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

Duration: 3 Years - 6 semesters with 2 options for specialization and one industry internship.
Eligibility: 10+2 in any stream
Total marks: 4800
Theory: 600
Practical: 4200
Specialization option: Animation Film Making.

1st Year - Semester 1

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 101	Introduction to Design	100	2	0	2	4	3
BAFM 102	Design Methodology & Process	100	2	0	2	4	3
BAFM 181	Design fundamentals and visual literacy	100	0	2	4	6	3
BAFM 182	Drawing fundamentals for Graphic Representation	100	0	2	4	6	3
BAFM 191	Digital Design 1 (InDesign, Illustrator & Photoshop)	200	0	2	6	8	4
BAFM 192	Design Project 1 (Typographic Design)	200	0	2	6	8	4
	Total	**800**	**4**	**8**	**24**	**36**	**20**

1st Year - Semester 2

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 201	Foundation Of Animation	100	2	0	2	4	3
BAFM 202	Introduction to 3D Modelling	100	2	0	2	4	3
BAFM 281	Story Board & Animatic	100	0	2	4	6	3
BAFM 282	Texturing	100	0	2	4	6	3
BAFM 291	Lighting & Rendering In Maya	200	0	2	6	8	4
BAFM 292	Compositing	200	0	2	6	8	4
	Total	**800**	**4**	**8**	**24**	**36**	**20**

2nd Year - Semester 3

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 301	Basics of 3D Animation	100	2	0	2	4	3
BAFM 302	Basic Rigging	100	2	0	2	4	3
BAFM 381	Advance Rigging	100	0	2	4	6	3
BAFM 382	Body Mechanics	100	0	2	4	6	3
BAFM 391	Advance Body Mechanics	200	0	2	6	8	4
BAFM 392	Acting for Animation	200	0	2	6	8	4
	Total	800	4	8	24	36	20

2nd Year - Semester 4

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 481	How to plan an animation live project	100	0	2	4	6	3
BAFM 482	Analyse story/concept and end platform of the animation project	100	0	2	4	6	3
BAFM 491	Practical guideline for animation in live project	300	0	4	10	14	7
BAFM 492	Final presentation of animation live project	300	0	4	10	14	7
	Total	800	0	12	28	40	20

2nd Year - Semester 5

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 581	How to plan an animation live project	100	0	2	4	6	3
BAFM 582	Analyse story/concept and end platform of the animation project	100	0	2	4	6	3
BAFM 591	Practical guideline for animation in live project	300	0	4	10	14	7
BAFM 592	Final presentation of animation live project	300	0	4	10	14	7
	Total	800	0	12	28	40	20

2nd Year - Semester 6

Code No.	Subject Name	Marks	L	T	P	To	C
BAFM 681	How to plan an animation live project	100	0	2	4	6	3
BAFM 682	Analyse story/concept and end platform of the animation project	100	0	2	4	6	3
BAFM 683	Practical guideline for animation in live project	300	0	4	10	14	7
BAFM 684	Final presentation of animation live project	300	0	4	10	14	7
	Total	800	0	12	28	40	20

Paper Name - Introduction to Design
Paper Code – BAFM 101

Course Content:
1. History and evolution of Design
2. Understanding the historical perspective of design
3. Design Basics- Elements and principles of Design
4. Relational interaction of elements and principles in design implementation
5. Layout basics- Alignment and hierarchy of order.
6. Gestalt laws of organization

Suggested Readings
1. Graphic design history by Steven Heller & Georgetta Balance
2. Design Dictionary-Perspectives on Design Terminology by Michael Erlhoff and Tim Marshall
3. A History of Graphic Design, Meggs, Philip; John Wiley & Sons
4. Elements of Design, by Gail Greet Hannah, Princeton Architectural Press
5. Graphic design manual, Principles and Practice. Armin Hoffman; Arthur Niggli Publisher, Multilingual edition.

Paper Name - Design Methodology & Process
Paper Code – BAFM 102

Course Content:
1. Design Methodology and process
2. Introduction to basic design theories in the context of design
3. Need finding, Affinity mapping
4. Introduction to ideation and conceptualization
5. Mind-mapping, idea development and solution exploration

Suggested Readings:
1. Graphic design manual, Principles and Practice. Armin Hoffman; Arthur Niggli Publisher, Multilingual edition.
2. The Design Process by Karl Aspelund
3. The Design Method by David Airey
4. 100 Design methods by Vijay Kumar
5. Lateral thinking by Edward DeBono
6. Mind mapping- Tony Buzun
7. How to Think Like a Great Graphic Designer by Debbie Millman with a foreword by Steven Heller
8. Design Paradigm- The sourcebook for creative visualization by Warren K. Wake
9. How to Think Like a Great Graphic Designer by Debbie Millman with a foreword by Steven Heller

Paper Name - Design fundamentals and visual literacy
Paper Code – BAFM 181

Course Content:
1. Introduction to visual cognition and Design cognition
2. The process of visual thinking for graphic communication

Suggested Readings:
1. Experiences in visual thinking by Robert H McKin
2. Perception & Imaging by Richard D Zakia. Focal Press
3. Visual Grammar (Design Briefs)(Paperback) by Christian Leborg
4. Visual thinking for Design by Colin Ware
5. Visual studies A foundation for artists and designers by Frank M Young
6. Visual design fundamentals- A digital approach by Alan Hashimoto and Mike Clayton
7. Language of Vision, Gyorgy Kepes; Dover Publications Inc.
8. Cognition & the visual arts by Robert L Solo

Paper Name - Drawing Fundamentals for Graphic representation
Paper Code – BAFM 182

Course Content:
1. Drawing fundamentals, materials and processes
2. Basics of perspective, scale, light and Composition
3. Understanding tools and techniques for graphic representation
4. Project on: Representational visual making for different mediums

Suggested Readings:
1. Design Drawing by Francis D K Ching, Wiley India
2. Drawing for Graphic Design, by Timothy Samara. Rockport
3. Basic Design: the dynamics of visual form, by Maurice de Sausmarez. A&C Black, Publishers ltd
   Perception & Imaging by Richard D Zakia. Focal Press

Paper Name - Digital Design 1 (InDesign, Illustrator & Photoshop)
Paper Code – BAFM 191

Course Content:
1. Illustrator fundamentals: Introduction of interface, tools and techniques for graphic design
2. InDesign fundamentals: Introduction of interface, tools and techniques for graphic design
3. Photoshop fundamentals: Introduction of interface, menu and tool box, Image manipulation

Suggested Readings:
1. Fundamentals of Computers- V. Rajaraman
2. Computer Fundamentals – R.S. Salaria, Khanna Publishing House (AICTE Recommended Suggested Book-2018)
3. Adobe Illustrator CS5 One-on-One by Deke McClelland
4. Adobe Indesign CS3 – Deke McClelland
5. Adobe Photoshop Bible.
6. The Adobe Photoshop CS6 Book for Digital Photographers by Scott Kelby
7. Comdex desktop publishing course kit - Gupta, Vikas

Paper Name - Design Project 1 (Typographic Design)
Paper Code – BAFM 192

Course Content:
1. Evolution and development of typography. Types of Letterforms its Anatomy, structure and construction.
2. Fundamentals of typographic Design. Type perception and emotion its use in Design. Layout and composition in communication design.
3. Designing with Type- Form, function and Communication. Static and moving types.

Suggested Readings:
1. Design Principles And Problems (Paperback) by Paul Zelanski, Mary Pat Fisher
2. Making and Breaking the Grid: A Graphic Design Layout Workshop by Timothy Samara
3. Type Play - Heller, Steven and Anderson, Gail
4. Typography, a manual of Design, by Ruder, Emil; Verlag Niggli AG
5. The elements of typographic Style by Bringhurst, Robert; Hartley and Marks
6. Manual of typography by McLean, Ruari; Thames and Hudson
7. Expressive Typography. The word as image, by Elam, Kimberly; John Wiley & Sons Inc
8. Mastering Type: The Essential Guide to Typography for Print and Web Design by Denise Bosler
9. Type in the Digital Environment: Typography for Web, Video, Broadcast, Game and Animation1st Edition by Patric King & James Hernandez

Paper Name - Foundation of Animation
Paper Code – BAFM 201

Course Content:
1. History of Animation
2. Basic drawing-On paper
3. Perspective and life sketching-On Paper
4. Life Sketching -Figure study-On paper

Suggested Readings:
Multimedia & Animation – V.K. Jain, Khanna Publishing House (AICTE Recommended Suggested Book – 2018)

Paper Name - Introduction to 3D Modelling
Paper Code – BAFM 202

Course Content:
1. Definition of dimension. Difference between 2D and 3D
2. Introduction to Maya
3. BG Modelling

Paper Name - Story Board & Animatic
Paper Code – BAFM 281

Course Content:
1. Concept Design & Layout Making
2. How to read Story Board
3. Study of different types of Camera Angle
4. How to design different shots
5. Story Board Making
6. Introduction to Animatic
7. Difference between Story Board & Animatic
8. Design your own Animatic (10 seconds)
9. Basic Animatic Editing & Sound Design

Paper Name - Texturing
Paper Code – BAFM 282

Course Content:
1. Introduction to Photoshop - Photoshop tools and setting. Different brush presets and digital painting for different texture and material.
2. Texturing in Maya - Maya texturing. UV unwrap. Texture 3D models which were created in modelling class.

Paper Name - Lighting & Rendering In Maya
Paper Code – BAFM 291

Course Content:
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.
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 Photoshop.

Paper Name - Compositing
Paper Code – BAFM 292

Course Content:
1. CG Compositing in After Effects/Nuke.
2. 3D Multi Pass Compositing, Color Correction and Effects.

Paper Name - Basics of 3D Animation
Paper Code – BAFM 301

Course Content:
1. Animation tools and settings
2. Animation Principles
3. Rolling ball and different weight ball study
4. Pendulum Motion, Ball with antenna
5. Bouncing ball obstacle course

Suggested Readings:
Multimedia & Animation – V.K. Jain, Khanna Publishing House (AICTE Recommended Suggested Book – 2018)

Paper Name - Basic Rigging
Paper Code – BAFM 302

Course Content:
1. Basic Bipped Rigging
2. Mechanical Rigging (Car Rigging)

Paper Name - Advance Rigging
Paper Code – BAFM 381

Course Content:
1. Basic Rigging concept. How to do bone setup, Ik, FK
2. Full Body Character Rigging & Skinning
3. Blend Shape study & Human Facial Rigging

Paper Name - Body Mechanics
Paper Code – BAFM 382

Course Content:
1. Make 30 poses using 3d rigg character
2. Biped human walk cycle
3. Biped human run cycle
4. Biped human Jump

Paper Name - Advance Body Mechanics
Paper Code – BAFM 391

<u>**Course Content:**</u>
1. Relationship with Weight - How a character lifts weight. How a character push a heavy box.
2. Character Performance - How to create action shot from Animatic (3 seconds). Two character fight shot from video reference (5 seconds).

Paper Name - Acting for Animation
Paper Code – BAFM 392

<u>**Course Content:**</u>
1. How to create dialogue acting shot from video reference (10 seconds).
2. How to create dialogue acting shot from own acting reference (10 seconds)

Paper Name - How to plan an animation live project
Paper Code – BAFM 481

Course Content:
    Student will learn how to plan an animation live project.

Paper Name - Analyse story/concept and end platform of the animation project
Paper Code – BAFM 482

Course Content:
    Student will learn how to analyze story/concept and end platform of the animation project.

Paper Name - Practical guideline for animation in live project
Paper Code – BAFM 491

Course Content:
    Guidelines for doing animation in live project will be imparted to student.

Paper Name - Final presentation of animation live project
Paper Code – BAFM 492

Course Content:
    Candidate need to make final presentation of animation live project.

Paper Name - How to plan an animation live project
Paper Code – BAFM 581

Course Content:
    Student will learn how to plan an animation live project.

Paper Name - Analyse story/concept and end platform of the animation project
Paper Code – BAFM 582

Course Content:
    Student will learn how to analyze story/concept and end platform of the animation project.

Paper Name - Practical guideline for animation in live project
Paper Code – BAFM 591

Course Content:
    Guidelines for doing animation in live project will be imparted to student.

Paper Name - Final presentation of animation live project
Paper Code – BAFM 592

Course Content:
    Candidate need to make final presentation of animation live project.

Paper Name - How to plan an animation live project
Paper Code – BAFM 681

Course Content:
    Student will learn how to plan an animation live project.

Paper Name - Analyse story/concept and end platform of the animation project
Paper Code – BAFM 682

Course Content:
    Student will learn how to analyze story/concept and end platform of the animation project.

Paper Name - Practical guideline for animation in live project
Paper Code – BAFM 683

Course Content:
    Guidelines for doing animation in live project will be imparted to student.

Paper Name - Final presentation of animation live project
Paper Code – BAFM 684

Course Content:
    Candidate need to make final presentation of animation live project.