

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

COURSE STRUCTURE
Semester I

I. Core

20 Credits

SL	Type of Paper	Paper Name	Paper Code	Contracts Period per week		Total Contact Hours	Credits
				L	P		
	Theory						
1	Core(C1)	Introduction To Basic Animation	BAFGV 101	4		40	4
2	Core(C2)	Introduction to Film Making	BAFGV 102	4		40	4
	Practical						
1	Core(CP1)	Traditional Animation Lab	BAFGV 191		2	20	2
2	Core(CP2)	Story & Script Writing	BAFGV 192		2	20	2

II. Elective Courses

B.1 General Elective

	Theory						
1	General Elective (GE1)	a) Python Programming b) R Programming	BAFGV 103	4		40	4
	Practical						
1	General Elective Practical (GEP1)	a) Python Programming b) R Programming	BAFGV193		2	20	2

III. Ability Enhancement Courses

1. Ability Enhancement Compulsory Courses (AECC)

	Theory						
1.	Ability Enhancement Compulsory Courses(AECC1)	Communicative English I	BAFGV 104	2		20	2

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140
Semester II

I. Core

20 Credits

SL	Type of Paper	Paper Name	Paper Code	Contracts Period perweek		Total Contact Hours	Credits
				L	P		
Theory							
1	Core (C3)	Introduction to Graphic Design& Visual Art	BAFGV 201	4		40	4
2	Core (C4)	Introduction to2D Animation	BAFGV 202	4		40	4
	Practical						
1	Core(CP3)	Digital Design, Info graphics & Branding (Adobe Photoshop, illustrator, Corel Draw)	BAFGV 291		2	20	2
2	Core(CP4)	2D animation lab(Flash)	BAFGV 292		2	20	2

II. Elective Courses

B.1 General Elective

	Theory						
1	General Elective (GE2)	a) Web Design b)Computer Networks	BAFGV203	4		40	4
	Practical						
1	General Elective Practical (GEP2)	a) WebpageDesign b)NetworkingLab	BAFGV293		2	20	2

III. Ability Enhancement Courses

1. Ability Enhancement Compulsory Courses (AECC)

	Theory						
1	(AECC2)	EnvironmentalScience	BAFGV204	2		20	2

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Semester III

I. Core

26 Credits

SL	Type of Paper	Paper Name	Paper Code	Contracts Period per week		Total Contact Hours	Credits
				L	P		
Theory							
1	Core(C5)	Film Preproduction & Production Techniques	BAFGV301	4		40	4
2	Core (C6)	Art Direction for Film Making	BAFGV302	4		40	4
3	Core (C7)	Introduction to 3D Animation (Modeling & Texturing)	BAFGV303	4		40	4
Practical							
1	Core (CP5)	Screenplay Writing & Storyboard Analysis	BAFGV391		2	20	2
2	Core (CP6)	Set Design, Costume, Makeup	BAFGV392		2	20	2
3	Core (CP7)	3D Modeling & Texturing (MAYA/Blender)	BAFGV393		2	20	2

II. Elective Courses

B.1 General Elective

	Theory						
1	General Elective (GE3)	a) Big Data Analytics in ECommerce b) Data Mining	BAFGV304	4		40	4
	Practical						
1	General Elective Practical (GEP3)	a) Big Data Analytics in E commerce Lab b) Data Mining Lab	BAFGV394		2	20	2

III. Ability Enhancement Courses

2. Skill Enhancement Course (SEC)

1	Skill Enhancement Course(SEC1)	Soft skill Development	BAFGV305	2		20	2
---	--------------------------------	------------------------	----------	---	--	----	---

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Semester IV

I. Core

26 Credits

SL	Type of Paper	Paper Name	Paper Code	Contracts Period per week		Total Contact Hours	Credits
				L	P		
Theory							
1	Core (C8)	Cinematography Techniques	BAFGV401	4		40	4
2	Core (C9)	3D Rigging Techniques & Animation	BAFGV402	4		40	4
3	Core(C10)	Acting & Direction For Film Making	BAFGV403	4		40	4
	Practical						
1	Core(CP8)	Camera Handling& Light Set up	BAFGV491		2	20	2
2	Core(CP9)	Rigging, Blendshape & Animation	BAFGV492		2	20	2
3	Core(CP10)	Acting For Film	BAFGV493		2	20	2

II. Elective Courses

B.1 General Elective

Theory							
1	General Elective (GE4)	a) Office Automation Tools b) Operating System c) Interactive Computer Graphics	BAFGV404	4		40	4
	Practical						
1	General Elective Practical (GEP4)	a) Office Automation Tools b) Operating System Lab c) Computer Graphics Lab	BAFGV494		2	20	2

III. Ability Enhancement Courses

2. Skill Enhancement Course (SEC)

1	Skill Enhancement Course (SEC2)	Personality Development	BAFGV405	2		20	2
---	---------------------------------	-------------------------	----------	---	--	----	---

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Semester V

I. Core

24 Credits

SL	Type of Paper	Paper Name	Paper Code	Contracts Period perweek		Total Contact Hours	Credits
				L	P		
Theory							
1	Core(C11)	3D Lighting & Rendering	BAFGV501	4		40	4
2	Core(C12)	Post Productionand Workflow	BAFGV502	4		40	4
	Practical						
1	Core(CP11)	CG Lighting & Rendering	BAFGV591		2	20	2
2	Core(CP12)	Editing & Sound Dubbing (Adobe Audition, Audacity, Premiere, FCP, Sound forge)	BAFGV592		2	20	2

II. Elective Courses

A.1 Discipline Specific Elective

	Theory						
1	Discipline Specific Elective (DSE1)	a) Introduction To Photography b) Basics of Clay Modeling	BAFGV503	4		40	4
2	Discipline Specific Elective (DSE2)	a) Advance SoundDesign b) Acting for Animation	BAFGV504	4		40	4
	Practical						
1	Discipline Specific Elective Practical (DSEP1)	a) Photography b) Clay Modeling	BAFGV593		2	20	2
2	Discipline Specific Elective Practical (DSEP2)	a) Sound Mixing & Mastering b) Acting for Animation	BAFGV594		2	20	2

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Semester VI

I. Core

24 Credits

SL	Type of Paper	Paper Name	Paper Code	Contracts Period perweek		Total Contact Hours	Credits
Theory				L	P		
1	Core (C13)	Analysis of 2D & 3D Animation Film Making	BAFGV601	4		40	4
2	Core (C14)	Vfx & Compositing	BAFGV602	4		40	4
	Practical						
1	Core(CP13)	Creating a 3D Animation short film	BAFGV691		2	20	2
2	Core(CP14)	Vfx & Compositing(After effects, Cinema 4D Nuke, Blackmagic Fusion)	BAFGV692		2	20	2

II. Elective Courses

A.1 Discipline Specific Elective

	Theory						
1	Discipline Specific Elective (DSE3)	a) Introduction to Motion Graphic Design b) Introduction to Digital Sculpting	BAFGV603	4		40	4
2	Discipline Specific Elective (DSE4)	DISSERTATION + PROJECT	BAFGV681	4+2		40+20	4 + 2
	Practical						
1	Discipline Specific Elective Practical (DSEP3)	a) Video makingusing Motion Graphics b) Digital Sculpting Lab (Zbrush/Mudbox)	BAFGV693		2	20	2

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Detailed Syllabus

Aim

The program has been outlined for understudies who have a propensity for learning activity and realistic planning and create models and imagination through extraordinary impacts. The understudies will be instructed around both aesthetics as well as specialized angles of activity and illustrations planning. The program moreover envelops specialty and up and coming ranges of activity like 3D plan and creating gaming ventures with VFX. The tools of film making includes pre production, production and post production.

Objectives

1. Graduates will build a working vocabulary of art, design, and visual communication terminology.
2. Graduates will develop broad understanding of graphics and train students in making computer graphics
3. Graduates will Expose students to the basics of two dimensional animation
4. Graduates will develop hands-on experience of doing VFX for a media project.
5. Graduates will become skilled with techniques of modeling, rigging and texturing a character.
6. Graduates will develop skills of 3D designing software „Maya“
7. Graduates will develop basic concepts of gaming projects
8. Graduates will explore the field of film making with hands-on experience.

Program Outcomes

Animation, Film making, Graphics & VFX graduates will be able to:

- 1. Animation and Media knowledge:** Apply the knowledge of Animation, film making fundamentals and an animation specialization to the solution of complex animation and media problems.
- 2. Problem analysis:** Identify, formulate, review research literature and analyze complex animation and film making problems and decision making models.
- 3. Design/development of solutions:** Design solutions for animation problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety and the cultural, societal and environmental considerations.

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

- 4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions.
- 5. Modern tool usage:** Create, select and apply appropriate techniques, resources, and modern media, filmmaking and animation tools including prediction and modeling to complex animation activities with an understanding of the limitations.
- 6. The graduates and society:** Apply reasoning informed by the contextual knowledge to assess cultural issues and the consequent responsibilities relevant to the professional practice.
- 7. Environment and sustainability:** Understand the impact of the professional animation and film impacts in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.
- 8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the educational practice.
- 9. Individual and team work:** Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10. Communication:** Communicate effectively on complex filmmaking and animation activities with the community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions
- 11. Project management and finance:** Demonstrate knowledge and understanding of the media and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 12. Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological and social changes.

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Semester I

Paper: Introduction to Basic Animation

Code: BAFGV-101

Paper Type: Theory, Core (C1)

Contacts Hours / Week: 4L Credits: 4

On completion of the course, students will be able to

CO1: Analyze the historical perspective of animation

CO2: Classify different types of animations

CO3: Explain the principles of making animation films

CO4: Develop scripts & screenplay for an animation films

CO5: Develop storyboard & other preproduction skills

CO6: Analyze set & character Design both in 2D and 3D

CO7: Explain methods of creating musical score, sound effects & Dubbing

CO8: Analyze post production work such as Editing & Compositing (Chroma keying, Rotoscopy, Vfx)

MODULE	CONTENT	Teaching Hours
1	History of Animation Definition of Animation, Early ways of showing motion (30,000B.C - 1500A.D), Magic Lantern, Thaumatrope, Phenakitoscope, Zoetrope, Flipbook, Praxinoscope, The Silent era, Steamboat Willie and its significance, Walt Disney and his contribution in animation, The Golden Age of American Animation, Modern American Animation, Digital animation	10
2	Types of Animation Traditional Animation, Stop Motion Animation, Sand Animation, Clay Animation, 2D Animation, 3D Animation	12
3	Principles of Animation Squash and Stretch, Anticipation, Staging, Straight Ahead Action and Pose to Pose, Follow Through and Overlapping Action, Slow-in and Slow-out, Arcs, Secondary Action, Timing, Exaggeration, Solid Drawing, Appeal.	6
4	Pipeline of Animation Preproduction – Script, Screenplay, Storyboard, Animatics, Solid drawing, color styling Production - Layout, Background painting(2D) & Art Direction, Set Design(3D), Exposure sheet, Pencil test, Character Design(2D), Props Design Modeling(3D), Rigging(3D), Ink and paint(2D), Texturing (3D) Animation, Clean up and In between, Export Postproduction – Adding musical scores & sound effects, Dubbing, Editing, Compositing – Chroma keying, Rotoscopy, Visual effects Final Render	12

SUGGESTIVE READINGS:

- The World History of Animation by Stephen Cavalier
- The Illusion of Life: Disney Animation by Frank Thomas and Ollie Johnston
- The Animators Survival Kit by Richard Williams

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Introduction to Film Making

Code: BAFGV-102

Paper Type: Theory, Core (C2)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Analyze the role and contribution of eminent personalities of world in Cinema

CO2: Analyze the history and development of world cinema

CO3: Analyze the political, cultural and aesthetic nuances of film making

CO4: Analyze the history and development of Indian cinema

CO5: Demonstrate the stages of film making

MODULE	CONTENT	Teaching Hours
1	Evolution of Filmmaking Thomas Edison, Kinetoscope, Lumiere Brothers, Meiles, Porter, Griffith	6
2	History of World Cinema Hollywood Studio - Shift to the West Coast, Early studios, coming of sound, Golden era of Hollywood German Expressionism - Adapting Expressionist ideas to cinema: The Cabinet of Dr. Caligari, Metropolis, Nosferatu Neo Realism - Rome Open City as the first official Neorealist film Bicycle Thieves as the best example if a Neorealist film Alienation of Neorealism: Fellini, Antonioni French new wave - Andre Bazin and Cahiers du Cinema, Godard & Breathless; Truffaut & 400 Blows, Genre Vs. Auteur; Debate around Auteur theory American New Wave – End of Studio System, Easy Rider, Advent of Scorsese, Coppola, Lucas, Spielberg	12
3	Indian Cinema Early talkies, Studio system, Rise of regional cinema and the role of NFDC, Auteur in Indian cinema – Satyajit, Ritwik, Mrinal, Raj Kapoor, Guru Dutt, Shyam Benegal, Mani Kaul	12
4	Stages of Making a Film Pre-production, Production, Post production	10

SUGGESTIVE READINGS:

- The Oxford History of World Cinema by Geoffrey Nowell-Smith
- History of Indian Cinema by Renu Saran

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Traditional Animation Lab

Code: BAFGV-191

Paper Type: Practical, Core (CP1)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Draw with basic shapes

CO2: Draw in respect with various perspective and eye views

CO3: Draw human and animal anatomy

CO4: Demonstrate figures with the help of line of action

CO5: Analyze live model study

CO6: Draw stylized character for animation

CO7: Develop a flipbook animation

MODULE	CONTENT	Teaching Hours
1	Drawings with the help of basic shapes	2
2	Drawing with different perspectives (One point, two point & three point) and various eye views (Bird's eye view & Ant's eye view)	2
3	Animal & Human anatomy study	4
4	Line of action	2
5	Shading Techniques	2
6	Live model study	4
7	Drawing characters maintaining stylization for animation (Cartoonie, Semi Realistic, Realistic)	2
8	Project : Flipbook Animation	2

SUGGESTIVE READINGS:

- The Animators Survival Kit by Richard Williams

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Story & Script Writing

Code: BAFGV-192

Paper Type: Practical, Core (CP2)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Develop a story from scratch for film making

CO2: Develop the skill of writing synopsis for a film

CO3: Demonstrate the process of treatment for a film

CO4: Develop a script for a film

MODULE	CONTENT	Teaching Hours
1	Developing an Idea into a story	10
2	Process of writing a Script (Proposal outline, synopsis, treatment, Script outline)	10

SUGGESTIVE READINGS:

- Swain & Swain, A MANUAL OF FILM SCRIPTWRITING

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Python Programming

Code: BAFGV-103A

Paper Type: Theory, General Elective (GE1)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Demonstrate the basic understanding of Python programming language.

CO2: Implement logical thinking and decision making.

CO3: Develop Skill enhancement of repeated task management.

CO4: Implement string manipulation, List data structure, dictionary data structure

CO5: Develop the skill of creating functions, Input and Output techniques.

CO6: Demonstrate animation modules in Python.

CO7: Implement 2D animation in Python

CO8: Develop animation sequences in Python.

Course link : https://onlinecourses.swayam2.ac.in/cec21_cs01/preview

Platform : Swayam

SUGGESTIVE READINGS:

- Learn Python The Hard Way, Zed A. Shaw, ADDISON-WESLEY Learning Python, Mark Lutz, O'REILY
- Programming In Python, Dr. Pooja Sharma, BPB

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: R Programming

Code: BAFGV-103B

Paper Type: Theory, General Elective (GE1)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to CO1: Demonstrate basics of R programming language.

CO2: Implement data types and manipulating data used in R programming language.

CO3: Implement string manipulation, list data structure

CO4: Develop statistical concept, problem solving skills

CO5: Develop the skill of different types of data representation.

CO6: Implement prediction skills based on data visualization.

Course link: <https://www.coursera.org/learn/r-programming>

Platform : Coursera

- R Programming for Beginners, Nathan Metzler
- R Programming, A Step-by-Step Guide for Absolute Beginners, Daniel Bell
- The Art of R Programming, Norman Matloff

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Python Programming Lab

Code: BAFGV-193A

Paper Type: Practical, General Elective Practical (GEP1)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to CO1:Develop of skills in python programming basics.

CO2: Develop skills of logical thinking and problem solving

CO3: Implement linear data structures.

CO4: Develop file handling and animation in python.

MODULE	CONTENT	Teaching Hours
1	Write, test, and debug simple Python programs	3
2	Implement Python programs with conditionals and loops.	3
3	Use functions for structuring Python programs.	3
4	Represent compound data using Python lists, tuples, dictionaries.	4
5	Read and write data from/to files in Python	4
6	Animation using python	3

Paper: R Programming Lab

Code: BAFGGEP-193B

Paper Type: Practical, General Elective Practical (GEP1)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to CO1: Develop skills in R programming basics.

CO2: Develop skills of logical thinking and problem solving

CO3: Implement Statistical data handling

CO4: Develop skills of statistical concepts in R.

MODULE	CONTENT	Teaching Hours
1	Understand the basics in R programming in terms of constructs, control statements, string functions	5
2	Understand the use of R for Big Data analytics	5
3	Learn to apply R programming for Text processing	5
4	Able to appreciate and apply the R programming from a statistical perspective	5

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Communicative English I

Code: BAFGV-104

Paper Type: Theory, Ability Enhancement Compulsory Courses (AECC1)

Contacts Hours / Week: 2L

Credits: 2

On completion of the course, students will be able to

CO1: Implement accurate voices and tenses for basic communication practices

CO2: Write formal letters

CO3: Demonstrate the role of adjective and grammar in English

CO4: Write application for job

MODULE	CONTENT	Teaching Hours
1	Grammar- Part of Speech, Tense, Voice, Common Errors. Writing- Formal Letters (Making Enquires, Placing Orders, Listening and Handling Complains	8
2	Grammar- Degrees of Adjectives, Essay Writing	6
3	Comprehension, Grammar- One word Substitution, Use of Idioms, Job Application and CV	6

SUGGESTED READING:

1. Leo Jones, Richard Alexander : New International Business English (Communication Skills in English for Business Purposes), Cambridge University Press.
2. NCERT, Knowing about English – A Book of Grammar & Phonology
3. NCERT, Working with English – A Workbook
4. Effective Communication Skills, Kulbhushan Kumar, Khanna Publishing House
5. A.E. Augustine & K.V. Joseph : Macmillan Grammar – A Handbook, Macmillan
6. Krishna Mohan & N.P. Singh : Speaking English Effectively, Macmillan

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Semester II

Paper: Introduction to Graphic Design & Visual Art

Code: BAFGV-201

Paper Type: Theory, Core (C3)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Analyze the historical perspective of design

CO2: Demonstrate the role of elements and principles of design

CO3: Demonstrate the role of typography in design

CO4: Implement graphic shapes in making a layout

CO5: Develop a layout maintaining all of its principles

MODULE	CONTENT	Teaching Hours
1	History and evolution of design. Design Basics- Elements and principles of design.	6
2	Typography, The Anatomy of Letters, Words and Spacing Type Size: The Point System, Typesetting Text, Typefaces, Fonts and Type Families, Typeface Categories, Typographic Composition Color and its significance in design	8
3	Color theory & color psychology	6
4	Graphic Shapes Marks, Icons, and Symbols Negative/Positive, Figure/Ground	5
5	Contrast & its types	5
6	Relational interaction of elements and principles in design implementation. Layout basics- Alignment and hierarchy of order. Gestalt laws of organization	10

SUGGESTED READING:

- Elements of Design, by Gail Greet Hannah, Princeton Architectural Press
- Graphic design history by Steven Heller & Georgetta Balance
- Design Dictionary-Perspectives on Design Terminology by Michael Erlhoff and Tim Marshall
- A History of Graphic Design, Meggs, Philip; John Wiley & Sons
- The Visual Dictionary of Photography by David Präkel
- Graphic design manual, Principles and Practice. Armin Hoffman; Arthur Niggli Publisher, Multilingual edition.
- Mind mapping- Tony Buzun
- Thinking with Type By Ellen Lupton

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Introduction to 2D Animation

Code: BAFGV-202

Paper Type: Theory, Core (C4)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Analyze the role of 2d animation pipeline in an animation film

CO2: Demonstrate the role of principles of animation in respect of making a 2D animation film

CO3: Demonstrate the role of tweening in 2d animation

CO4: Analyze the difference between straight ahead and keyframe animation

CO5: Demonstrate the role of looping in 2d animation

MODULE	CONTENT	Teaching Hours
1	Definition of 2D animation 2D animation production pipeline,	8
	Detail Analysis of Twelve principles in reference with 2d animation (Squash and Stretch, Anticipation, Staging, Straight Ahead Action and Pose to Pose, Follow Through and Overlapping Action, Slow-in and Slow-out, Arcs, Secondary Action, Timing, Exaggeration, Solid Drawing, Appeal)	
2	Tween definition. Classifications of tweens Purpose of tweening	2
3	Straight-ahead animation, Key frames animation : Definition & Purpose	2
4	Looping and Palindrome motion	4
5	Lip Syncing : Definition, Purpose & Methods	4

SUGGESTIVE READINGS:

- The Animators Survival Kit by Richard Williams
- The Animation Book: A Complete Guide to Animated Filmmaking from Flip - books by Kit Laybourne.

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Digital Design, Info Graphics & Branding

Code: BAFGV-291

Paper Type: Practical, Core (CP3)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Develop the skills of Illustrations with the help of Adobe Illustrator

CO2: Become familiar with Adobe Photoshop in image making and manipulation

CO3: Develop designs for creating brand identity

CO4: Develop info graphics

MODULE	CONTENT	Teaching Hours
1	Illustrator fundamentals: Introduction of interface, tools and techniques for graphic design	4
2	Photoshop fundamentals: Introduction of interface, menu and tool box, layers and blending options, gradient, colour correction, retouching images, masking, filters. Image making and manipulation, paint with brush tool, save file, export file.	4
3	Project I: Application of Photoshop & illustrator for creating a brand recognition : Logo, brochure, leaflet, flyer, poster, designs for social media promotions and other accessories	6
4	Project II: Creating a formal presentation using info graphic on any social issue	6

SUGGESTIVE READINGS:

- Adobe Illustrator-A Complete Course and Compendium of Features by Jason Hoppe
- Photoshop CC: Visual QuickStart Guide by Elaine Weinmann and Peter Lourekas
- The Elements of Graphic Design by Alex W. White
- Designing Brand Identity by by Alina Wheeler
- Stationery design now by Julius Wiedemann
- The Art of Color by Johannes Itten (Author)

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: 2D animation lab

Code: BAFGV-292

Paper Type: Practical, Core (CP4)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Become familiar with Adobe flash

CO2: Implement tweening for animation and symbols in Flash

CO3: Develop the skills of character designing in flash

CO4: Animate in Flash maintaining all the twelve principles

MODULE	CONTENT	Teaching Hours
1	Creating a new blank movie file in Flash The tools guide Basic shapes, Creating symbols Motion tweening, Shape tweening Bouncing ball Animation(Applying principles of animation) Path animation (butterfly flying)	6
2	Pendulum animation	2
3	Creating stick figure, Walk cycle of stick figure (front & side view)	2
4	Creating character(Cartoonie/semirealstic/realistic)	2
5	Walk cycle, run cycle of a boy & girl (front & side view)	4
6	Weight lifting, Hammering	4

SUGGESTIVE READINGS:

- The Animators Survival Kit by Richard Williams
- Timing for Animation by Harold Whitaker, John Halas
- Sketching for Animation by Peter Parr
- The Illusion of Life, Disney animation
- Creating 2D Animation with the Adobe Creative Suite by Debra Keller

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Webpage Design

Code: BAFGV203A

Paper Type: Theory, General Elective (GE2)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to CO1: Develop the basic skills of website designing.

CO2: Development of planning of a design.

CO3: Development of planning of a browser oriented design & grid structure.

CO4: Development of skills of interactive design & website promotion.

Course link: <https://www.coursera.org/specializations/web-design>

Platform : Coursera

SUGGESTIVE READINGS:

- Teach Yourself visually Dreamweaver CS5 by Janine Warner
- JavaScript and JQuery: Interactive Front-End Web Development by Jon Duckett
- Cookbook of web design
- Designing beautiful web design
- Handbook of Multimedia Computing by Borivoje Furht
- Introduction To Multimedia Systems by Gaurav Bhatnager

Paper: Computer Networks

Code: BAFGV203B

Paper Type: Theory, General Elective (GE2)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to CO1: Demonstrate basic networking principles.

CO2: Implement data and signal.

CO3: Develop skills of multiplexing techniques.

CO4: Develop skills on OSI, TCP/IP layer

CO5: Demonstrate different frame formats.

CO6: Demonstrate LAN technologies

CO7: Demonstrate functionalities of different LAN

CO8: Develop skill of Bridging and Routing.

Course link: https://onlinecourses.swayam2.ac.in/cec20_cs01/preview

Platform : Swayam

SUGGESTIVE READINGS:

- Data Communications and Networking, Behrouz A. Forouzan, TMH b
- Data and Computer Communications, William Stallings, PHI
- Computer Networks, Andrew S. Tanenbaum, P

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Webpage Design

Code: BAFGV293A

Paper Type: Practical, General Elective Practical (GEP2)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to CO1: Develop skills of web page designing .

CO2: Develop skills of client server architecture

CO3: Implement HTML,CSS.

CO4: Develop skills of multimedia files, website scripting using javascript and jquery

MODULE	CONTENT	Teaching Hours
1	Web site, Web Page, Types of Web Pages, Browsers and their types, Client –Server Model, Web –Server, Working of different types of Web Pages, General structure of a Web Page, Scripting languages, URL, Popular Search Engines, WWW	4
2	Basic HTML physical character tags, Logical character tags	4
3	Hyperlink tag (both Internal & External), Working with Frame and Form tags.	4
4	Image tags & embedding a multimedia on to a web page (video, audio, zip) Working with CSS (Cascading Style Sheet).	4
5	Introduction to javascript and jquery	4

Paper: Networking Lab

Code: BAFGV293B

Paper Type: Practical, General Elective Practical (GEP2)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to CO1: Develop skills of computer networking.

CO2: Develop skills IP addressing.

CO3: Implement client server architecture.

CO4: Develop skills of operating system based networking & web hosting.

MODULE	CONTENT	Teaching Hours
1	Introduction to basic networking, Software and Hardware (LAN, Switch, Router).	5
2	Introduction to IP address, loopback address and subnet list.	5
3	Client Server architecture, IIS, Hosting..	5
4	Introduction to networking in Windows and Linux operating systems	5

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Environmental Science

Code: BAFGV204

Paper Type: Theory, Ability Enhancement Compulsory Courses (AECC2)

Contacts Hours / Week: 2L

Credits: 2

On completion of the course, students will be able to

CO1: Analyze the issue of environmental, ecosystem & biodiversity

CO2: Solve problems of environmental pollution by mere laws.

CO3: Analyze usage of natural resources.

CO4: Analyze social & environmental issues

CO5: Correlate the issues of human population & environment

MODULE	CONTENT	Teaching Hours
1	UNIT I ENVIRONMENT, ECOSYSTEMS AND BIODIVERSITY Definition, scope and importance of environment – need for public awareness - concept of an ecosystem – structure and function of an ecosystem – producers, consumers and decomposers – energy flow in the ecosystem – ecological succession – food chains, food webs and ecological pyramids – Introduction, types, characteristic features, structure and function of the (a) forest ecosystem (b) grassland ecosystem (c) desert ecosystem (d) aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) – Introduction to biodiversity definition: genetic, species and ecosystem diversity – biogeographical classification of India – value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values – Biodiversity at global, national and local levels – India as a mega-diversity nation – hot-spots of biodiversity – threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – endangered and endemic species of India – conservation of biodiversity: In-situ and ex-situ conservation of biodiversity. Field study of common plants, insects, birds; Field study of simple ecosystems – pond, river, hill slopes, etc.	4
2	UNIT II ENVIRONMENTAL POLLUTION Definition – causes, effects and control measures of: (a) Air pollution (b) Water pollution (c) Soil pollution (d) Marine pollution (e) Noise pollution (f) Thermal pollution (g) Nuclear hazards – solid waste management: causes, effects and control measures of municipal solid wastes – role of an individual in prevention of pollution – pollution case studies – disaster management: floods, earthquake, cyclone and landslides. Field study of local polluted site – Urban / Rural / Industrial / Agricultural.	4
3	UNIT III NATURAL RESOURCES Forest resources: Use and over-exploitation, deforestation, case studies- timber extraction, mining, dams and their effects on forests and tribal people – Water resources: Use and overutilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems – Mineral resources: Use and	4

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

	exploitation, environmental effects of extracting and using mineral resources, case studies – Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies – Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. case studies – Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification – role of an individual in conservation of natural resources – Equitable use of resources for sustainable lifestyles. Field study of local area to document environmental assets – river / forest / grassland / hill / mountain.	
4	UNIT IV SOCIAL ISSUES AND THE ENVIRONMENT From unsustainable to sustainable development – urban problems related to energy – water conservation, rain water harvesting, watershed management – resettlement and rehabilitation of people; its problems and concerns, case studies – role of non-governmental organization environmental ethics: Issues and possible solutions – climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, case studies. – wasteland reclamation – consumerism and waste products – environment production act – Air (Prevention and Control of Pollution) act – Water (Prevention and control of Pollution) act – Wildlife protection act – Forest conservation act – enforcement machinery involved in environmental legislation- central and state pollution control boards- Public awareness.	4
5	UNIT V HUMAN POPULATION AND THE ENVIRONMENT Population growth, variation among nations – population explosion – family welfare programme – environment and human health – human rights – value education – HIV / AIDS – women and child welfare – role of information technology in environment and human health – Case studies.	4

SUGGESTED READINGS:

TEXTBOOKS:

1. Benny Joseph, 'Environmental Science and Engineering', Tata McGraw-Hill, New Delhi, 2006.
2. Gilbert M.Masters, 'Introduction to Environmental Engineering and Science', 2nd edition, Pearson Education, 2004.

REFERENCES:

1. Dharmendra S. Sengar, 'Environmental law', Prentice hall of India PVT LTD, New Delhi, 2007.
2. Erach Bharucha, "Textbook of Environmental Studies", Universities Press(I) PVT, LTD, Hyderabad, 2015.
3. Rajagopalan, R, 'Environmental Studies-From Crisis to Cure', Oxford University Press, 2005.
4. G. Tyler Miller and Scott E. Spoolman, "Environmental Science", Cengage Learning India PVT, LTD, Delhi,

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Semester III

Paper: Film Preproduction & Production Techniques

Code: BAFGV301

Paper Type: Theory, Core (C5)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Analyze the role of research in film making

CO2: Develop the skill of writing scripts & screenplay for a film

CO3: Analyze the production planning & budgeting details

CO4: Develop the idea of framing a composition

CO5: Analyze the role of audio production in film making

MODULE	CONTENT	Teaching Hours
1	Preproduction Research, Story, One-liner, Treatment, Script, screenplay, Storyboard, Set Design, Production Planning, Proposals Budgeting, Scheduling, Finding locations, Equipment	16
2	Production Shot sizes; meaning and motivation Camera movements- methods and meaning, Master shots, cutaways, inserts, reaction shots, parallel action Shooting scripts Picture composition and framing Working with lighting, color, lenses.	12
	Audio field production, Microphones, music, sound effects,	
3	Shooting with knowledge of editing, Research & Development, Mini interviews, Essential resources	12

SUGGESTED READINGS:

- Jane Barnwell, The Fundamentals of Film Making, AVA book publishing, SA, 2019
- Nicholas Proferes, Film Directing Fundamentals: See Your Film Before Shooting, Focal press, 2012
- A. Goswami, Thin Film Fundamentals, New age international publishers, 1996
- Amy Villarejo, Film Studies: The Basics, Routledge, 2013
- Michael K. Hughes, Digital Filmmaking for Beginners A Practical Guide to Video Production, McGrawHill, 2012.

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Art Direction for Film Making
Code: BAFGV302
Paper Type: Theory, Core (C6)
Contacts Hours / Week: 4L
Credits: 4

On completion of the course, students will be able to
CO1: Develop the skill of drawing mood board for a shoot
CO2: Develop the skill of budgeting and list for shoot
CO3: Develop the skill of designing a set for a shoot
CO4: implement various techniques while designing for a shoot

MODULE	CONTENT	Teaching Hours
1	The Physical Design - Part 1: Scouting, Interiors and Exteriors. How to photograph. How to measure. The Design Process - Part 1: Landing the visual concept; finding the visual arcs within the story; identifying thematic elements; recognizing emotional tones.	10
2	The Design Process - Part 2: Beginning the design process - Script breakdowns, Logistics, nomenclature, naming conventions. Research. Storyboarding, Animatics, Concept Illustrating, Computer Modelling, Hand Drafting, White Models. Digital tools & Workflow. Budgeting & Scheduling. The Physical Design - Part 2: Set Dressing. Vendors, studio facilities, backings, industry service listings, technical advisors, mechanical effects, specialty props, weapons, vehicles, animatronics and hand props.	16
3	MODULE 3 The Design Process - Part 3: Designing for the lens: Lenses 101, Camera Angles, Lens ratios, Focal lengths. Historical Techniques: Painted glass, mattes, foreground miniatures, forced perspective, front & rear projection, mirrors. Modern Techniques: CGI & Digital Filmmaking	14

SUGGESTED READINGS:

- The Art Direction Handbook for Film Second Edition By Michael Rizzo
- Production Design for the Screen: Visual Storytelling in Film and Television By Jane Barnwell.
- What An Art Director Does: An Introduction to Motion Picture Production Design By Ward Preston
- Film Architecture from Metropolis to Blade Runner Edited by Dietrich Neumann
- The Film Maker's Guide to Production Design By Vincent LoBrutto
- Designs on Film, A Century of Hollywood Art Direction By Cathy Whitlock and The Art Directors Guild.

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Introduction to 3D Animation (Modeling & Texturing)

Code: BAFGV303

Paper Type: Theory, Core (C7)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Apply the fundamental concepts of dimensions and axis

CO2: Analyze the difference between 2D & 3D

CO3: Analyze the historical perspective of 3D animation

CO4: Explain the role of different industries of 3D animation

CO5: Become familiar with Autodesk Maya and Tools

CO6: Explain basic modeling techniques

CO7: Explain the role of texturing in 3D animation

MODULE	CONTENT	Teaching Hours
1	Definition of dimension, difference between 2D and 3D Definition of axis, How to study dimension	2
2	History of 3D animation	4
3	Industries of 3D animation Entertainment, Scientific & Others	4
4	Maya Basics Maya tools and basic setting	6
5	Modeling Polygons, NURBS, Subdivision Surfaces, Modeling Workflows From-Scratch Modeling, Primitive Modeling, Box Modeling, Boolean Modeling, Digital Sculpting	12
6	Texturing- UVs, Shaders, Texture Maps, Texturing Workflows	12

SUGGESTED READINGS:

- Geometry of design, Revised and Updated (Design Briefs) by Kimberly Elam
- Autodesk Maya Basics Guide by Kelly Murdock
- Autodesk Maya - An Introduction To 3D Modeling by 3dExtrude Tutorial
- 3D Animation Essentials by Andy Beane
- 3D Art Essentials The Fundamentals by Ami Chopine

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Screenplay Writing & Storyboard Analysis

Code: BAFGV391

Paper Type: Practical, Core (CP5)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Develop the skills of writing screenplay in respect to framing a shot

CO2: Analyze the role of storyboard in film making

CO3: Implement the idea of storytelling through screenplay

CO4: Draw a detailed storyboard for film.

MODULE	CONTENT	Teaching Hours
1	Screenwriting and development Writing dialogues Shot list and overhead diagram Camera and character movement Psychological impact of camera angles Framing, and movement Composition, shot arrangement, light and composition. Basic rules of continuity Combining shots, non continuous shots: montage and jump cut.	5
2	Visual Storyboards Fundamentals of the Shot Difference between scenes and shots Visualizing scene in terms of framing, angles and movement, illustrate camera and character movement, dialogue, camera indication, Storyboard panels, live action and animation storyboards.	5
3	Project I : Story telling through Screenplay	5
4	Project II : Draw a detailed story board of imaginary script	5

SUGGESTED READINGS:

- William C Martell, The Secrets of Action Screenwriting, First strike Productions 2018
- David Trotter, The Screenwriter's Bible, Silman-James Press, 2014.
- J. T. Clark, The Bare, Bones Book of Screenwriting: The Definitive Beginner's Guide to Story, Format and Business, Kindle edition, 2009.
- Paul Joseph Gulino, Screenwriting: The Sequence Approach, Continuum, 2004.
- William Packard, The Art of Screenwriting: An A to Z Guide to Writing a Successful Screenplay, Da Capo Press, 2001.
- Sergio Paez, Professional Storyboarding: Rules of Thumb, Focal Press, 2012.

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Set Design, Costume, Makeup

Code: BAFGV392

Paper Type: Practical, Core (CP6)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Design a live set for shooting

CO2: Develop the skill of live make up

CO3: Design costume according to the script requirement

MODULE	CONTENT	TeachingHours
1	Planning a Set Design	10
2	Live make up sessions for production	5
3	Costume based on the script requirements	5

SUGGESTED READINGS:

- Theatrical Design and Production: An Introduction to Scene Design and Construction, Lighting, Sound, Costume, and Makeup by J Michael Gillete
- Stage Makeup: The Actor's Complete Guide to Today's Techniques and Materials by Laura Thudium
- Stage Makeup by Richard Corson

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: 3D Modeling & Texturing
Code: BAFGV393
Paper Type: Practical, Core (CP7)
Contacts Hours / Week: 2P
Credits: 2

On completion of the course, students will be able to

CO1: Model hard surface in Maya

CO2: Model a Set in Maya

CO3: Model organic characters in Maya

CO4: Unwrap Uv of 3D models

CO5: Texture the models which are required for 3D animation

MODULE	CONTENT	Teaching Hours
1	Basic 3D Modeling, Hard surface Modeling Basic Object Modeling, Car Modeling, Weapons Modeling	2
2	BG Modeling/SET Model Exterior BG modeling, cartoon/realistic	3
3	Organic Character Modeling (Animal)	3
4	Basic Face & Body Modeling(Human)	8
5	Uv Unwrapping & Texturing	4

SUGGESTED READINGS:

- Geometry of design, Revised and Updated (Design Briefs) by Kimberly Elam
- Autodesk Maya Basics Guide by Kelly Murdock
- Autodesk Maya - An Introduction To 3D Modeling by 3dExtrude Tutorial
- 3D Animation Essentials by Andy Beane
- 3D Art Essentials The Fundamentals by Ami Chopine

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Big Data Analysis in E commerce

Code: BAFGV304A

Paper Type: Theory, General Elective (GE3)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to CO1: Demonstrate fundamentals of big data.

CO2: Implement Big data in E commerce.

CO3: Apply various softwares for big data.

CO4: Develop skills of cloud computing concepts

CO5: Develop skills of NoSQL & graph databases.

CO6: Develop skills of document based database with mongodb.

Course Link: <https://www.udemy.com/course/ecommerce-analytics-big-data-and-machine-learning/>

Platform: Udemy

SUGGESTED READINGS:

- Nina Zumel, John Mount, “Practical Data Science with R”, Manning Publications, 2014.
- Jure Leskovec, Anand Rajaraman, Jeffrey D. Ullman, “Mining of Massive Datasets”, Cambridge University Press, 2014.
- Mark Gardener, “Beginning R - The Statistical Programming Language”, John Wiley & Sons, Inc., 201

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Data Mining

Code: BAFGV304B

Paper Type: Theory, General Elective (GE3)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to **CO1:** Develop skills of Big data platform.

CO2: Develop statistical data distribution.

CO3: Develop skills of data sampling.

CO4: Develop analysis skills, fuzzy models

CO5: Develop the time series

CO6: Demonstrate features of non euclidean space.

CO7: Develop the MapReduce

Course Link: https://onlinecourses.nptel.ac.in/noc21_cs06/preview

Platform: Swayam

SUGGESTED READINGS:

- Nina Zumel, John Mount, “Practical Data Science with R”, Manning Publications, 2014.
- Jure Leskovec, Anand Rajaraman, Jeffrey D. Ullman, “Mining of Massive Datasets”, Cambridge University Press, 2014.
- Mark Gardener, “Beginning R - The Statistical Programming Language”, John Wiley & Sons, Inc., 2012

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Big Data Analysis in E commerce Lab

Code: BAFGV394A

Paper Type: Practical, General Elective Practical (GEP3)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to CO1: Develop skills of Big data analysis.

CO2: Develop skills of handling Excel Pivot tables.

CO3: Implement E commerce data.

CO4: Develop skills of Hadoop.

MODULE	CONTENT	Teaching Hours
1	Introduction to Excel Pivot Table	5
2	Working with financial data set handling using python/R	5
3	E commerce data set analysis using python/R	5
4	Introduction to Hadoop	

Paper: Data Analytics Lab

Code: BAFGV394B

Paper Type: Practical, General Elective Practical (GEP3)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to CO1: Develop skills of data analytics.

CO2: Develop skills of data mining extensions

CO3: Implement MDX query.

CO4: Develop skills of SQL server.

MODULE	CONTENT	Teaching Hours
1	Create and Manage graph data	5
2	Perform various steps of preprocessing on the given relational database / warehouse.	5
3	To implement Data Mining Extensions (DMX) language and MDX query language	5
4	Creating Data Mining Structure & Predictive Models using the Excel Add-In for SQL Server 2008.	5

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Soft Skill Development

Code: BAFGV305

Paper Type: Theory, Skill Enhancement Course (SEC1)

Contacts Hours / Week: 2L

Credits – 2

On completion of the course, students will be able to

CO1: Develop skills of Problem solving

CO2: Develop skills of face to face communication

CO3: Write formal letters such as business communication

CO4: Develop skills of communication with peers

MODULE	CONTENT	Teaching Hours
1	Verbal presentations Telephonic communications Face to face communication Body language and attire Interview skills (Conducting an interview, facing an interview) Pitching skills	8
2	Written communications Business letters Emails How to say „no“ politely Visual presentations	6
3	Optimal use of PPT Communication with peers Communication with boss Communication with subordinates	6

SUGGESTED READINGS:

- Soft Skills Training: A workbook to develop skills for employment by Frederick H. wentz

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Semester IV

Paper: Cinematography Techniques

Code: BAFGV401

Paper Type: Theory, Core (C8)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Implement camera as a tool in film making

CO2: Develop skills to light a film set

CO3: Develop skills to set up a shot

CO4: Implement different stages of film production as a cinematographer

CO5: Demonstrate the role of a cinematographer in film making

MODULE	CONTENT	Teaching Hours
1	Camera Types, Functions and accessories. Camera Mounts; Tripods, Dollies, Jibs, Hand held, crane and others. Camera stabilization systems and other considerations. Lenses- types and functions. Image Sensors- Tube, Single CCD and 3CCDs. Interlace and progressive scanning. PAL and NTSE Systems.	6
2	Composition Framing, Centering, Screen direction, Head room, Fields of view, moving shot, Rule of thirds, Shot- Wide shot, Establishing shot, Establishing the geography. Character Shot- Full shot, two shot, MS, CU, OTS, Cutaways, Reaction, Connecting, Eyesweeps, Chase scenes. Continuity shots- Continuity of content, movement, position, time	8
3	Lighting Products and objects, Conventional, Soft and Diffused, Bounce, Source, Hard and creative lightings, Day effect, Night effect, Three-point lighting, Types of lights. Incandescent lamps, Tungsten halogen, HMI, PAR lights, Kinoflo etc. Lighting meters.	6
4	Colour Primary, Secondary and complementary colours, White and black balance, Standardization and colour reproduction. Filters- Contrast filters, Colour conversion filters, Polarized filters, Enhance filters, Colour filters, Graduated colour and ND filters, Effect filters	6
5	Camera Movement Types of moves, Moving shots- Tracking, countermove, reveal with movement, Circle track moves, Crane moves, Rolling shot, Vehicle to vehicle shooting, Ariel shots, Data management and role of cinematographer from pre- production to post Production.	8
6	Responsibility of The Cinematographer	6

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

SUGGESTED READINGS:

- Blain Brown, Cinematography: Theory and Practice: Image Making for Cinematographers, Directors, and Videographers, New York, Focal Press, 2016
- David E. Elkins, The Camera Assistant's Manual, Focal Press, 1993
- David Samuelson, Motion Picture Camera Techniques, Focal press, 2014
- Verne Carlson, The Professional Lighting Handbook, 1991
- Peter Etedgui, Cinematograph, Focal press, 1998
- William Hines, Operating Cinematography for Film and Video, 1997
- Kris Malkeiwicz, Cinematography□A Guide for Filmmakers and Film Teacher, PrenticeHall Press, 1989

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: 3D Rigging & Animation
Code: BAFGV402
Paper Type: Theory, Core (C9)
Contacts Hours / Week: 4L
Credits: 4

On completion of the course, students will be able to

CO1: Explain the role of rigging in 3D animation

CO2: Explain the role of IK and Fk in Rigging

CO3: Analyze the Rigging workflow

CO4: Explain the role of deformer in 3D animation

CO5: Explain the role of constraints in 3D animation

CO6: Explain the role of keyframe, graph editor & timeline in 3D animation

CO7: Create Dope sheet

CO8: Analyze the importance of Ghosting in animation

MODULE	CONTENT	Teaching Hours
1	Rigging : Definition Parts of Rigging Parenting, Pivot Positions, Skeleton System : Definition & Workflow	6
2	Types of Rigging Forward and Inverse Kinematics : Definition, Difference & Workflow	8
3	Deformers : Definition Types of Deformer : Curve Wrap, Delta Mesh, Jiggle, Lattice, Non Linear deformer, Point on Curve deformer, Sculpt, Soft Modification, Wire, Wrap, Wrinkle, Shrink Wrap, Texture Constraints : Definition Types of Constraints : Point constraints, Aim constraints, Orient constraints, Scale constraints, Parent constraints, Geometry constraints, Normal constraints, Tangent constraints, Point on Poly Constraints, Closest Point constraints, Pole Vector constraints	8
3	Scripting Expressions, The Basic Rigging Workflow	6
4	Animation- Process of 3D animation	6
	Components Keyframe, Graph Editor, Timeline, Attribute Editor	
5	Dope Sheet, Workspace, Tracking Marks and Ghosting	6

SUGGESTED READINGS:

- Autodesk Maya - An Introduction To 3D Modeling by 3dExtrude Tutorial
- 3D Animation Essentials by Andy Beane
- 3D Art Essentials The Fundamentals by Ami Chopine

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Acting & Direction for Film Making
Code: BAFGV403
Paper Type: Theory, Core (C10)
Contacts Hours / Week: 4L
Credits: 4

On completion of the course, students will be able to

CO1: Develop skills of acting with analysis

CO2: Classify film and stage acting

CO3: Act with direction

CO4: Explain different genres of acting

CO5: Demonstrate the role of direction in film making

CO6: Direct in different stages of production

MODULE	CONTENT	Teaching Hours
1	Acting General Introduction The importance of thinking (being) rather than showing/demonstrating The perils of over-acting or 'acting' on screen Study examples from films Analysis of close-ups and mid-shots Re-action shots - 'listening with the eyes' and 'power listening'. Cultivating positive mental approaches/attitudes to screen acting (relaxation, 'stillness') - 'owning the space'.	6
2	Differences between film and stage acting The difference between 'persona' and 'character' acting Technical considerations to make note of when working on set	6
3	The importance of working with props - from telephones to guns How to 'own' props and make them work for you Working on combinations of the above eg, close-ups, props, and hitting the mark, Moments of Transition, Full-on scene study and text work, employing everything discussed and experienced in class so far. Professional 'dos' and 'don'ts'. Genre acting –Horror, Comedy, Documentary-style, European acting styles (French, Russian, etc). Observing key differences in approach - distance, neutrality, emotional detachment.	8

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

4	<p>Direction Director's basic responsibilities and personal traits, leadership, collaboration, vision, art, identity and competitiveness, Artistic process, working within small budget and limitations Role of the Film Director –reading and understanding an image, Moral, artistic, Technical and financial interlocking roles of various technicians and artistes in the making of a film, Film as the Director's medium of expression, contribution of D.W. Griffith and Eisenstein to the art of film</p>	6
5	<p>Story development and script: essential elements of drama, shaping story into drama, plot, time, structure, screen play rules, script analysis and development, authorship and aesthetics; cinematic storytelling, director's point of view, visual design, sound design, performance design, director's style. Director's screen grammar, film language, frame and the shot, the camera movements, language of the edit, screen direction, essentials of research and practice for directors.</p>	8
6	<p>Director at different production stages: Preproduction: exploring the script, casting, acting fundamentals, directing the actor, rehearsals, planning and visual design. Production: developing production crew, production technology, director's rule during shooting, directing on the set, monitoring continuity and progress. Post production: Knowing the footage, rough cut, getting fine cut, working with music, sound mix, finishing touches.</p>	6

SUGGESTED READING:

- David Mamet, On Directing Film, Penguin publication. 1992.
- Michael Rabiger, Mick Hurbis- Cherrier, Directing: Film Techniques and Aesthetics, Focal press, 2017
- Sergei Eisenstein, Problems of Film Direction, University Press of the Pacific, 2004.
- Steven Ascher, Edward Pincus, The Filmmaker's Handbook: A Comprehensive Guide for digital age, Penguin publication, 2012.
- David K. Irving, Fundamentals of Film Directing, McFarland & Company, 2010
- *An Actor Prepares* By Constantin Stanislavski
- *Audition* By Michael Shurtleff
- *Respect for Acting* By Uta Hagen

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Camera Handling & Light Set up

Code: BAFGV491

Paper Type: Practical, Core (CP8)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Handle camera

CO2: Supervise camera movements

CO3: light a Set in real life movies

CO4: Develop the skills of natural and artificial lighting for film production

MODULE	CONTENT	Teaching Hours
1	Camera Handling Rule of thirds, All types of shot compositions	5
2	All types of camera movements	5
3	Lighting One point, Two point, Three-point lighting	5
4	Day and night effect lighting Natural and artificial lighting	5

SUGGESTED READINGS:

- Blain Brown, Cinematography: Theory and Practice: Image Making for Cinematographers, Directors, and Videographers, New York, Focal Press, 2016
- David E. Elkins, The Camera Assistant's Manual, Focal Press, 1993
- David Samuelson, Motion Picture Camera Techniques, Focal press, 2014
- Verne Carlson, The Professional Lighting Handbook, 1991
- Peter Ettegui, Cinematograph, Focal press, 1998
- William Hines, Operating Cinematography for Film and Video, 1997
- Kris Malkeiwicz, Cinematography □ A Guide for Filmmakers and Film Teacher, PrenticeHall Press, 1989

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Rigging, Blendshape & Animation

Code: BAFGV492

Paper Type: Practical, Core (CP9)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Rig an organic character in Maya

CO2: Create blendshape required for facial expression in Maya

CO3: Develop a complete organic character with all possible rig movements in Maya

CO4: Animate an organic character performing different actions in Maya

MODULE	CONTENT	Teaching Hours
1	Rigging Rigging an organic character using Both FK & IK	4
2	Blendshape Different facial expressions	4
3	Animation 3D character walk cycle, run cycle, jumping	6
4	3D character hammering, weight lifting, action poses	6

SUGGESTED READINGS:

- Autodesk Maya - An Introduction To 3D Modeling by 3dExtrude Tutorial
- 3D Animation Essentials by Andy Beane
- 3D Art Essentials The Fundamentals by Ami Chopine

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Acting For Film

Code: BAFGV493

Paper Type: Practical, Core (CP10)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Develop the skill of movement and gestures for film

CO2: Develop the skill of expression and voice modulation for film

CO3: Develop the skill of pitch delivery for film

CO4: Develop a short film

MODULE	CONTENT	Teaching Hours
1	Movement, Gestures, Voice, Expression, Breath control, Dialogue Delivery	10
2	Making a short film of 10-15 minutes	10

SUGGESTED READING:

- *An Actor Prepares* By Constantin Stanislavski
- *Audition* By Michael Shurtleff
- *Respect for Acting* By Uta Hagen

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Office Automation Tool
Code: BAFGV-404A
Paper Type: Theory, General Elective (GE4)
Contacts Hours / Week: 4L
Credits: 4

On completion of the course, students will be able to **CO1:** Develop skills in Office automation devices

CO2: Develop skills of automation management techniques.

CO3: Develop skills of office 365

CO4: Implement use of Microsoft OneDrive

CO5: Develop skills of presentation making.

CO6: Develop skills of video conferencing.

Course Link: <https://www.coursera.org/learn/introduction-to-computers-and-office-productivity-software>

Platform: Coursera

SUGGESTED READING:

- Microsoft Office 365 Administration Inside Out (Inside Out (Microsoft)) December 2013, Microsoft Press US; 1st edition (6 December 2013)

Paper: Operating System Code: BAFGV404B
Paper Type: Theory, General Elective (GE4)
Contacts Hours / Week: 4L
Credits: 4

On completion of the course, students will be able to **CO1:** Develop skills of operating systems.

CO2: Develop skills of operating systems working principles

CO3: Develop skills of operating systems process management

CO4: Develop skills of virtual memories

CO5: Develop skills of various comparative studies of operating systems

Course link: https://onlinecourses.nptel.ac.in/noc21_cs44/preview

Platform: Swayam

SUGGESTED READING:

- Abraham Silberschatz, Peter B. Galvin, Greg Gagne, Operating System Concepts. Sixth edition. Addison-Wesley (2003).
- Andrew Tanenbaum, Modern Operating Systems, Prentice Hall.
- William Stallings, Operating Systems, Prentice Hall

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Interactive Computer Graphics

Code: BAFGV404C

Paper Type: Theory, General Elective (GE4)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Develop skills of hardware and softwares for graphics.

CO2: Develop skills of display techniques of computer graphics

CO3: Skill enhancement of various utility and effects of computer graphics

CO4: Enhance the basic skills of multimedia and computer graphics

Course link: <https://www.coursera.org/learn/interactive-computer-graphics>

Platform: Coursera

SUGGESTED READING:

- Computer Graphics (Principles and Practice) by Foley, van Dam, Feiner and Hughes, Addison Wesley (Indian Edition)

- Computer Graphics by D Hearn and P M Baker, Printice Hall of India

Paper: Office Automation Tool

Code: BAFGV494A

Paper Type: Practical, General Elective Practical (GEP4)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Develop skills in Office 365.

CO2: Develop skills of Outlook mailing.

CO3: Implement Microsoft OneDrive.

CO4: Develop skills of video conferencing.

MODULE	CONTENT	Teaching Hours
1	Introduction to Office 365 including word, Excel, PowerPoint	5
2	Introduction to Microsoft Outlook	5
3	Introduction to OneDrive	5
4	Introduction to video conferencing with skype	5

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Operating System Lab
Code: BAFGV494B
Paper Type: Practical, General Elective Practical (GEP4)
Contacts Hours / Week: 2P
Credits: 2

On completion of the course, students will be able to **CO1:** Development of skills in operating system modules.

CO2: Develop skills of command in windows.

CO3: Implement shell command in Linux.

CO4: Develop skills of Linux shell scripting.

CO5: Develop skills of process and memory management.

MODULE	CONTENT	Teaching Hours
1	Working with windows operating system: Module, Command, Utilities	4
2	Working with Linux operating system: Components, Shell and Commands	4
3	Introduction to windows operating system power shell	4
4	Introduction to Linux shell scripting	4
5	Working with processes and memory management in Windows and Linux	4

Paper: Computer Graphics Lab
Code: BAFGV494C
Paper Type: Practical, General Elective Practical (GEP4)Contacts Hours / Week: 2P
Credits: 2

On completion of the course, students will be able to **CO1:** Development of skills in computer graphics.

CO2: Develop skills of image enhancement techniques.

CO3: Develop skills of 3D graphics tools.

CO4: Develop skills of display properties

MODULE	CONTENT	Teaching Hours
1	Introduction to various types of images and format	4
2	Image enhancement techniques	4
3	Display properties and tools	4
4	Different types of drawing algorithms: Line, Circle, Polygon	4
5	Working with 3D graphics tools and Techniques	4

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Personality Development

Code: BAFGV405

Paper Type: Theory, Skill Enhancement Course (SEC2)

Contacts Hours / Week: 2L

Credits – 2

On completion of the course, students will be able to

CO1: Develop skills in professional and inner-personal communications

CO2: Do time management

CO3: Develop personality

CO4: Gain positive thinking in life

CO5: Add humour in communication

CO6: Maintain ethics and Etiquette

MODULE	CONTENT	Teaching Hours
1	Definition & types of mindsets, Learning mindsets, secrets of developing growth mindset Importance of time and Understanding perceptions of time Using time efficiently Understanding procrastination	4
2	Types of people,How to say No, Controlling anger, Gaining power from Positive Thinking	4
3	What makes others dislike you What makes others like you Being attractive	4
4	Humour in communication Humour in workplace Function of Humour in the Workplace Money & personality Managing love	4
5	Ethics & Etiquette Business Etiquette Managing Mind & Memory Improving Memory Care for Environment	4

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Semester V

Paper: 3D Lighting & Rendering

Code: BAFGV501

Paper Type: Theory, Core (C11)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Analyze the role of CG light for animation

CO2: Explain Different type of Lighting Techniques in Maya

CO3: Explain the CG light workflow in 3D animation

CO4: Explain the role of rendering in 3D animation

CO5: Explain different types of Render engines and their uses

CO6: Explain the rendering workflow in 3D animation

MODULE	CONTENT	Teaching Hours
1	CG Lighting : Definition and its uses Types of CG Light Point, Spot, Directional, Area, Volume, Ambient lights : Light Attributes and their functions Lighting Techniques One Point lighting, Two Point lighting, Three Point lighting Key Light, Rim Light, Fill light : Definition & Use Lighting Workflow	20
2	Rendering Basic Rendering Methods Global Illumination: Definition and its uses	20
	Render Engines : Definition, Types and its uses RenderMan, 3Delight, Maxwell, Mental Ray, Vray, Furry Ball, Octane, Arnold Render Rendering Workflow	

SUGGESTED READINGS:

- Autodesk Maya - An Introduction To 3D Modeling by 3dExtrude Tutorial
- 3D Animation Essentials by Andy Beane
- 3D Art Essentials The Fundamentals by Ami Chopine

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Post Production & Workflow

Code: BAFGV502

Paper Type: Theory, Core (C12)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Analyze the Post production process in film making

CO2: Demonstrate the role of eminent personalities in film editing

CO3: Analyze the role of dubbing in film making

CO4: Explain the role of sound effects in film

CO5: Explain the role of compositing in film making

MODULE	CONTENT	Teaching Hours
1	Post production: Definition & Stages of Post production	4
2	Editing a) History of film editing-Lev Kuleshov's experiment, Sergei Eisenstein & Montage, Dziga Vertov, Kino fist & Kino Eye b) Process of editing Storage and folder management Logging, First assembly, Rough cut Final cut, Colour grading, Inserting audio, Graphics, Titling etc and exporting.	16
3	Dubbing & its Application	4
4	Sound Effects- Definition, Types, Uses	10
5	Compositing – Definition, Types, Uses	6

SUGGESTED READINGS:

- Ken Dancyger, The Technique of Film and Video Editing: History, Theory, and Practice, 2007
- Jaime fowler, Editing Digital Film: Integrating Final Cut Pro, Avid, and Media 100, 2012
- Karel Reisz, Gavin Miller, The Technique of Film Editing, 2017
- Walter Murch, In the Blink of an Eye: A Perspective on Film Editing, 1992
- Towards a Theory of Montage: Sergei Eisenstein Selected Works, Volume 1 & Annotated Edition by Sergei Eisenstein

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: CG Lighting & Rendering
Code: BAFGV591
Paper Type: Practical, Core (CP11)
Contacts Hours / Week: 2P
Credits: 2

On completion of the course, students will be able to

CO1: Light a CG set in Maya

CO2: Render a CG Set with Character with Mental Ray set in Maya

CO3: Use VRAY for rendering set in Maya

CO4: Develop a complete rendered scene with Arnold in Maya

MODULE	CONTENT	Teaching Hours
1	Lighting and rendering a set with organic character in it using Mental ray	10
2	Lighting a Car with Vray	4
3	Using Arnold, render a scene of 10 seconds	6

SUGGESTED READINGS:

- 3D Animation Essentials by Andy Beane

Paper: Editing & Sound Dubbing
Code: BAFGV592
Paper Type: Practical, Core (CP12)
Contacts Hours / Week: 2P
Credits: 2

On completion of the course, students will be able to

CO1: Implement the use of transitions and insertion of audio in video

CO2: Demonstrate the practical role of Montage in film making

CO3: Edit in Premiere, FCP

CO4: Become familiar with Sound Forge, Adobe Audition

CO5: Develop sound tracks for dubbing

MODULE	CONTENT	Teaching Hours
1	Basic movement, applying transitions, inserting music, audio effects, music, dialogues	5
2	Montage Editing	8
3	Dubbing Sound for a short film	7

SUGGESTED READINGS:

- Jaime fowler, Editing Digital Film: Integrating Final Cut Pro, Avid, and Media 100, 2012
- Ken Dancyger, The Technique of Film and Video Editing: History, Theory, and Practice, 2007
- Karel Reisz, Gavin Miller, The Technique of Film Editing, 2017
- Towards a Theory of Montage: Sergei Eisenstein Selected Works, Volume 1 & Annotated Edition by Sergei Eisenstein

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Introduction To Photography

Code: BAFGV503A

Paper Type: Theory, Discipline Specific Elective (DSE1)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to **CO1:** Analyze historical perspective of photography **CO2:** Analyze nature & scope of photography

CO3: Develop framing and composition sense

CO4: Explain Mechanism of DSLR

CO5: Develop idea about depth of field

CO6: Differentiate between natural light and artificial light

CO7: Explain contribution of various eminent personalities in the field of photography

MODULE	CONTENT	Teaching Hours
1	Photography- Definition & concept Nature, scope & functions of photography History of Photography Human Eye & Camera General discussion on different photographs	10
2	Composition, Framing, and Angles Brief introduction to Shutter Speed, Aperture and ISO Lenses and their uses including Depth of Field Using a DSLR	10
3	Characteristics of Light Natural Light & Artificial Light Hard Light & Soft Light	10
4	Observation and Discussion on the works of important photographers Ansel Adams, Robert Capa, Henri Cartier Bresson and Raghu Rai and Homai Vyarawalla	10

SUGGESTED READINGS:

- Langford's Basic Photography: The Guide for Serious Photographers by Michael Langford
- The Mind,s Eye: Writings on Photography and Photographers by Henri Cartier-Bresson

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Basics of Clay Modeling

Code: BAFGV503B

Paper Type: Theory, Discipline Specific Elective (DSE1)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to **CO1:** Analyze historical perspective of clay modeling **CO2:** Explain different forms of clay modeling

CO3: Explain functions of the clay modeling tools

CO4: Demonstrate various clay modeling methods

CO5: Study geometry and volume of a shape through clay modeling

CO6: Explain the nature and scope of industries in clay modeling.

MODULE	CONTENT	Teaching Hours
1	Introduction to Clay Modeling Sculpture, Eye, Nose, Lips modeling Hand material preparing, Exploring 3D form Emphasizes drawing for sculpture, concept development armature, animal forms.	10
2	Tools of clay modeling and their uses	5
3	Modeling Methods : Pinch pot, coiling and slab techniques, Slab Method, modeling with armature, medaling in block clay, Relief medaling, low relief and high relief modeling, terracotta modeling, hollow modeling, solid medaling	5
4	Study of geometry of human body through clay modeling	10
5	Industries of clay modeling	10

SUGGESTED READINGS:

- Clay Modeling for Beginners: An Essential Guide to Getting Started in the Art of Sculpting Clay by Jeanie Hirsch

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Advance Sound Design

Code: BAFGV504A

Paper Type: Theory, Discipline Specific Elective (DSE2)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Explain concepts of amplitude, frequency wavelength and harmonics

CO2: Explain the methods of noise reduction

CO3: Demonstrate various instruments needed for sound design and recording

CO4: Explain principles of mixing techniques

CO5: Explain the use of equalizer

MODULE	CONTENT	Teaching Hours
1	Nature of acoustical waves Concepts of amplitude, frequency wavelength and harmonics. Psycho-acoustics: Nature of hearing and perception of sound, hearing sensitivity, frequency, sound range, sound recordist's role.	10
2	Omni directional, Cardioids-direction and pickup pattern Portable recorders, Noise, Choosing the right mike Input Devices	10
3	Separate Audio vs In Camera Audio Leads and Adapters Microphone Accessories Wild track & Room tone Syncing Audio Basic setup of recording system-analog/digital cables Connecters, analogue to digital conversion	10
4	Sound designing Pro-tools, Principles of Mixing techniques Building Blocks of Mixing Special effects Equalizers Mixing in the box and Mixing through the board	10

SUGGESTED READINGS:

- The Sound Effects Bible: How to Create and Record Hollywood Style Sound Effects by Ric Viers
- Sound-On-Film: Interviews with Creators of Film Sound by Vincent Anthony Lubrutto
- Sound Theory, Sound Practice by Rick Altman

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Acting for Animation

Code: BAFGV504B

Paper Type: Theory, Discipline Specific Elective (DSE2)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Explain various approaches for acting for animation

CO2: Implement methods of acting for animation

CO3: Direct for acting in an animation film

CO4: Explain requirement of facial expression for acting for animation

MODULE	CONTENT	Teaching Hours
1	Approach Simulation Representation Interpretation	10
2	Methods of Acting The Chekhov Technique Meisner Technique Practical Aesthetics Neurosthetic Acting Shake Acting Voice Characterization.	15
3	Direction for Acting Creative handling of the content Implementing or feeding the concept onto the character over a brief characterization Directing the voice actors Detailing of the facial expressions and emotions	15

SUGGESTED READINGS:

- Acting for Animators , revised Edition : A complete Guide to Performance Animation by Ed Hoks

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Photography

Code: BAFGV593A

Paper Type: Practical, Discipline Specific Elective Practical (DSEP1)

Contacts Hours / Week: 2P

Credits: 2

CO1: Develop a sophisticated use of photography-related vocabulary and concepts necessary to engage within a studio environment

CO2: Demonstrate appropriate techniques in an advanced photographic practice as well as studio habits beyond the classroom studio

CO3: Demonstrate ability to meet deadlines with proper time management and craftsmanship

CO4: Prepare portfolios for professional presentation

MODULE	CONTENT	Teaching Hours
1	Using a DSLR Evaluation through practical exercises	6
2	Lighting practical Evaluation through practical exercises	6
3	Critical evaluation of famous photographs	4
4	Story telling through Photos	4

SUGGESTED READINGS:

- The Mind,s Eye: Writings on Photography and Photographers by Henri Cartier-Bresson

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Clay Modeling

Code: BAFGV593B

Paper Type: Practical, Discipline Specific Elective Practical (DSEP1)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to **CO1: Model a set**

CO2: Model props

CO3: Model Organic characters

CO4: Create a prototype

MODULE	CONTENT	Teaching Hours
1	Model an exterior set(village/city scape) with clay	10
2	Human Modeling with clay	10

SUGGESTED READINGS:

- Clay Modeling for Beginners: An Essential Guide to Getting Started in the Art of Sculpting Clay by Jeanie Hirsch

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Sound Mixing & Mastering

Code: BAFGV594A

Paper Type: Practical, Discipline Specific Elective Practical (DSEP2)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Use various sound mixing software such as audition, sound forge

CO2: Mix sounds

CO3: Edit audios

CO4: Develop various sound effects

MODULE	CONTENT	Teaching Hours
1	Sound mixing, Audio editing	10
2	Creation sound effect	10

SUGGESTED READINGS:

- The Sound Effects Bible: How to Create and Record Hollywood Style Sound Effects by Ric Viers

Paper: Acting for Animation Code: BAFGV594B

Paper Type: Practical, Discipline Specific Elective Practical (DSEP2)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to **CO1:** Act for an animation film

CO2: Create various expressions for animation film

CO3: Act in Motion capture films or games

CO4: Create reference for putting emotions in an animated character.

MODULE	CONTENT	Teaching Hours
1	Create a dialogue acting shot from video reference (10 seconds)	10
2	Create a dialogue acting shot from own acting reference(10 seconds)	10

SUGGESTED READINGS:

- Acting for Animators , revised Edition : A complete Guide to Performance Animation by Ed Hoks

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Semester VI

Paper: Analysis of 2D & 3D Animation Film Making

Code: BAFGV601

Paper Type: Theory, Core (C13)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Explain the difference between Preproduction of 2d & 3D animation

CO2: Explain the difference between production of 2d & 3D animation

CO3: Explain the difference between postproduction of 2d & 3D animation

CO4: Demonstrate the workflow of pipeline

MODULE	CONTENT	Teaching Hours
1	Detail analysis of Preproduction Stages In 2D & 3D Animation	10
2	Detail analysis of Production Stages In 2D & 3D Animation	10
3	Detail analysis of Post Production Stages In 2D & 3D Animation	10
4	Execution of the workflow	10

SUGGESTED READINGS:

- 3D Animation Essentials by Andy Beane
- The Animators Survival Kit by Richard Williams

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Vfx & Compositing

Code: BAFGV602

Paper Type: Theory, Core (C14)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Analyze the history of compositing

CO2: Become familiar with the toolbar

CO3: Explain Compositing with live action

CO4: Demonstrate Multipass rendering

CO5: Explain the use of fluid effects, cloth and fur in compositing

CO6: Explain the use of rotoscoping and green screen in compositing

CO7: Develop skills of adding vfx into a shot

CO8: Explain the role of dynamic effects in compositing

MODULE	CONTENT	Teaching Hours
1	Compositing Brief history of compositing Introduction and Toolsets Deconstructing digital images and the rendering process Fundamental 3D and digital compositing principles Comparing the Nuke and After Effects compositing engines Pre-multiplied vs. non-pre-multiplied images	6
2	Compositing 3D with Live Action Setup and matching of 3D lighting to a background plate Exporting multiple render passes and compositing for shadows Image based lighting and reflections Realistic materials Ideal specifications for diffuse texturing Contrasting game asset texturing to cinematic asset texturing	6
3	Multi-pass Rendering Using render layers to optimize multi-pass rendering Multi layer compositing principles and techniques Comparing basic effects and layered composite workflows Diffuse, color, shadows, reflections, and occlusion	6
4	Film, Video, Matting, Chroma Keying and Rotoscoping Deconstructing film, video, and digital video standards Aspect ratios, file formats, and frame rates Types of mattes and matting techniques Chroma Keying Making and mattes for 2D elements vs. 3D elements Rotoscoping and wire removal	6
5	VFX Creating fire, rain, lightning using vfx Role of Vfx in compositing	6

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

6	Matting Techniques for Particle Systems Fundamentals for dynamic motion and animation systems Setting up mattes as image sequences Applying mattes to particle objects	6
7	Dynamic Effects Intermediate dynamic motion and animation systems Rigid body systems Simulating complex physical phenomenon Managing complexity for efficient feedback	4

SUGGESTED READINGS:

- Steve Wright, “Digital Compositing for Film and Video”, Focal Press, 2010.
- Lee Lanier, “Professional Digital Compositing: Essential Tools and Techniques”, Wiley Publishing Inc., 2010
- Ron Ganbar, “Nuke 101: Professional Compositing and Visual Effects”, Peachpit Press; Second Edition, 2014
- Steve Wright, “Compositing Visual Effects”, Focal Press; Second Edition, 2011.

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Creating a 3D Animation short film

Code: BAFGV691

Paper Type: Practical, Core (CP13)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Implement practical application of the theories in animation film making

CO2: Develop an animation movie

MODULE	CONTENT	Teaching Hours
1	Create a 3D animation movie (2 minute maximum) Process to be followed : Preproduction, Production, Post Production	20

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Vfx & Compositing

Code: BAFGV692

Paper Type: Practical, Core (CP14)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Become Familiar with softwares like After effects, Nuke, Fusion

CO2: Implement green screen removal with separate background

CO3: Implement 2d & 3D tracking

CO4: Implement skills of rotoscopy

CO5: Do Color Correction

CO6: Develop Visual effects

CO7: Do simulation and wrinkle effect

CO8: Developing a film intro with vfx

MODULE	CONTENT	Teaching Hours
1	Chroma Keying	2
2	2D & 3D Tracking	2
3	Rotoscopy a footage	2
4	Creating vfx like fire,rain on a shot	2
5	Color Correction of a shot	2
6	Creating liquid simulation	3
7	Create cloth wrinkle effect	3
8	Create a film intro (20 seconds)	4

SUGGESTED READINGS:

- Steve Wright, “Digital Compositing for Film and Video”, Focal Press, 2010.
- Lee Lanier, “Professional Digital Compositing: Essential Tools and Techniques”, Wiley Publishing Inc., 2010
- Ron Ganbar, “Nuke 101: Professional Compositing and Visual Effects”, Peachpit Press; Second Edition, 2014
- Steve Wright, “Compositing Visual Effects”, Focal Press; Second Edition, 2011.

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Introduction to Motion Graphic Design

Code: BAFGV603 A

Paper Type: Theory, Discipline Specific Elective (DSE3) Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to

CO1: Analyze history of motion graphics

CO2: Demonstrate the concept of creating style frames and design boards for motion graphics

CO3: Demonstrate typographic principles

CO4: Implement motion path and interpolation in after effects

CO5: Analyze the importance of using plugin in after effects

CO6: Demonstrate exact rendering settings and uses for motion graphic design

MODULE	CONTENT	Teaching Hours
1	History of Motion Graphics	2
2	Conceptualization	10
3	Style Frames and Design Boards	10
4	Principles of Motion Design	2
5	Cinematic Conventions and Typographic Principles	4
6	Advanced topics in After Effects: Motion paths and interpolation	4
7	Plugins for Motion graphics	4
8	Rendering: Render queue panel. Render settings	4

SUGGESTED READINGS:

- Creating Motion Graphics with After effects : Trish and Chris Meyer
- Exploring Motion Graphics : Rebecca Gallagher

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: Introduction to Digital Sculpting

Code: BAFGV603B

Paper Type: Theory, Discipline Specific Elective (DSE3)

Contacts Hours / Week: 4L

Credits: 4

On completion of the course, students will be able to **CO1:** Analyze history of digital sculpting

CO2: Demonstrate sculpting methods

CO3: Analyze methods of sculpting organic characters

CO4: Analyze methods of sculpting inorganic characters

CO5: Demonstrate polypainting and its uses in digital sculpting

MODULE	CONTENT	Teaching Hours
1	Digital Sculpting :Introduction	2
2	Research & Development	10
3	Body Sculpting Base Mesh Approaches Basic Body Dynamesh Masks, Polygroups, and Selections	8
4	Character Design I Hard Surface Elements Cloth Approaches Alphas and Detailing	8
5	Character Design II Developing general Shape Refining Shape	8
6	Polypainting and its application	4

SUGGESTED READINGS:

- ZBrush Digital Sculpting Human Anatomy by Scott Spencer
- Digital Sculpting with Mudbox: Essential Tools and Techniques for Artists by Mike de la Flor

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)

Total Credit: 140

Paper: DISSERTATION + PROJECT

Code: BAFGV681

Paper Type: Theory, Discipline Specific Elective (DSE4)

Contacts Hours / Week: 6L

Credits: 4+2

MODULE	CONTENT	Teaching Hours
1	DISSERTATION + PROJECT	40+20

Paper: Video making using Motion Graphics

Code: BAFGV693A

Paper Type: Practical, Discipline Specific Elective Practical (DSEP3)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Become familiar with softwares like After effects, Flash

CO2: Implement raw ideas to make a creative

CO3: Create presentation or digital content

CO4: Develop a motion graphic video

MODULE	CONTENT	Teaching Hours
1	Create a motion graphic video of 5 minutes using after effects	20

SUGGESTED READINGS:

- Creating Motion Graphics with After effects : Trish and Chris Meyer
- Exploring Motion Graphics : Rebecca Gallagher

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB
Syllabus for B. Sc (H) in Animation, Film Making, Graphics & VFX (CBCS)(In-house)
(Effective from Admission Session 2020 -2021)
Total Credit: 140

Paper: Digital Sculpting Lab

Code: BAFGV693B

Paper Type: Practical, Discipline Specific Elective Practical (DSEP3)

Contacts Hours / Week: 2P

Credits: 2

On completion of the course, students will be able to

CO1: Do sculpting in Autodesk Mudbox, Zbrush

CO2: Sculpt realistic characters for game and animation

CO3: Sculpt assets and props for game and animation

CO4: Create Demo reel on digital sculpting

MODULE	CONTENT	Teaching Hours
1	Sculpt a realistic man/woman model	10
2	Create weapons & cloth of a warrior	10

SUGGESTED READINGS:

- ZBrush Digital Sculpting Human Anatomy by Scott Spencer
- Digital Sculpting with Mudbox: Essential Tools and Techniques for Artists by Mike de la Flor