

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Sc. In Animation & Film Making (In-house)
(Effective for Academic Session 2019-2020)

Duration: 3 Years - 6 semesters

Eligibility: 10+2 in any stream

Total marks: 4800

Theory: 1000

Seminars & Practical: 3800

Curriculum Structure

1st Semester

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 101	Foundation Of Animation	100	2	0	2	4	3
BAFM 102	Introduction to 3D	100	2	0	2	4	3
BAFM 181	Texturing and Digital Art	100	0	2	4	6	3
BAFM 182	Lighting & Rendering In Maya	100	0	2	4	6	3
BAFM 191	Concept Development	200	0	2	6	8	4
BAFM 192	Art of motion and Storyboard	200	0	2	6	8	4
	TOTAL	800	4	8	24	36	20

2nd Semester

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 201	Basic Animation	100	2	0	2	4	3
BAFM 202	Introduction character Animation	100	2	0	2	4	3
BAFM 281	Basic Body Machines	100	0	2	4	6	3
BAFM 282	Advance Body Machines	100	0	2	4	6	3
BAFM 291	Character Performance in Animation	200	0	2	6	8	4
BAFM 292	Acting For Animation	200	0	2	6	8	4
	TOTAL	800	4	8	24	36	20

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3rd Semester

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 301	Practical Assignment Part 1 - Low poly BG Modelling - Part 1	100	2	0	2	4	3
BAFM 302	Practical Assignment Part 1 - Low poly BG Modelling - Part 2	100	2	0	2	4	3
BAFM 381	Practical Assignment Part 1 - 3D Game Assets Model - Part 1	100	0	2	4	6	3
BAFM 382	Practical Assignment Part 1 - 3D Game Assets Model - Part 2	100	0	2	4	6	3
BAFM 391	Practical Assignment Part 1 - Animate Two characters fight scene - Part 1	200	0	2	6	8	4
BAFM 392	Practical Assignment Part 1 - Animate Two characters fight scene - Part 2	200	0	2	6	8	4
	TOTAL	800	4	8	24	36	20

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4th Semester

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 401	Practical Assignment Part 2 - Animate Two character Acting in different camera angle - Part 1	100	2	0	2	4	3
BAFM 402	Practical Assignment Part 2 - Animate Two character Acting in different camera angle - Part 2	100	2	0	2	4	3
BAFM 481	Practical Assignment Part 2 - Basic Editing in premier and after effects	100	0	2	4	6	3
BAFM 482	Practical Assignment Part 2 - Create a 3D layout from given Animatics	100	0	2	4	6	3
BAFM 491	Practical Assignment Part 2 - Animate character Stand to run	200	0	2	6	8	4
BAFM 492	Practical Assignment Part 2 - Animate character Staircase Ascending & Descending	200	0	2	6	8	4
	TOTAL	800	4	8	24	36	20

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5th Semester

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 501	Practical Assignment Part 3 - Create a story and narrate the story with wall storyboard	100	2	2	2	6	4
BAFM 581	Practical Assignment Part 3 - Animate a dance movement from References	200	0	2	6	8	4
BAFM 591	Practical Assignment Part 3 - Animate single character martial art stick movement - Part 1	200	0	2	8	10	6
BAFM 592	Practical Assignment Part 3 - Animate single character martial art stick movement - Part 2	300	0	4	8	12	6
	TOTAL	800	2	10	24	36	20

6th Semester

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 601	Design research	100	2	2	2	6	4
BAFM 681	Research project	100	0	2	6	8	4
BAFM 691	Demo-real & Portfolio	200	0	2	6	8	4
BAFM 692	Final Project	400	0	6	10	16	8
	TOTAL	800	2	12	24	38	20

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FIRST SEMESTER

BAFM – 101 Foundation of Animation

(3 credit)

(100 Marks) Lecture hrs 20 Project 20

Module1 - History of Animation

Introduction to animation. What is animation. A brief history of Animation. Showcase and case study. Evaluation of animation. Show different types of animation short film. Show case of Indian original production. How Indian animation grows.

Module 2 – Different Method of Animation

Medium of Animation, different of types and style of animation. Difference between 2d classical animations, 3d animation- video show. 3D animation short film showcase.

Module 3 - Basic drawing-On paper

Basic shape study, Structural definition & strokes study. How to hold pencil. Different types of drawing, drawing from observation/reference. Stick-man drawing from reference. Box shape and cylindrical drawing from reference.

Module 4 - Perspective and life sketching-On Paper

Different types of perspective & proportion study. Eye label and vanishing point introduction. 1 point perspective. 1 point scene and character study. 2 point perspective. 1 point scene and character study. 3 point perspective. 1 point scene and character study.

Module 5 - Life Sketching -Figure study-On paper

Life sketching with human figure study from life study/reference images (Real Human Pose). Pose study from given reference - principles of pose, line of action, contrast, rhythm, silhouette, flow, action & energy, emotion etc. 20 volume drawing pose study from real human picture reference. 20 pose study from cartoon pose reference. Copy exact pose from given reference (real and cartoon). Study of of good pose & bad pose.

Suggested Readings

1. Disney Animation : The Illusion of Life by Frank Thomas and Ollie Johnston
2. The Encyclopedia of Animation Techniques by Richard
3. Basic Drawing Hardcover by Robin Capon
4. Perspective Made Easy by Ernest R. Norling
5. Figure Study Made Easy by Aditya Chari

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BAFM – 102 Introduction to 3D

(3 credit)

(100 Marks) Lecture hrs 20

Project 20

Module 1 - Definition of dimension, difference between 2D and 3D

Definition of axis, How to study dimension

Module 2 - Introduction to Maya

Maya tools and basic setting, Introduction to modelling

Module 3 - Basic 3D Modelling, Hard surface Modelling

Basic Object Modelling, Car Modelling, Weapons Modelling

Module 4 - BG Modelling

Exterior BG modelling, cartoon/realistic

Suggested Readings

1. Geometry of design, Revised and Updated (Design Briefs) by Kimberly Elam
2. Autodesk Maya Basics Guide by Kelly Murdock
3. Autodesk Maya - An Introduction To 3D Modeling by 3dExtrude Tutorial

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BAFM – 181 Texturing and Digital Art

(3 Credit)

(100 Marks) Lecture hrs 10 Project hrs 30

Module 1 - Introduction to Photo-shop

Photo-shop tools and setting. Different brush presets and digital painting for different texture and material.

Module 2 - Texturing in Maya

Maya texturing, UV unwrap. Texture 3D model which has done in modelling class.

Suggested Readings

1. Digital Texturing and Painting by Owen Demers

BAFM – 182 Lighting & Rendering in Maya

(3 Credit)

(100 Marks) Lecture hrs 10 Project hrs 30

Module 1 - Introduction to Maya Lighting

Relationship and difference between CG light and Real Light. What is Shader. Different types of shader making. Different types of CG lighting in Maya - ambient light, spot light, direction light, point light, area light

Module 2 - Rendering

Understanding of rendering. Different types of render from Maya - batch render, software render, mental ray. Different types of render passes and how to adjust it in photo shop.

Suggested Reading

1. Digital Lighting and Rendering by Jeremy Birn

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BAFM – 191 Concept Development

(4 credit)

(200 Marks) Lecture hrs 20

Project hrs60

Module 1 - Character Design

What is character, and how to develop character. Different technique of digital character design. Basic shape study - different types of shape, psychology of basic shapes like square, circle, oval, box shapes, how shapes fit with the character.

Module 2 - Character Model sheet

Character turn around and different pose model sheet. Facial Expression study and Model sheet making.

Suggested Readings

1. Animation : From Concept to Production by Hannes Rall

BAFM – 192 Art of motion and storyboard

(4 credit)

(200 Marks) Lecture hrs 20

Project hrs 60

Module 1 - Story Boarding

Speed sketching- 3min sketching with charcoal. Different camera angle study, Shot division and scene making. Process of Storyboard making and panel study.

Module 2 - Art of motion

Introduction to digital Animatics. How to Create Animatics. Basic of editing and sound editing in Adobe Premier.

Suggested Reading

1. Storyboards: Motion in Art by Mar A Simon

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SECOND SEMESTER

BAFM – 201 Basics of Animation

(3 credit)

(100 Marks) Lecture hrs 20

Project 20

Module1 - Introduction to 3D animation (Maya)

Animation tools and settings. Animation Principles. Rolling ball and bouncing ball, different weight object study. Pendulum Motion, Ball with antenna. Bouncing ball obstacle course.

Suggested Readings

1. The Animator's Survival Kit by Richard Williams

BAFM – 202 Introduction to character Animation

(3 credit)

(100 Marks) Lecture hrs 20

Project hrs 20

Module 1 - Character Setup

Basic Rigging concept, How to do bone setup, IK, FK. Basic skinning and facial setup study. Pose study, 3d rigg character pose making 30 pose,

Module 2 - Ball Character Walk Cycle

Ball walk cycle without hand. Ball character jump, without hand.

Suggested Reading

1. Cartoon Animation by Preston Blair

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BAFM – 281 Basic body Mechanics

(3 credit)

(100 Marks) Lecture hrs 10 Project hrs 30

Module1 - Character Body Mechanics

Make 30 poses using 3d rig character. Biped human walk cycle. Biped human run cycle. Biped human Jump.

Suggested Reading

1. The Male and Female Figure in Motion by Eadward Muybridge
2. The Animator's Survival Kit by Richard Williams

BAFM – 282 Advance body Mechanics

(3 credit)

(100 Marks) Lecture hrs 10 Project hrs 30

Module 1 - Relationship with Weight

How a character lifts weight. How a character pull a heavy box. How to kick a heavy object.

Suggested Reading

1. The Male and Female Figure in Motion by Eadward Muybridge
2. The Animator's Survival Kit by Richard Williams
3. Timing for Animation by Harold Whitaker , John Halas

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BAFM – 291 Character Performance using Animation (4 credit)

(200 Marks) Lecture hrs 20 Project hrs 60

Module1 - Character Performance

How to create action shot from animatics (3 seconds). Two character fight shot from video reference (5 seconds). Dialogue acting in close up shot (5 seconds).

Suggested Readings

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

BAFM – 292 Acting for Animation (4 Credit)

(200 Marks) Lecture hrs 20 Project hrs 60

Module1 - Acting

How to create dialogue acting shot from video reference (10 seconds). How to create dialogue acting shot from own acting reference (10 seconds)

Suggested Reading

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

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THIRD SEMESTER

BAFM – 301: Low poly BG Modelling - Part 1 **(3 credit)**

(100 Marks) Lecture hrs 20 Project hrs 20

Module1

Create a 3D BG model from concept reference
Final out put must be full textured and rendered image

BAFM – 302: Low poly BG Modelling - Part 2 **(3 credit)**

(100 Marks) Lecture hrs 20 Project hrs 20

Module1

Create a 3D BG model from concept reference
Final out put must be full textured and rendered image

BAFM – 381: 3D Game Assets Model - Part 1 **(3 credit)**

(100 Marks) Lecture hrs 10 Project hrs 30

Module1

Create 3D assets like, Gun, Axe, Space ship, Futuristic Gun from concept art reference
Final out put must be full textured and rendered 15 sec.video presentation

BAFM – 382: 3D Game Assets Model - Part 2 **(3 credit)**

(100 Marks) Lecture hrs 10 Project hrs 30

Module1

Create 3D assets like, Gun, Axe, Space ship, Futuristic Gun from concept art reference
Add basic rig on 3D Asset
Final out put must be full textured and rendered 15 sec.video presentation

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BAFM – 391: Animate Two characters fight scene - Part 1 **(4 credit)**

(100 Marks) Lecture hrs 20 Project hrs 60

Module1

Duration: 10 sec.from video reference

Use proper Blocking and final animation. Shot Breakdown is must

BAFM – 392: Animate Two characters fight scene - Part 2 **(4 credit)**

(100 Marks) Lecture hrs 20 Project hrs 60

Module1

Duration: 10 sec.from video reference

Use proper Blocking and final animation. Shot Breakdown is must

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FORTH SEMESTER

BAFM – 401: Animate Two character Acting in different camera angle - Part 1
(3 credit)

(100 Marks) Lecture hrs 20 Project hrs 20

Module1

Duration: 10 sec.

Reference will be only audio dialogue. Shot Breakdown is must

BAFM – 402: Animate Two character Acting in different camera angle - Part 2
(3 credit)

(100 Marks) Lecture hrs 20 Project hrs 20

Module1

Duration: 10 sec.

Reference will be only audio dialogue. Shot Breakdown is must

BAFM – 481: Basic Editing in premier and after effects **(3 credit)**

(100 Marks) Lecture hrs 10 Project hrs 30

Module1

3d pass render and editing using premier & After effects

BAFM – 482: Create a 3D layout from given Animatics **(3 credit)**

(100 Marks) Lecture hrs 10 Project hrs 30

Module1

Duration: 30sec

Use storyboard for different camera angle and shots and Character position, and create a 3D layout exactly form given animatics

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BAFM – 491: Animate character Stand to run

(4 credit)

(100 Marks) Lecture hrs 20 Project hrs 60

Module1

Animate character Stand to walk
Animate character Stand to run

**BAFM – 492: Animate character Staircase Ascending & Descending
credit)**

(4

(100 Marks) Lecture hrs 20 Project hrs 60

Module1

Animate character Ascending
Animate character Descending

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FIFTH SEMESTER

**BAFM – 501: Create a story and narrate the story with wall storyboard
(4 credit)**

(100 Marks) Lecture hrs 20 Project hrs 20

Module1

Group Project: max 5 people

Output can be hand drawn or Digital

**BAFM – 581: Animate a dance movement from References
(4 credit)**

(100 Marks) Project hrs 120

Module1

Part 1 - Character blocking and proper posing-Duration-10 sec

Part 2 - Finalize the animation and submit output-Duration-10 sec

**BAFM – 591: Animate single character martial art stick movement - Part 1
(6 credit)**

(200 Marks) Lecture hrs 20 Project hrs 80

Module1

Duration:6sec. Blocking

**BAFM – 592: Animate single character martial art stick movement - Part 2
(6 credit)**

(300 Marks) Lecture hrs 20 Project hrs 80

Module1

Duration:6sec. Final animation.

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SIXTH SEMESTER

**BAFM – 601: Create a character Sad/Proud Walk & Sneak Walk
(4 credit)**

(100 Marks) Lecture hrs 30 Project hrs 10

Module1

Create an attitude walk - sad/Proud
Create an attitude walk - sneak walk

BAFM – 681: Create a single character Acting Shot (4 credit)

(100 Marks) Lecture hrs 20 Project hrs 60

Module1

Create a single action shot of 10 seconds with reference to audio clip

**BAFM – 691: Animate single character martial art stick movement - Part 1
(4 credit)**

(200 Marks) Project hrs 60

Module1

Digital Portfolio to show case work

BAFM – 692: Final Design Project (8 credit)

(400 Marks) Guided Project 2 months

Module1

Design Campaign/Final Film