray and iray, Working with Mental ray Using Mental ray Light and Shadow, Using Mental rays materials the Using External Compositing Packages	12
UNIT – IV : Using Render Elevenths, Using State Sets Completing Post-Production with Video post Interface Adding Image layer events, Working With Range	12

Reference Books:-3D Max Bible

LABORATORY COURSES

Animation Lab-I **AME-211**

Group I :

1) Draw the Basic Drawing of human Anatomy
2) Draw the Proportion of Male body with keys
3) Draw the Proportion of Female body with keys
4) Individual Muscles Leg and Foot with keys
5) Draw the Proportion of Head and Neck with keys
6) Proportion of Animal Anatomy with Limb Variation
7) Different between human and animal
8) Human Figure with Table of Muscle Origins and Insertion

Group II :

1) Creating Basic 2d Shape and3D Shapes
2) Creating Basic Light Scene
3) Creating Basic Texturing
4) Creating Basic Animation
5) Loading reference image for Modeling, Editing the vault image.
6) Cloning and Aligning Objects
7) Building the Basic Logos
8) Adding a background image to schematic view

Group III :

1) Modeling with Polygon
2) Modeling with Nurbs
3) Drawing 2D Shapes
4) Drawing 3D Shapes
5) Modeling Architecture
6)Modeling basic and Working with Sub object
7) Human Body Modeling
8) Alien Modeling

Group IV :

1) Exploring the Material Editor
2) Creating and applying simple material
3) Advanced Multi – Layer material
4) Adding Material Details with map
5) Unwrapping UVs and pelt mapping
6) Creating Backed Texture and Normal maps
7) Texturing Organic Objects
8) Texturing Inorganic Objects

Animation Lab-II **AME-212**

Group I :

1) Drawing Basic Objects in Toon boom
2) Drawing Basic Scenes in Toon boom
3) Creating Advanced key poses
4) Creating In-between Key poses
5) Animating Organic Objects
6) Animating inorganic Objects
7) Creating Effect in Toon boom
8) Rendering Some Animation Scenes

Group II

1) Drawing Basic Objects in Adobe Flash
2) Drawing Basic Scenes in Adobe Flash
3) Creating Advanced key poses
4) Creating In-between Key poses
5) Animating Organic Objects
6) Animating inorganic Objects
7) Creating Effect in Adobe Flash
8) Rendering Some Animation Scenes in Adobe Flash

Group III :

1) Changing File Property and format
2) Editing Multi – Chanel Audio
3) Recording Audio
4) Extracting Audio
5) Editing Audio
6) Repairing Audio
7) Creating Sound Effects
8) Creating Various Types of Sound Output

Group IV :

1) Working with Projects
2) Capturing and Importing Source Clips
3) Editing Video
4) Adding Transitions
5) Mixing Audio
6) Creating Titles
7) Superimposing and Compositing
8) Animating a Clip
9) Applying Effects

Animation Lab-III **AME-213**

Group I :

1) Working with camera
2) Creating Camera Objects
3) Setting Camera Parameters
4) Producing the basic light
5) Producing the light types
6) Crating and Positioning Light Objects
7) Viewing a Scene from a Light
8) Creating Some Scene with Various types of light

Group II

1) Working with Render Parameters
2) Creating the various Types Render
3) Adding Environment Background
4) Creating Atmospheric Effects
5) Creating various types of Rendering Effects
6) Enabling mental ray and ira
7) Creating mental ray Light and Shadow
8) Producing a Render Output with Lights

Group III

1) Creating Basic Rigging
2) Rigging Box With Basic Rig Formula
3) Ik Rigging, Fk Rigging
4) Building a Bones System
5) Rigged Human Body Controls
6) Rigged Animal Body Controls
7) Rigged Alien Body Controls
8) Rigged Car with Controls

Group IV :

1) Animating Basic 2D Objects
2) Animating Basic 3D Objects
3) Animating Basic Human Walk cycle
4) Animating Various types of Walk cycle
5) Animating Basic Animal Walk cycle
6) Animating Organic Scene
7) Animating inorganic Scene
8) Animating Short film Demo with Rendering Effect

PRACTICALS GROUPING

Animation Lab I :
Anatomy + Introduction of 3D Max and Maya +
3D Modeling I + 3D Texturing

Animation Lab II :
Digital Animation I + Digital Animation II +
Sound Editing + Video Editing

Animation Lab III :
3D Lighting I + 3D Rendering I +
3D Rigging I + 3D Animation I

EXAMINATION PATTERN

Theory Exam: Semester Pattern

Common Nature of Question paper as per Faculty of Science.

Practical Exam: Annual Pattern (Applicable for all Laboratory Courses)

The Candidates has to perform 4 Experiments (One experiment from each group)
i) Each experiments carries 20 Marks X 4 = 80
ii) Journal Marks = 20