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UNIVERSITY OF MYSORE

Estd.1916

Vishwavidyanilaya Karyasoudha
Crawford Hall, Mysuru- 570 005

(Re-accredited by NAAC at 'A')
(NIRF-2023 Ranked 44 in University Category & 71 in Overall Category)

No.: PMEB-1/Spl./10(3)/2023-24 **Date: 18-07-2024**

NOTIFICATION

Sub.: Syllabus and Examination pattern of **B.Sc. (Animation & VFX) course** under Specialized Programmes from the academic year 2024-25-reg.

Ref.: 1. Decision of the BOS Meetings held on 23-01-2024.
2. Decision of the Faculty of Science & Technology meeting held on 19-06-2024.
3. Decision of the Academic Council meeting held on 28-06-2024.

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The Board of Studies in **B.Sc. (Animation & VFX) (UG)** at its meeting held on 23-01-2024 has recommended the approval of the 2nd and 3rd year Syllabus and Examination pattern of **B.Sc. (Animation & VFX)** course in University of Mysore under specialized/specified programs from the academic year 2024-25 as per NEP-2020.

The Faculty of Science & Technology and the Academic Council at their meetings held on 19-06-2024 and 28-06-2024 respectively, have also approved the above proposal and the same is hereby notified.

The 2nd and 3rd year Syllabus and Examination pattern of **B.Sc. (Animation & VFX)** course may be downloaded from the University website **https://uni-mysore.ac.in/PMEB/.**

REGISTRAR

REGISTRAR
University of Mysore
MYSURU - 570 005

To,

1. The Registrar (Evaluation), University of Mysore, Mysuru.
2. The Dean, Faculty of Science & Technology, DoS in Mathematics, Manasagangotri, Mysuru.
3. Prof. Hamsaveni, DoS in Computer Science, Manasagangothri, Mysuru.
4. The Principal, Marian Institute of Professional Studies (MIPS), MIT Campus, Belawadi, Srirangapatna Tq., Mandya Dist.
5. The Deputy Registrar/ Asst. Registrar/ Superintendent, Examination Branch, UOM, Mysuru.
6. The PA to Vice-Chancellor/Registrar/Registrar (Evaluation), University of Mysore, Mysuru.
7. Office Copy.

Proceedings of the Meeting of the Board of Studies in B.Sc.(Animation & VFX) Program of Marian Institute of Professional Studies, MIT campus, Mandya, held on 23-01-2024 at 12.00 PM in the Department of Studies in Computer Science premise, University of Mysore, Manasagangotri, Mysuru.

The Meeting of the Board of Studies in B.Sc. (Animation & VFX) Progamme of Marian Institute of Professional Studies, MIT campus, Mandya Dist.-571477 was conducted at the Department of Studies in Computer Science, University of Mysore, Manasagangotri, and Mysuru..

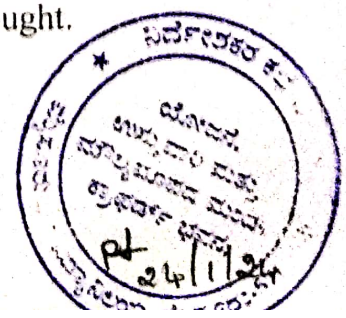
The following members have attended the meeting.

1. Dr.Shibu Thankchan	Member
2. Mr.Sunil Kumar P	Member
3. Mr.Sumin Babu	Member
4. Smt.Hamsaveni L	Chairman

The following member were absent for the meeting.

1. Dr.Reji K Eapen	Member
2. Mr.Lijo Johnson	Member

The Members of the Board were welcomed by the Chairman. The agenda of the meeting was presented for approval of the syllabus of 2nd and 3rd year of B.Sc (Animation & VFX) programme, as per NEP 2020 Regulations, for the academic year 2023-24. The draft of the proposed scheme, titles of the courses and the respective syllabus were placed before the members of the Board for discussion and suggestions were sought.



After presentation and detailed discussion amongst the members, the following were recommended.

1. The scheme and titles of the courses of II year B.Sc (Animation & VFX) programme along with the credit patterns and the syllabus for the proposed course were approved by the Board.

2. The Scheme and titles of III year B.Sc (Animation & VFX) programme was recommended for minor modifications and inclusions. Hence, the same was decided to be approved in the next BoS meeting.

3. The Board also proposed to request the University to nominate one area specific expert from the University to the BoS for guidance and expert advice.

   Also, with a request, the Board requested the University to allow the Chairman, to opt for a subject area expert, otherwise.

4. The Panel of Examiners (Internal & External) for 2023-24 was also approved.

23/1/24

CHAIRMAN
BoS in B.Sc (Animation & VFX)

HAMSAVENI I
Assistant Professor
Department of Studies in Computer Science
University of Mysore, Manasagangotri,
Mysuru 570 006, Karnataka, India

Proceedings of the meeting of the members of the Board of Studies in B.Sc.(Animation & VFX) (UG), held on 23-11-2024 at 12.00 PM at the Department of Studies in Computer Science,University of Mysore,Manasagangotri, Mysuru.

SL No	NAME	POSITION	SIGNATURE
1	Smt.Hamsaveni	Chairman	
2	Dr.Shibu Thankchan	Member	
3	Mr.Sunil Kumar P	Member	
4	Mr.Sumin Babu	Member	

CHAIRMAN

BOS in B.Sc.(Animation & VFX)(UG)

HAMSAVENI L
Associate Professor
Department of Studies in Computer Science
University of Mysore, Manasagangotri,
Mysuru-570 006, Karnataka, India

COURSE STRUCTURE – B.Sc (Animation & VFX)

SEMESTER	CORE - DSC		ELECTIVE				ABILITY ENHANCEMENT COURSES				TOTAL CREDIT
			DSE		OE		SEC/ VB		AECC		
	COURSE	CREDIT	COURSE	CREDIT	COURSE	CREDIT	COURSE	CREDIT	COURSE	CREDIT	
SEM I	DSC 1 DSC 2 DSC 3	3 3 3			OE 1	3	SEC 1 VBC 1 VBC 2	2 1 1	AECC 1 AECC 2 AECC 3	3 3 2	**24**
SEM II	DSC 4 DSC 5 DSC 6	4 3 3			OE 2	3	SEC 2 SEC 3 VBC 3 VBC 4	2 2 1 1	AECC 4 AECC 5	3 3	**25**
SEM III	DSC 7 DSC 8 DSC 9 DSC 10	4 4 3 3			OE 3	3	SEC 4	2	AECC 6 AECC 7	3 3	**25**
SEM IV	DSC 11 DSC 12 DSC 13 DSC 14	4 3 4 4			OE 4	3	SEC 5	2	AECC 8	4	**24**
SEM V	DSC 15 DSC 16 DSC 17	5 4 4	DSE 1	4			SEC 6 SEC 7	2 2			**21**

SEM VI	DSC 18 DSC 19 DSC 20	4 4 4	DSE 2	5			SEC 6 SEC 7	2 2			**21**
							TOTAL CREDIT				**140**

DSC: Discipline Specified course
DSE: Discipline Specific Elective
OE: Open Elective

SEC: Skill Enhancement Course, VB= Value Based Course
AECC: Ability Enhancement Compulsory Course

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UNIVERSITY OF MYSORE

B.Sc (ANIMATION AND VFX) DEGREE SYLLABUS

NEP 2020

IMPLEMENTED FROM THE

ACADEMIC YEAR 2022-23

B.Sc. (Animation and VFX)

Semester III									
Sl. No.	**Course Code**	**Title of the Course**	**SEE**		**CIE**		**L+T+P**	**Total Marks**	**Credits**
			Thoery	**Pratical**	**C1**	**C2**			
1	**AECC6**	English-Introduction to communication theories – I	60		20	20	3+0+0	100	**3**
2	**AECC7**	Constitution of India	60		20	20	3+0+0	100	**3**
3	**DSCC7**	Introduction to 3D Modeling & texturing- Theory	60		20	20	4+0+0	100	**4**
4	**DSCC8**	Lab 6: 3D Lighting & Rendering- Practical		50	20	30	0+2+6	100	**4**
5	**DSCC9**	Basics of Stop motion and Miniature Set Practical		50	20	30	0+2+4	100	**3**
6	**DSCC10**	Lab 7: Introduction to Video Post Production- Practical		50	20	30	0+2+4	100	**3**
7	**OEC3**	Open Elective III	60		20	20	3+0+0	100	**3**
8	**SEC-4**	Skill Enhancement- 3D Modelling (Texturing)		25	10	15	0+0+4	50	**2**
Sub –Total (A)								**750**	**25**

Open elevtive III- MFF4.4 Visual Enhancement Technique (T) (BFA Filmmaking)

Semester IV									
Sl. No.	**Course Code**	**Title of the Course**	**SEE**		**CIE**		**(L + T + P)**	**Total Marks**	**Credits**
			Thoery	**Pratical**	**C1**	**C2**			
1	AECC8	English-Introduction to communication theories -II	60	-	20	20	4+0+0	100	**4**
2	DSCC11	Introduction to 3D Animation & rigging- Theory	60	-	20	20	4+0+0	100	**4**
3	DSCC12	Lab 8:3D Animation & rigging- Practical	-	50	20	30	0+2+4	100	**3**
4	DSCC13	Lab 9: Basic of Motion Graphics- Practical	-	50	20	30	0+2+6	100	**4**
5	DSCC14	Basics of Acting for Animators Practical	-	50	20	30	0+2+6	100	**4**
6	OEC4	Open Elective IV	60	-	20	20	3+0+0	100	**3**
7	SEC-5	Skill Enhancement- 3D Animation	-	25	10	15	0+2+2	50	**2**
Sub –Total (A)								650	**24**

Open elevtive IV- MFF6.2 Television Production (T)) (BFA Filmmaking)

Semester V									
Sl. No.	**Course Code**	**Title of the Course**	**SEE**		**CIE**		**(L + T + P)**	**Total Marks**	**Credits**
			Thoery	**Pratical**	**C1**	**C2**			
2	DSCC15	Lab 10: Computer Lab on Compositing- Practical	-	50	20	30	0+4+6	100	**5**
3	DSCC16	Introduction to Audio editing- Theory	60	-	20	20	4+0+0	100	**4**
4	DSE1	Lab 11: Elective I(Project)	-	50	20	30	0+2+6	100	**4**
5	DSCC17	Basic compositing and visual effects -Theory	60	-	20	20	4+0+0	100	**4**
6	SEC-6	Skill Based Subject I: Show Case Project -I	-	25	10	15	0+2+2	50	**2**
7	SEC-7	Skill Enhancement Programme- VFX	-	25	10	15	0+2+2	50	**2**
Sub –Total (A)								**500**	**21**

Semester VI									
Sl. No.	**Course Code**	**Title of the Course**	**SEE**		**CIE**		**(L + T + P)**	**Total Marks**	**Credits**
			Thoery	**Pratical**	**C1**	**C2**			
1	DSCC18	Introduction to 3D Dynamics- Theory	60		20	20	4+0+0	100	**4**
2	DSCC19	Advanced Match moving- Thoery	60		20	20	4+0+0	100	**4**
3	DSE2	Lab 12: Elective II(Project)		50	20	30	0+4+6	100	**5**
4	DSCC20	Lab 13: Lab on Maya dynamics- Practical		50	20	30	0+2+6	100	**4**
5	SEC-8	Skill Based Subject II: Match moving		25	10	15	0+2+2	50	**2**
6	SEC-9	Skill Enhancement Programme- Internship (Specialization)		25	10	15	0+2+2	50	**2**
Sub –Total (A)								500	**21**

SEMESTER III

Name of the Program: B.Sc Animation & VFX

Course Code:AECC6

Name of the Subject: Introduction to communication theories- I

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	3 Hours	60 hours

Pedagogy: Classroom lecture, PPT, seminar etc.

Course Outcomes: On successful completion of the course, the Students will

a) To have a knowledge on the communication skill.

b) Students would be able to develop the knowledge of basic elements in Communication.

c) A clear idea about the role and functioning of communication in animation and film industry.

d) Students would be able to acquaint themselves with the various types of Communication

Syllabus	Hours
Module no.1 : Definition, nature and scope of communication	15
Communication variables; Process and functions of communication; Levels of communication – Intrapersonal, Interpersonal, small group, public, Intercultural and non-verbal communication; Communication barriers; Mass communication – meaning and concept of 'mass' – nature and scope; Media for mass communication; Functions and dysfunctions of mass communications.	
Module no.2 : Communication Models	15
Aristotle's model, Lasswell model, Shanon and Weaver model, Osgood and Schramm, Dance, New comb, Defleur, Gatekeeping and Gerbner.	
Module no.3 : Theories of Communication	15
Dependency Theory, cultivation theory, Agenda Setting Theory, Use and Gratification Theory, Spiral of Silence Theory, Hypodermic Needle Theory; Diffusion of Innovation; Perception and Persuasion Theory	
Module no.4 - Media systems and theories	15

Authoritarian, Libertarian, Socialistic, Social responsibility, Development, Participatory; Interactive Theory – One step flow, Two-step flow (Opinion Leaders) and Multi step flow

Skill Developments Activities:

1. Seminars conducted on each topic by students
2. Case studies on the relevant cases related to violation of laws

Books for Reference:

1. Dennis Mc Quil: Mass Communication Theory: An Introduction
2. Melvin L. De Fleur and Sandra Ball – Rokeach: Theories of Mass Communication
3. Melvin L. De fleur and Evette Dennis: Understating Mass Communication
4. Berko and Wolvin: Communication
5. Wilbur Schramm: Men, Message and Media
6. Dennis Mc Quail: Milestones in Mass Communication Research
7. Stephen W & Little John: Theories of Women Communication

Name of the Program: B.Sc Animation & VFX

Course Code:DSCC 7

Name of the Subject: Introduction to 3D Modeling & Texturing (Theory)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	4 Hours	66 hours

Pedagogy: Classroom lecture, tutorials, Seminar, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

A. Detailed idea on various methods of Modeling

B. Initiate the student the importance of proper structuring of Texturing

C. To develop advance 3d organic / inorganic Objects or Characters modeling from your 2d Model sheets

Syllabus	Hours
Module no. 1 - Introduction to 3D Design Environment	15
Difference between 2D and 3D, Concept of 3D space, View ports , Grids and coordinates , Axis , Objects , Pivots , Maya Architecture , Node Hierarchies , Introduction to Maya User interface, Navigation, Tools, Menu Bar, Introduction to Maya Basic Modeling Tools.	
Module no. 2 - Nurbs Modeling	15
Advantages & Disadvantages of NURBS Modeling , Nurbs Curves , CV Curve , EP Curve , Components , Degree and Span, Parameterization of Curve, Components of a NURBS Surface, Creating and modifying NURBS primitives , Aligning and snapping ,Sculpting , Creating various geometry, Creating Surfaces, Learning to create Text , Editing Nurbs Menu	
Module no. 3- Polygon Modeling	18
Problems ,Concepts, Advantages and disadvantages of Polygon modeling ,Interfaces ,Creating Polygons , Generating Polygon Surfaces from NURBS Curves ,Converting NURBS Surfaces to Polygons ,Building & Editing Poly models , Poly Primitives, Booleans ,Proxy Mesh, Mirror , Polygon menu, Sculpt Polygon. Concepts ,Converting polygon to sub -Ds - Sub -D commands ,Full crease, Partial crease, Uncrease, Mirror , Attach , Topology ,Collapse hierarchy ,Refining (subdividing) selections, Create set and probs	
Module no. 4 – Texturing	18

Concepts , Basic Attributes, Shading , Transparency, Reflection,refraction , Attribute editor, Texture Nodes , Mixing materials , Bump Maps , creating basic textures , Basic Wrapping ,Uvs , Hardware texturing, Shaders, Painting various attributes,giving textures to props and sets.

Skill Developments Activities:

A. To do Variety Props Modeling /Organic and inorganic modeling

B. Develop 3D Interior/Exterior modeling

C. To do model sheet base 3d character Development

D. Understand the various Texturing

Books for Reference:

A. Learning Autodesk Maya 2008, Foundation by Autodesk Maya Press, Sybex, 2007

B. Maya Professional Tips and Techniques by Lee Lanier, Sybex , 2007

C. Mastering Maya 2009 by Eric Keller, Eric Allen, and Anthony Honn, Sybex; Pap/DVD edition, 2009

D. Introducing Maya 2009 by Dariush Derakhshani, Sybex; Pap/Cdr edition , 2009

E. The Maya, Seventh Edition (Ancient Peoples and Places) by Michael D. Coe, Thames and Hudson; 7 edition, 2005

Name of the Program: B.Sc Animation & VFX

Course Code:DSCC 8

Name of the Subject:Lab 6: 3D Lighting & Rendering (Practical)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	8 Hours	66 hours

Pedagogy: Classroom lecture, tutorials, Seminar, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

A. Detailed idea on various Lighting Theories and coloring

B. To do variety Lighting Moods and Environments

C. Learn to Render Engine -Arnold Rendering

Syllabus	Hours
Module no. 1 - Introduction to Lighting	15
Lighting study, Different types of lights .Study of natural light sources Direct Light Sources , Maya light attributes ,Shadows generation and troubleshooting , Color theory , 3 point lighting – Interior / Exterior Lighting.	
Module no. 2 - Scientific light theories	15
Artistic theories , Digital Lighting theory , Working with Maya lights , Light types and attributes , Lighting an interior scene , daylight , artificial lighting , Working with shadows , Depth map shadows – ray traced shadows.	
Module no. 3- Lighting a exterior environment	18
Lighting an exterior environment , desert ,rain forest , ice scapes , Industries,Three point lighting - Lighting characters , Mood lighting , Lighting surfaces , Faking Radiosity , Expression based lighting,Ai Lights	
Module no. 4 – Rendering	18
Introduction to Rendering and Types , Render Global, Batch Render ,Setting up render layers and passes – Compositing, Render Wrangling , Preparing render sequences, render diagnostics, optimizing scene size – baking simulations.Software Rendering ,Setting Render Globals – Creating physical fogs – Paint effects I , Render Passes – batch rendering , Interactive photorealistic rendering Hardware Rendering , Using the Timeline – Rendering a sequence, Mental Ray rendering, HDRI rendering.	

Skill Developments Activities:

a) To do Studio Base Lighting

b) Environment Lighting -Interior /Exterior and Landscape

c) Understand the various Arnold Lights

Books for Reference:

1) Advanced Maya Texturing and Lighting Second Edition by Lee Lanier

2) Advanced Maya Texturing and Lighting by Lee Lanier, Sybex; 2 edition, 2008

3) Maya 8 Character Modeling by Gary Oliverio, Jones and Bartlett Publishers, 2006

4) Advanced Maya: Character Modeling by Kenny Cooper and Jim Lammers, Trinity Animation, Inc., 2003

5) Jason Patnode, Character Modeling with Maya and ZBrush: Professional polygonal modeling techniques , Focal Press; Pap/Dvdr edition, 2008

6) How to Render Nov 2012 by Scott Robertson

Name of the Program: B.Sc Animation & VFX

Course Code:DSCC 9

Name of the Subject : Basics of Stop motion and Miniature Set(Practical)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 credits	6 Hours	66 hours

Pedagogy: Classroom lecture, tutorials, workshops, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

a) Practice to a wide range of stop motion styles, materials and techniques including clay, object and puppet animation.

b) To get a detailed knowledge on the use miniature sets.

c) Exploring possibilities in character design, armature and set building and lighting

Syllabus	Hours
List of Practicals:	66

1. Clay Modelling
2. Cutout animation
3. Stop Motion
4. Miniature set designing

Practical Break up of marks for Examination

Record 10

Project 40

Internal Assessment 50

Total 100

Skill Developments Activities:

A. To do puppet animation in with needed pre peroduction

B. Making character poses -Walking ,running and jumping

C. Understand the various set extension skills

Books For Reference:

1. The Art of Stop motion animation: Ken A Priebe

2. Stop motion: Craft skills for model Animation: Susannah Shaw

3. Stop motion: Passion, Process and Performance: Barry JC Purves

4. Creating 3D Animation - The Aardaman Book of Film making: Peter Lord & Brian Sibley

5. Stop motion Armature Machining - A Construction Manual: Tom Brierton

6. A Century of Stop Motion Animation from Melies to Aardaman: Ray Harry Hausen

7. Stop motion Filming and Performance: Tom Brierton

8. Stop motion Puppet Sculpting: Tom Brierton

Name of the Program: B.Sc Animation & VFX

Course Code:DSCC 10

Name of the Subject : Lab 7: Introduction to Video Post Production- Practical

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	8 Hours	66 hours

Pedagogy: Classroom lecture, tutorials, Seminar, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

a) Detailed idea on practical experience on Video Post Production

b) Initiate the student the importance of construction of a Shot, Scene, Sequence

c) Learn to edit live action and present storytelling using montages.

Syllabus	Hours
Module no. 1 - Fundamentals of editing in Adobe Premiere	12
Art and techniques of editing, Video editing techniques , Linear and Non linear editing, on air editing , video formats , editing tools, Introduction to Adobe Premiere , workspace , customizing the workspace , capturing the media , preparing the footage.	
Module no. 2 - Editing Techniques	14
Cutting in action ,Cutting on movement, Inter cutting, Parallel cutting ,Song editing , Psychological usage of smooth continuity , study about Film shooting to first copy process , Editors cut , Directors cut , Final cut , Motivation, Point of focus, Rhythm, Time and Pace.	
Module no. 3- Basics of NL- Editing in FCP	12
Introduction to FCP , workspace , customizing the workspace , capturing the media , preparing the footage Using a storyboard to build a rough cut ,Editing in Timeline , Editing Tools , Linking and Unlinking Clips, Slip and Slide Adjustments , Ripple and Role Adjustments , Slow and Fast Motion ,Freeze Frame, 2 & 3 Points editing.	
Module no. 4 -Study of Transitions	16

Study of video effects - Using of bridging shot - Cut away and cutting in action - Cutting on movement , Inter cutting, Parallel cutting and constructive editing , Montage -Creative editing ,Real time and Artificial time , rhythm-pace-space , Creative editing.

Importing audio – Audio mixing – synchronizing audio with video – Audio effects – Exporting audio – audio channels – audio formats

Pratical List

1. Trailer
2. Short film
3. Song editing
4. Rough Cut

Skill Developments Activities:

1. To do video Editing using Editing softwares
2. Gain the ability to develop content for visual storytelling
3. Understand the various styles used in visual narration.
4. Develop continuous narrative structure for visual narration.

Reference:

1· Grammar of edit :Roy thomson

2· Film and The Director: Don Livingstone

3· How to Edit: Hugh Baddeley

4· The Techniques of Film Editing: Karel Reisz & Gavin Miller

5· The Focal Easy Guide to Final Cut Pro X

Name of the Program: B.Sc Animation & VFX

Course Code:SEC 4

Name of the Subject : Skill Enhancement Programme

Subject: 3D Modeling Demo Reel 1 (Project)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
2 credits	4 Hours	66 hours

Pedagogy: Classroom lecture, tutorials, PPT, lab etc.

Course Outcomes: On successful completion of the course, the Students will

a) To get a detailed knowledge on the process of Modeling and texturing for animation.

b) This skill extension activity enables students to improve the conceptual, visualization and craft skills of the students and enable them to function in multiple disciplines once they enter the industry.

c) They will be expertise in the softwares and will have in-depth knowledge on the Prop and Character model.

Syllabus	Hours
Module no.1 : Modeling Demo Reel	33
Based on the knowledge and experience shared by the class faculty, students have to create their own works using modeling software	
Module no.2 : Texturing Demo Reel	33
Based on the knowledge and experience shared by the class faculty, students have to create their own works using texturing software	

Skill Developments Activities:

1. Industrial standard tool training
2. Assignments based on Pipeline functioning for Implementation in collaborative projects.

Practical Break up of marks for Examination

Project **25 marks**

Internal Assessment **25 marks**

Total **50 marks**

Books for Reference

- Maya Professional Tips and Techniques by Lee Lanier, Sybex , 2007
- Mastering Maya 2009 by Eric Keller, Eric Allen, and Anthony Honn, Sybex; Pap/DVD edition, 2009
- Introducing Maya 2009 by Dariush Derakhshani, Sybex; Pap/Cdr edition , 2009
- The Maya, Seventh Edition (Ancient Peoples and Places) by Michael D. Coe, Thames and Hudson; 7 edition, 2005

SEMESTER IV

Name of the Program: B.Sc Animation & VFX

Course Code:AECC8

Name of the Subject: Introduction to communication theories II

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	4 Hours	60 hours

Pedagogy: Classroom lecture, PPT, seminar etc.

Course Outcomes: On successful completion of the course, the Students will

e) Developing students on their interview and communication skill.

f) Students would be able to develop the knowledge of basic story telling.

g) A clear idea about the preparation of biodata in animation and film industry.

h) Students would be able to acquaint themselves with the various types of Communication

Syllabus	Hours
Module no.1 : Communication thorough Story telling	12
Writing story, understanding the difference between the formal and informal language for writing , sentence rewriting	
Module no.2 : Basic Listening Skills	15
Introduction, Self-Awareness, Active Listening, Becoming an Active Listener, Listening in Difficult Situations	
Module no.3 : Effective Communication	15
Introduction, When and When Not to Use Written Communication - Complexity of the Topic, Amount of Discussion‘ Required, Shades of Meaning, Formal Communication Group Discussion Introduction, Communication skills in group discussion,Do‘s and Dont‘s of group discussion	
Module no.4 - Interview Skills	18
Purpose of an interview, Do‘s and Dont‘s of an interview Giving Presentations: Dealing with Fears, Planning your Presentation, Structuring Your Presentation, Delivering Your Presentation, Techniques of Delivery, Biodata preparation	

Skill Developments Activities:

3. Seminars conducted on each topic by students
4. Case studies on the relevant cases related to violation of laws

Books for Reference:

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

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

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

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

5. The Ace of Soft Skills: Attitude, Communication and Etiquette for success,GopalaSwamy Ramesh, 5thEdition, Pearson, 2013

6. Developing your influencing skills, Deborah Dalley, Lois Burton, Margaret,Greenhall, 1st Edition Universe of Learning LTD, 2010

7. Communication skills for professionals, Konar nira, 2ndEdition, New arrivals–PHI, 2011

8. Personality development and soft skills, Barun K Mitra, 1stEdition, Oxford Press,2011

9. Soft skill for everyone, Butter Field, 1st Edition, Cengage Learning india pvt.ltd,2011

10. Soft skills and professional communication, Francis Peters SJ, 1stEdition,McGraw Hill Education, 2011

Name of the Program: B.Sc Animation & VFX

Course Code:DSCC 11

Name of the Subject: Introduction 3D Animation & rigging (Theory)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	4 Hours	66 hours

Pedagogy: Classroom lecture, tutorials, Seminar, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

a) The importance of Animation concept & Graph editor

b) Understanding of the Animation Principles

c) Hierarchies Concept of Skeleton

d) Rigging Basics and importance of Ik or Fk

e) Skin weighting

Syllabus	Hours
Module no. 1 - The Art of 3d animation	15

Importance of classical Animation principles and Implementing in a 3d Space or Area. Evolution and rapid development of 3d animation films globally – to the current scenario, Introduction to Maya User interface, Navigation, Tools, Menu Bar, Introduction to Maya Basic Animation Tools.

Module no. 2 - Graph Editor	15

Graph Editor Toolbar Buttons, Selecting and modifying keys, Navigating the graph, Selecting items in the graph (curves, keys, tangents), Buffer curves and swap curves, Cycles and holds, Repeating curve segments, Pre – Infinity, Post – Infinity, Modifying animation curves, Working with keys, Dope Sheet, Moving Keys in Dope Sheet, TimeLine,

Module no. 3- Understanding of the Animation Principles	18

Stretch and Squash Basic Exercise to truly understand the Animation Principles- Simple Bouncing Ball, Understanding of the Animation Principles :Timing and Spacing Animating a ball/ made of different material/s, surface/s and texture/s – Metal, Rubber, Plastic, Wood. Arcs Exaggeration Animation collision between two or more different bouncing balls in an environment in side view, Pendulum Animation in 3d ,Hinged Pendulum.

Module no. 4 -Rigging Basics	18

Bones and Joints Skin, Binding Kinematics (IK & FK), Requirements for a clean Model, Clean UVs.Binding - Smooth Binding. Concept of a single cluster. Max Influence & Drop-off rate. Rigid Binding - Concept of a Multiple cluster, Practice of Rigid and Smooth Binding, Editing the Smooth Skin, Adding influence objects, Painting of skin weights,Pruning small weights, Normalize Weights, Export / import skin weight maps, Editing Rigid Skin, Creating and Editing Flexors, Lattice, Sculpt, joint Cluster, Painting Cluster weights, Rigid Binding Practice. Rigging the controls - IK and FK, Joints and hierarchies Concept of Skeleton.

Skill Developments Activities:

1. To do Animating a ball/ made of different material/s, surface/s and texture/s – Metal, Rubber, Plastic, Wood.

2. Deformers Animations -Props animation, Title Animation

3. Motion Path Animation- Cartoon Vehicle Animation include Graph Editing

4. Develop a Robotic character or Realistic Character and rigid it with Ik handle include constraints shape controls

5. Practice of Smooth Binding, and Painting of skin weights

Books For Reference:

a) Introducing Autodesk Maya 2013 (Autodesk Official Training Guides) by Dariush Derakhshani, Sybex; 1 edition (May 1, 2012)

b) Mastering Autodesk Maya 2012, by Todd Palamar (Author), Sybex; 1 edition (August 2, 2011)

c) How to Cheat in Maya 2013: Tools and Techniques for Character Animation by Eric Luhta (Author), Focal Press; 1 edition (September 9, 2012)

d) Essential Skills in Character Rigging by Nicholas B. Zeman

e) Rig it Right! Maya Animation Rigging Concepts (Computers and People) by Tina O'Hailey

f) Animation Methods - Rigging Made Easy: Rig Your First 3D Character in Maya by David Rodriguez

Name of the Program: B.Sc Animation & VFX

Course Code:DSCC12

Name of the Subject: Lab 8:3D Animation and Rigging (Practical)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 credits	5 Hours	66 hours

Pedagogy: Classroom lecture, tutorials, Seminar, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

a) Practice Animation Principles

b) Practice Deformers -Title motion and Props Animations

c) Face Expressions-Blend Shapes

Syllabus	Hours
List of Practicals:	66

1. Bouncing ball With Concept
2. Animation Principle
3. Walk
4. Run
5. Animatics
6. Props Animation
7. Body language & Acting
8. Lip-sync
9. Deformers-Lattice, Wrap, Cluster
10. Creating an Arm Set-up
11. Working with Muscle Rig
12. Rigged Character for Pose

Practical Break up of marks for Examination

Pratical Exam 50

Internal Assessment 50

Total 100

Skill Developments Activities:

A. To do some Animation Principles -Metal ,wood plastic ball

B. Making character poses -Walking ,running and jumping

C. Understand the various styles Face Expressions

Books For Reference:

A. Introducing Autodesk Maya 2013 (Autodesk Official Training Guides) by Dariush Derakhshani, Sybex; 1 edition (May 1, 2012)

B. Mastering Autodesk Maya 2012, by Todd Palamar (Author), Sybex; 1 edition (August 2, 2011)

C. How to Cheat in Maya 2013: Tools and Techniques for Character Animation by Eric Luhta (Author), Focal Press; 1 edition (September 9, 2012)

D. Essential Skills in Character Rigging by Nicholas B. Zeman

E. Rig it Right! Maya Animation Rigging Concepts (Computers and People) by Tina O'Hailey

Animation Methods - Rigging Made Easy: Rig Your First 3D Character in Maya by David Rodriguez

Name of the Program: B.Sc Animation & VFX

Course Code: DSCC 13

Name of the Subject :Lab 9 :Basics of Motion Graphics

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	8 Hours	66 hours

Pedagogy: Classroom lecture, tutorials, workshops, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

a) Practiced to a wide range of tilte animation for films and video

b) To get a detailed knowledge on the making on advertisement video.

c) Exploring possibilities in Movie motion poster and marketing

Syllabus	Hours
List of Practicals:	66

1. Product Promotion video
2. Movie Motion poster design
3. Movie trailer designing
4. Advertisement video
5. News interface designing

Practical Break up of marks for Examination

Record 20

Project 30

Internal Assessment 50

Total 100

Skill Developments Activities:

A. To do create a movie motion poster with various effects in software

B. Making live action video and create an advertisement for a product

C. Understand the various techniques and effects for creating videos

Books For Reference:

1. Creating Motion Graphics with After effects: Trish and Chris Meyer, Focal Press

2. Motion Graphics with Adobe Creative Suite5 Studio Techniques: Richard Harrington and Ian Robinson

3.Compositing Visual Effects: Steve Wright

4.Digital Compositing for Film and Video: Focal Press

5.Digital Lighting and Rendering : Jeremy Birn

Name of the Program: B.Sc Animation & VFX

Course Code:DSCC 14

Name of the Subject : Basics of Acting for Animators (Practical)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	8 Hours	60 hours

Pedagogy: Classroom lecture, tutorials, Seminar, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

a) Detailed idea on practical training on acting for camera and animation

b) Initiate the student the importance of acting for animation videos.

c) Learn to improve their personality and confidence on stages.

Syllabus	Hours
Module 1 - Aspects of acting and direction	15

Introduction to acting, History of action, how acting relates to animators, acting techniques, history and development of mime and pantomimes, history and development of dramas, Commedia dell'Arte- acting commedia, the characters, relating commedia characters to animation.Aspects of Acting and Direction, becoming an Actor, becoming a Story teller, becoming a creative practitioner over the process of animation.

Module 2 - Acting for Animation	15

Learn about vocal performance, flowing emotional channels through vocal acting. Performance of the animation, learning the shot process, act around the shot learn about the characteristics of the shot, act within the poses. Create a believable performance by layering animation techniques, learn character timing to transition through emotions.

Module 2 -Character Performance	15

Why characters differ? Character types and their motion, Acting as responding to a situation, Heroes and Villains, Domination and Subordination, Primary and Secondary Characters, Anticipation - Action - Result, Exaggeration, Walks: Acting and Attitudes, Tell the story visually, Clear staging for the audience: Keeping it simple and readable .

Module no. 4 -Creative Approach	15

Experimental Acting by combining Human & other Creatures behavior Characterization. Body acting and gestures, Facial expressions, Feeling of the character: Actions that show joy or inner torments, Space and effort, Speech analysis.

Practical Break up of marks for Examination

Practical session 1 : On Camera Acting : 20 Marks

Practical session 2 : Animating on Software : 30 Marks

Internal Assessment: 50 Marks

Skill Developments Activities:

A. Developing acting and directing skills that will strengthen the animator's ability to communicate visually.

B. Make students to implement acting skill in their animation videos.

C. Visual out put with a realistic rendering make more communicable.

Books For Reference:

1. Acting in Animation: A Look at 12 Films: Ed Hooks
2. Action: Acting Lessons for CG Animators: Gibbs and Gibbs
3. Acting for the Camera: Tony Barr
4. The Illusion of Life, Disney Animation: Frank Thomas and Ollie Johnston
5. Timing for Animation: Harold Whittaker, John Halas
6. The Animator's Survival Kit: Richard Williams

Name of the Program: B.Sc Animation & VFX

Course Code:SEC 5

Name of the Subject: Skill Enhancement Programme-3D Animation Project

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
2 credits	4 Hours	60 hours

Pedagogy: Classroom lecture, tutorials, Seminar, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

A. Detailed idea on pre production in 3d animation

B. Initiate the student the importance of proper structuring of a 3d animation

C. Learn to prepare script and animate 3d screening

D. 3d props creating and fixing in CG environment

E. 3d Visualization for game industry or short animation movies

Syllabus	Hours
SHOWCASE PROJECT	60

Students produce short individual projects as experiments in concepts, style or technology and are encouraged to take risks, break rules and explore their own unique creative potential. Students may either work in 3D ,according to their inclination prerequisites, or with consent of the Faculty, they may work in any medium appropriate to their experience and resources. While producing their own work, students also serve as production planning team and production crew for all other projects. Project should be in 3D Rendered out.

Practical Break up of marks for Examination

Preproduction

Production

Post Production

Project 25

Internal Assessment 25

Total 50

Skill Developments Activities:

1. Production pipeline and model sheet
2. Gain the ability to develop content for visual 3d shorts
3. Rigging and animate a scene
4. Advanced Lighting Techniques
5. Understanding advance Render engine
6. Ability to Showcase creations- Pre/ Post production techniques for 3d animation and rigging

Reference:

A. Introducing Autodesk Maya 2013 (Autodesk Official Training Guides) by Dariush Derakhshani, Sybex; 1 edition (May 1, 2012)

B. Mastering Autodesk Maya 2012, by Todd Palamar (Author), Sybex; 1 edition (August 2, 2011)

C. How to Cheat in Maya 2013: Tools and Techniques for Character Animation by Eric Luhta (Author), Focal Press; 1 edition (September 9, 2012)

D. Essential Skills in Character Rigging by Nicholas B. Zeman

E. Rig it Right! Maya Animation Rigging Concepts (Computers and People) by Tina O'Hailey

F. Animation Methods - Rigging Made Easy: Rig Your First 3D Character in Maya by David Rodriguez

SEMESTER V

Name of the Program: B.Sc Animation & VFX

Course DSCC 15

Name of the Subject: : Lab 10:Computer Lab on Compositing (Practical)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
5 credits	10 Hours	66 hours

Pedagogy: Classroom lecture, tutorials, Seminar, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

A. Detailed idea on techniques of digital compositing

B. Create an awareness in students about the history and future of industry.

C. Prepare them for the various industrial roles.

D. Give them a proper structure and workflow in the field of VFX

Syllabus	Hours
List of Practicals:	66

1. Character Roto.

2. Matte Extraction.

3. Tracking.

4. 3D tracking.

5. Text Animation.

6. Wire removal.

7.Object

removal. 8.Mocha

tracking

9.Compositing

10.Planar tracking

Practical Break up of marks for Examination

Record 20

Project 40

Internal Assessment 40

Total 100

Skill Developments Activities:

A. To do proper compositing using After Effects and Nuke.

B. Gain the ability to develop Realism for live action visual Contents.

C. Understand the various Techniques used in visual Effects.

Reference:

A. Ron Brinkmann, "The Art and Science of Digital Compositing", Addison-Wesley, 1999.

B. Ken Dancyger, "The Technique of Film and Video Editing", Focal Press, 2002.

C. Mitch Mitchell, "Visual Effects for Film and Television", Focal Press, 2004 .

D. Steve Wright, "Compositing Visual Effects: Essentials for the Aspiring Artist", Second Edition, Focal Press, 2011.

Name of the Program: B.Sc Animation & VFX

Course Code:DSCC 16

Name of the Subject: Introduction to Audio editing (Theory)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	4 Hours	42 hours

Pedagogy: Classroom lecture, tutorials, PPT, indoor & outdoor recording etc.

Course Outcomes: On successful completion of the course, the Students will have

A. Awareness about Audio formats.

B. An in-depth knowledge about the role and responsibilities of sound designer.

C. To train them to effectively manage sound recording and editing.

Syllabus	Hours
Module no.1 - Introduction to sound	10
Introduction to sound, amplitude and frequency, analog and digital system, bit, digital audio, analog to digital conversion, sample rate and bit depth	
Module no.2 – Introduction to Audition	10
DAW, introduction to Audition, digital audio editing, basic tools, waveform and multi track view, Sound recording studio, control room and voice booth, audio recording process, microphone types, sound card, speakers.	
Module no.3 - Audio recording in audition	11
Audio recording in audition, checking level, gain setting, mono and stereo, sync sound recording, boom operator and mixer. basic audio formats, noise.	
Module no.4 - Signal processing	11
Signal processing, level correction, reverb and delay, filters and equalizers, noise reduction of audio, giving effects to recorded audio, Types of film sound. Adding audio for video, ADR, syncing of audio, adding SFX and BGM for video, multitrack audio mixing, digital audio mastering.	

Skill Developments Activities:

A. Assignments given for recording Audio contents under given instructions

B. Editing audio under composition guidelines

C. Activities given to enhance knowledge in sound effects, music & mixing.

D. Different topics given for Audio contents every week

Reference:

1. The Filmmaker's Handbook by Steven Ascher
2. Mark Scetta, “Gardner's Guide to Audio Post Production”, Garth Gardner Company, 2007
3. Roey Izhaki, “Mixing Audio: Concepts, Practices and Tools”, Focal Press, 2008
4. Digital Audio Essentials: A comprehensive guide to creating, recording, editing, and sharing music and other audio by Bruce Fries and Marty Fries

Name of the Program: B.Sc Animation & VFX

Course Code:DSE1

Name of the Subject: Lab 11:Elective I (Project)

Option A: Production Techniques in 3D Modeling

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	8 Hours	72 hours

Pedagogy: Classroom lecture, tutorials, PPT, indoor & outdoor shoot etc.

Course Outcomes: On successful completion of the course, the Students will have

a)This course is intended to create awareness about 3d Pre/Post production

b) An in-depth knowledge about The role and responsibilities of a Modeler

c) To train them to effectively manage 3d Organic Inorganic and realistic Modeling

Syllabus	Hours
Module no.1 - Creating interior	20

Subdivision surfaces , using extrude , using the cut faces tool , convert subdivision surfaces to polygon ,using the Mesh , Smooth option , using split polygon tool , using the Mesh , Combine option , using Merge Edges option , using the subdivide proxy option ,Extract option , using Move tool , using the merge edge tool.

Module no.2 – Modeling an Exterior shot	15

Landscapes, Deserts, Beaches, Polar region, Volcanic region, Jungle, Park land, Gardens, Cityscapes, Countryside, Bridges, Fences, Structures, Condominiums, Monuments, Ruins, Fantasy land, God's places

Module no.3 - 3D Modeling for games	15

Using low poly modeling, proportion and layout ,topology ,body mesh , assigning basic color maps , baking detail to low poly-unwrapping, Game character modeling basics , proportion and layout , character topology , building character body mesh , creating hands and feet, Game Vehicle modeling basics. **Automobile modeling:**Modeling a two wheeler , Modeling a Car , Modeling conceptual vehicles, Character modeling – biped / quadruped modeling, Working with environment , Creating an environment by using all the different types of geometries, aligning. Adding annotation etc.

Module no.4 - Characters Realistic	22

Ideal Human Adult Male – Various builds, Age groups, Ethnicity Adult

Female – Various builds, Age groups, Ethnicity

Super Human, Gods, Goddesses, Heroes, Heroines- Sub Human, Imps, Witches, Devilish Characters- Aliens, Friendly, Fiendish- Humanoids- Androids- Robots- Animal Characters- Combo Characters, Centaur, Mermaid, Ganesh

Break up of marks for Examination

Record 20

Project 30

Internal Assessment 50

Total 100

Skill Developments Activities:

1. Assignments given for taking Model Sheet base character modeling
2. Make any rigid Vehicle for game 3d scene
3. Record book with still 3d modeling images and show reels
4. Create different concept 3d modeling and rigging given stories

- **Reference:**

1. Jason Patnode, Character Modeling with Maya and ZBrush: Professional polygonal modeling techniques , Focal Press; Pap/Dvdr edition, 2008
2. Scott Spencer, ZBrush Digital Sculpting Human Anatomy , Sybex, 2009
3. Advanced Maya: Character Modeling by Kenny Cooper and Jim Lammers, Trinity Animation, Inc., 2003

Name of the Program: B.Sc Animation & VFX

Course Code:DSE1

Name of the Subject: Lab 11:Elective I (Project)

Option B: Production Techniques in 3D Animation

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	8 Hours	72 hours

Pedagogy: Classroom lecture, tutorials, PPT, indoor & outdoor shoot etc.

Course Outcomes: On successful completion of the course, the Students will have

a)This course is intended to create awareness about Animation Graph Editor

b) An in-depth knowledge Animation Principle

c) To train them to effectively manage 3d animation and rigging Pipeline

Syllabus	Hours
Module no.1 - Object Animation	20

Getting the bouncing ball right – showing the weight- Rolling tyre or wheel – turning,

Coin inside a bowl- Wheel on a bumpy surface- Chain animation- Falling objects hitting surfaces at various levels- Pages of a book flipping in the wind

Module no.2 – Animating jointed structures	15

Robotic arms , Weld cycl, Earth mower equipment working , Automated machine cycles- Chain wheel movement- Collision of Vehicles, Vehicle turning / transforming to a character. Fight between two robots etc.

Module no.3 - Character Animation	15

Posing , Normal and Extreme poses, Old people, Martial art Cycles and Holds ,**Bipeds** - Walk cycles ,Normal, Double bounce , Characterized , Limping o Run cycles Jumping Climbing stairs **Quadrupeds** - Walk cycles Run cycles , Horse Gaits

Module no.4 - Acting	22

Object – Character Interaction Character using whip, axe, sword, hammer etc. Pushing, pulling, lifting weights Climbing a cliff, rope, wall . Dancing, Fighting.- Character – Character Interaction Characters boxing, fighting, Pushing, pulling, lifting character,s **Facial Animation- Shapes,**Setting the facial shapes according to phonemes Setting the facial shapes according to expressions **Morph or Animate** , Dialogue Delivery , Universal Expressions

Acting for a script - Animating for a script–telling the story–Scenes and shots
Staging the shots - Camera Animation ,Video Gags , Music Videos

Break up of marks for Examination

Record 20

Project 30

Internal Assessment 50

Total 100

Skill Developments Activities:

1. Assignments given Character animation like -child old people and biped animation
2. Walking and running cycles -Human and animals
3. Face Expression-Sad Happy Angry etc..
4. 3d Camera Animation

Reference:

1. Kyle Clark, “Inspired 3D character animation”, Premier Press, 2002
2. Understanding 3D Animation Using Maya 2005 by John Edgar Park
3. Peter Ratner, “Mastering 3d Animation”, second edition, Allworth Press, 2004
4. Richard Williams, “The Animator‟s Survival Kit”, Faber and Fabe, 2009
5. Ed Hooks, “Acting for Animators”, Comics & Graphic Novels, 2003
6. John Halas, “Timing for Animation”, Elsevier/Focal press, 2009

Name of the Program: B.Sc Animation & VFX

Course Code:DSCC 17

Name of the Subject : Basic compositing and visual effects (Theory)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	4 Hours	56 hours

Pedagogy: Classroom lecture, tutorials, Seminar, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

a) Detailed idea on concepts and aspects of VFX Film making

b) Initiate the student the importance of composting for film

c) Learn different elements and application of digital compositing.

Syllabus	Hours
Module 1 - Fundamentals of compositing	15
Elements of Compositing, Introduction to After Effects Interface Create a new composition, Timeline panels, Adding footage, Resolution, Quality.	
Module 2 - Introduction to software	15
Adjustment layers, Solid layers, Pre-Composition, Layers, Basic Animation Rotation, Scale, Transform, Anchor point, Key frames, Text animation, Easy Ease	
Module 3 -Layer compositing	14
Different types of 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 no. 4 -Effects and Filters	12
Chroma Keying, Colour correction,Effects and Presets Applying effects, Effects and preset panel, Garbage mattes to support keying ,2D Tracking Motion tracking, Motion stabilization, Time warp, Creating a compositing demo reel.	

Skill Developments Activities:

A. Developing compositing skill with layer based software.

B. Make students to implement green screen elements with live footage.

C. Match moving concepts for compositing different layers .

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. How did they do that: Motion Graphics: David Green

6. Creating Motion Graphics with AE: Trish Meyel.

Name of the Program: B.Sc Animation & VFX

Course Code:SEC 6

Name of the Subject : SKILL BASED SUBJECT I (3D Project)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
2 credits	4 Hours	60 hours

Pedagogy: Classroom lecture, tutorials, PPT, indoor & outdoor shoot etc.

Course Outcomes: On successful completion of the course, the Students will have

1. Detailed idea on pre production in 3d animation
2. Initiate the student the importance of proper structuring of a 3d animation
3. Learn to prepare script and animate 3d screening
4. 3d props creating and fixing in CG environment
5. 3d Visualization for game industry or short animation movies

Syllabus	Hours
SHOWCASE PROJECT- II	60

Students produce short **Group** projects as experiments in concepts, style or technology and are encouraged to take risks, break rules and explore their own unique creative potential. Students may either work in 3D, according to their inclination prerequisites, or with consent of the Faculty, they may work in any medium appropriate to their experience and resources. While producing their own work, students also serve as production planning team and production crew for all other projects. Project should be in 3D Rendered out.

Skill Developments Activities:

1. Group Discussion
2. Workflow management
3. Record book prepared with the given guidelines
4. Industrial Training

Practical Break up of marks for Examination

Record 10

Project 15

Internal Assessment 25

Total 50

Reference

1. Introducing Autodesk Maya 2013 (Autodesk Official Training Guides) by Dariush Derakhshani, Sybex; 1 edition (May 1, 2012)

2. Mastering Autodesk Maya 2012, by Todd Palamar (Author), Sybex; 1 edition (August 2, 2011)

3. How to Cheat in Maya 2013: Tools and Techniques for Character Animation by Eric Luhta (Author), Focal Press; 1 edition (September 9, 2012)

4. Essential Skills in Character Rigging by Nicholas B. Zeman

5. Rig it Right! Maya Animation Rigging Concepts (Computers and People) by Tina O'Hailey

6. Animation Methods - Rigging Made Easy: Rig Your First 3D Character in Maya by David Rodriguez

Name of the Program: B.Sc Animation & VFX

Course Code:SEC 7

Name of the Subject : Skill Enhancement Programme

Subject: VFX (Individual Project)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
2 credits	4 Hours	66 hours

Pedagogy: Classroom lecture, tutorials, PPT, etc.

Course Outcomes: On successful completion of the course, the Students will have

1. Enable them to integrate 3D data into live action videos or footage
2. Advanced green screen and blue screen techniques
3. Advanced Rotoscope

cSyllabus	Hours
Module no.1 : Individual VFX Project submission	66

Students have to shoot their own video content and apply their acquired compositing skills in the project and submit the final video output.

Skill Developments Activities:

1. Industrial standard tool training
2. Assignments based on Pipeline functioning for Implementation in collaborative projects.

Practical Break up of marks for Examination

Project 25

Internal Assessment 25

Total 50

Books For 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. How did they do that: Motion Graphics: David Green

6. Creating Motion Graphics with AE: Trish Meyel.

SEMESTER VI

Name of the Program: BSc Animation & VFX

Course Code:DSCC 18

Name of the Subject : Introduction to 3D Dynamics (Theory)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	4 Hours	60 hours

Pedagogy: Classroom lecture, tutorials, PPT, lab etc.

Course Outcomes: On successful completion of the course, the Students will have

a) Understanding Natural Forces

b) An in-depth knowledge about Simulation

c) To train them to effectively manage Particles and Emitters

Syllabus	Hours
Module no.1 : Particle and options	15

Create Emitter , Emit from the object ,Use selected Emitter , Pre point emission rates , Make collide – Particle Collision Event Editor - Goal , Instance (Replacement) , Sprite Wizard , Emitter types , Omni , Surface , Volume ,Curve , Directional

Module no.2 : Introduction to the types of field	15

Air field , Drag field , Gravity field ,Newton field , Radial field , turbulence field , Uniform field , Vortex field , Volume axis , turbulence field attributes , Magnitude , Frequency , Noise level - Attenuation , Different types of axis controls –, Creating two different type of example using fields.

Module no.3 : Introduction to Soft body / Rigid body simulation in maya	15

Create active rigid body , Create passive rigid body , Create nail constrain , Create Pin constrains , Create Hinge constrain , Create Spring constrain , Set Active Key , Set Passive Key , Break Rigid Body Connections , Paint soft body Weights tool , Create two different types of example using active / passive rigid body.

Module no.4 : Introduction to Particle type	15

Multipoint , Multi streak , Numeric , Points , Sprits , Introduction to fluid effects , Fluid 2d container , Fluid 3d container , Make collide , Get fluid example , Ramp position , Ramp Velocity , Lifespan PP , World Velocity , Ramp Acceleration.Rendering:Blobby surface ,Cloud , Tube , Conserve , Hardware Rendering ,Flip book clap , Clear Flip book options , Hardware render attribute , setting up the camera , Scale buffer , Render alpha sequence frame from software render and hardware render.

Skill Developments Activities:

1. Assignments -cloth or flag simulation
2. Water fountain simulation
3. Goal connection -rain or snow simulation
4. Pendulum motion-active and passive effects

Reference

1. Autodesk Maya 2008: The Special Effects Handbook by Autodesk Maya Press (Oct 29,2007)

2.Learning Maya 6 – Dynamics' by Alias (May 14, 2004)

3.Maya studio projects – Dynamics – Todd Palamar 2009

4.Fluid Dynamics 31 December 2003 by M.D. Raisinghania

5.Maya Visual Effects: The Innovator's Guide [Paperback] Eric Keller

Name of the Program: B.Sc Animation & VFX

Course Code:DSCC 19

Name of the Subject : Advanced Match moving (Thoery)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	4 Hours	66 hours

Pedagogy: Classroom lecture, tutorials, PPT, indoor & outdoor shoot etc.

Course Outcomes: On successful completion of the course, the Students will have

1. Awareness about Camera movements and Match moving
2. An in-depth knowledge about The role and responsibilities of a VFX Supervisor
3. To train them to effectively manage a VFX production.

Syllabus	Hours
Module no.1 : Tracking and Match Moving	15

Understanding how match move programs work; Perspective matching; Getting optimal 2D tracking data; Calibrating/solving cameras, Using automatic tracking, Tracking-intro to tracking (ex)-1pt, 2pt and 4pt or corner pinning - planar tracking tools and techniques-

Module no.2 : Boujou	15

Tracking-intro in Boujou/Mocha pro, introduction to match moving -manual tracking-automated tracking Alignment of objects, Masking objects, reference frame, Point tracking Z depth Extraction.

Module no.3 : PF Track	18

Tracking-intro in PFTRACK, Alignment of objects, Masking Moving objects, reference frame, Point tracking, Z depth Extraction. Adding Test Objects

Module no.4 : Compositing workflow	18

Solving and Exporting Camera Movement, Matching in compositing Software, Auto Tracking -Free Move shot, Auto Tracking - Zoom shot (Focal length variable), Supervised Tracking for difficult shot,Matching Camera in compositing Software's, Zoom shot (Focal length variable), Supervised Tracking for difficult shot in Nuke, Auto Tracking -Free Move shot, Working with 3D geometry and Survey Points, Object based tracking, Video based Motion Capture, Integration of Solved data with Various 3D Applications.

Skill Developments Activities:

1. Assignments given for taking live action footage
2. Preparing 'OK takes' with proper guidelines
3. Effective match moving exercises
4. Composited final outputs

Reference:

1. Visual Effects and Compositing: 3D for VFX By Jon Gress
2. The Art and Technique of Match moving: Solutions for the VFX Artist by Erica Hornung
3. The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics (The Morgan Kaufmann Series in Computer Graphics)
4. Match moving: The Invisible Art of Camera Tracking 1st Edition by Tim Dobbert

Name of the Program: B.Sc Animation & VFX

Course Code:DSE 2

Name of the Subject: Lab 12:Elective II (Project)

Option A: Advanced Lighting & Rendering

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
5 credits	10 Hours	72 hours

Pedagogy: Classroom lecture, tutorials, PPT, indoor & outdoor shoot etc.

Course Outcomes: On successful completion of the course, the Students will have

a) Understanding advanced Lighting Techniques

b) An in-depth knowledge about Shadow and depth of field with arnold Engine

c) Learn Lighting Linking and Render passes with different Render engine

Syllabus	Hours
Module no.1 :	15

Types of lights and their usage , Lighting decay , Diffuse and Specular , Light properties, Linking and Unlinking Lights ,Creating Spot Light Effects , Creating Point Light Effects ,Using Light Fog and Light Glow , Shadows , Adding depth map shadows to a scene , Creating area light shadows , Adjusting attributes of depth map .

Module no.2 :	15

Understanding Physically Based Rendering in Arnold , Generating Photon Maps using GI - Adding Final Gather to a scene , Adding Color Bleed to make more sense , Final Gathering are also consider as indirect lighting , Re-use Final Gathering maps ,Assigning Shaders using Lights , Generating final gathering maps for Animation , Mixing both Global Illumination and Final Gather

Module no.3 :	20

Global Illumination, Caustics and Regular Photons , Caustics-Caustics and its Transparency Shadows , High

Dynamic Range Image (HDRI)-Image based Lighting Techniques using HDRI - Object Based Lighting (OBL)

HDRI , Environments are used ,Solving problems and issues generated by HDRI, AI Area lights,AISky Dome light,Mesh light,Photometric light

Module no.4 :	22

Introduction Render Layers –, Introduction to HyperShade , Creation Render layer , Settings and Overviews of Layers and its Passes , Render Setting , Render Layers , Render Passes , File Texture Mapping , Materials and Shaders , UV Mapping , Planar Mapping , Cylindrical Mapping , Spherical Mapping , Automatic Mapping , UV Projections and Camera Projections , Creating and Associating Render Passes , Using Render Tokens , Contribution Maps.Building Light- Centric Contribution Maps , Arnold and Render Pass Attributes , Render Passes with Mental Ray Materials ,Capturing Photon Data -Render Passes , Rendering a Multi -Channel ,Frame Buffer Contribution , Materials and Shaders in Render Passes , Using Older Arnold with Render Passe

Skill Developments Activities:

1. Arnold Light Forg Simulation In Exterials Environment
2. Hdri Lighting technique with Object with arnold lighting techniques
3. Texturing Mapping in Uv with camera projections
4. Record and walkthrough showreels with multi render passses

Practical Break up of marks for Examination

Preproduction

Production

Post Production

Record 20

Project 30

Internal Assessment 50

Total 100

Books for Reference

1. Todd Palamar and Eric Kelle, Mastering Autodesk Maya 2012, Sybex, 2011
2. Dariush Derakhshani, Introducing Autodesk Maya 2012 (Autodesk Official Training Guides), Sybex, 2011
3. Lee Lanier, Maya Studio Projects Texturing and Lighting, Sybex, 2011
4. Todd Palamar and Eric Kelle, Mastering Autodesk Maya 2012, Sybex, 2011
5. Dariush Derakhshani, Introducing Autodesk Maya 2012 (Autodesk Official Training Guides), Sybex 2011
6. Lee Lanier, Maya Studio Projects Texturing and Lighting, Sybex, 2011

Name of the Program: B.Sc Animation & VFX

Course Code:DSE 2

Name of the Subject : Lab 12:Elective II (Project)

Option B: Advanced Rigging

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
5 credits	10 Hours	72 hours

Pedagogy: Classroom lecture, tutorials, PPT, indoor & outdoor shoot etc.

Course Outcomes: On successful completion of the course, the Students will have

a)Details of Joint Hierarchies

b) Learn Anatomy Base Rigging Techniques

c) To train them to effectively manage Joint and ik Handle

d) Arm and facial Rigging

Syllabus	Hours
Module no.1 : Quadruped rigging	15

Creating joints , mirror joint , NEW METHOD OF Setting Limitation to IK handle , Front Leg Joint Creation , Grouping the Master and hips control , Creating Ear Joints , Rib Bone Creation , Creation of Tail and Trunk using IK_ Spline handle Tool , Organizing with Control Group ,Curve Control Creations , Body Control Curve Creation , Bridging Curve Control to Joints ,parent constraint , Bridging Trunk and Tail Creation , Skinning , smooth binding a skeleton , Painting skin weights -, mirroring smooth skin weights.

Module no.2 : Biped rigging	15

Name the bones , Naming the hierarchy in short way , The spine , The arm , Orienting the joints, The legs , The Spine , Finishing the body ,Mirroring the joints , Reverse Foot Lock , The Shortest method of Reverse foot (Ik-System) , Building the IK , Creating the CURVE controllers, Adding custom attributes, Pole Vector , Building the FK (forward kinematics) , FK Leg Controller

Module no.3 : The Hand	20

The Fingers (set driven connections) , Curl , Set a key , The Head , IK to FK Switching Process , Connecting the Switch Attribute , FK System , IK - FK Controls Visibility, Duplication for Right sided Leg creation, The Spine, Advance Spine Control using expression

Module no.4 : The Arms	22

Ik / Fk Switching Process, IK-FK Arm Creations , Check the naming and rotation order of each joint as follows , Removing the Unwanted Joints, Adding Joints to Layers , Bridging the Ik & Fk to real joints , Arm Fk Setup Process , Curve Control on Joints Axis setup , Bridging Connection for the Ctrl Curves to FK Joints , Ik Setup Process,**Facial Rigging :**Get to Know Face , Best Model workFlow for Face , Blend Shape , Modeling for movement , Head Skeletal Setup , Placing the Head and Neck Joints , Weighting the Head , Creating control objects for Head , Bridging control joints for Head , Mirroring the head weights , Rigging the Tongue , Fixing cavity surface with Face Rig , Creating Mouth shapes and Expressions , Mirroring the Half shape Process , Creating the Facial GUI,Create a complete character rig.

Skill Developments Activities:

1. Ik and Fk action arm leg actions
2. Biped action Or character different poses
3. Different type of facial Rigging

Practical Break up of marks for Examination

Pre-production

Production

Post Production

Record 20

Project 30

Internal Assessment 50

Total 100

Books for Reference

1. Introducing Autodesk Maya 2013 (Autodesk Official Training Guides) by Dariush Derakhshani, Sybex; 1 edition (May 1, 2012)
2. Mastering Autodesk Maya 2012, by Todd Palamar (Author), Sybex; 1 edition (August 2, 2011)
3. How to Cheat in Maya 2013: Tools and Techniques for Character Animation by Eric Luhta (Author), Focal Press; 1 edition (September 9, 2012)

Name of the Program: B.Sc Animation & VFX

Course Code:DSCC 20

Name of the Subject : Lab 13: Lab on Maya Dynamics (Practical)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 credits	8 Hours	72 hours

Pedagogy: Classroom lecture, tutorials, PPT, indoor & outdoor shoot etc.

Course Outcomes: On successful completion of the course, the Students will have

a)To do water simulation through particles

b) Details description of Natural forces in FX Fields

c) To train them to effectively manage Rigid and soft bodies

Syllabus	Hours
List of Practical:	72

1. Create a rain
2. Boat movement on an ocean
3. Leaves falling from a tree by wind
4. Create Fire
5. Create cloth.
6. Car crash scene with dynamics
7. Car Glass breaking scene

Skill Developments Activities:

1. Details Simulation of Fx include rigid and soft bodies
2. 2d /3d container simulations

Practical Break up of marks for Examination

Practical exam 50

Internal assessment 50

Total 100

Books for Reference

1. Learning Autodesk Maya 2008: The Special Effects Handbook by Autodesk Maya Press (Oct 29, 2007)

1. Learning Maya 6 – Dynamics' by Alias (May 14, 2004)

2. Maya studio projects – Dynamics – Todd Palamar 2009

3. Fluid Dynamics 31 December 2003 by M.D. Raisinghania

Name of the Program: B.Sc Animation & VFX

Course Code:SEC -8

Name of the Subject : SKILL BASED SUBJECT II (Match moving Project)

Course Credits	No. of Hours per Week	Total No. of Teaching Hours
2 credits	4 Hours	60 hours

Pedagogy: Classroom lecture, tutorials, PPT, indoor & outdoor shoot etc.

Course Outcomes: On successful completion of the course, the Students will have

1. Detailed idea on pre production in Matchmoing shots
2. Initiate the student the importance of proper structuring of a Tracking Project
3. Learn to prepare script and Shoot for CG
4. Preparing plates and fixing in CG environment
5. 3d Visualization for VFX movies

Syllabus	Hours
SHOWCASE PROJECT	60

Students produce short **Group** projects as experiments in concepts, style or technology and are encouraged to take risks, break rules and explore their own unique creative potential. Students may either work in VFX, according to their inclination prerequisites, or with consent of the Faculty, they may work in any medium appropriate to their experience and resources. While producing their own work, students also serve as production planning team and production crew for all other projects. Project should be in Video Rendered out.

Skill Developments Activities:

1. Group Discussion
2. Workflow management
3. Record book prepared with the given guidelines
4. Industrial Training

Practical Break up of marks for Examination

Record	**10**
Project	**15**
Internal Assessment	**25**
Total	**50**

Reference

1. Ken Dancyger, "The Technique of Film and Video Editing", Focal Press, 2002
2. Mitch Mitchell, "Visual Effects for Film and Television", Focal Press, 2004
3. Steve Wright, "Compositing Visual Effects: Essentials for the Aspiring Artist",Second Edition, FocalPress, 2011
4. II Billy Woody , "Exploring Visual Effects" , Pap/Cdr edition , Delmar Cengage Learning, 2005
5. Steve Wright ,"Visual Effects Cinematography", Second Edition,Focal Press, 2011
6. Ron Brinkmann, The Art and Science of Digital Compositing , Morgan Kaufmann; First edition,

1999 Todd Palamar, v, Sybex, 2009

Name of the Program: B.Sc Animation & VFX

Course Code:SEC -9

Name of the Subject :Skill Enhancement Programme

Subject: Internship (Specialization)

Course Credits	No. Of Hours per Week	Total No. of Teaching Hours
2 credits	4 Hours	60 hours

Pedagogy: Internship on production studios

Course Outcomes: On successful completion of the course, the Students will have

1. Enable them to integrate into production studios
2. Advanced learning from live film or animation works
3. Advanced Rotoscope

Syllabus	Hours
Module no.1 : Individual Internship Project submission	60

To acquire practical industry based experience. Internship is on the job training to assimilate the professionalism in a career. Internships offer students a period of practical experience in the industry relating to their field of study.The students will have to undergo an Internship at an animation studio or a post-production visual effect studio as per the field of specialization.The students would prepare individual reports after the Internship and the same should be attested by the organization under which the student did the internship.Students also can prepare a specialization project for the submission of final output.

Skill Developments Activities:

1. Industrial standard tool training.
2. Assignments based on Pipeline functioning for Implementation in collaborative projects.

Practical Break up of marks for Examination

Internship Project Report	**25**
Internal Assessment	**25**
Total	**50**