



Fergusson College (Autonomous) Pune

Learning Outcomes-Based Curriculum

for F. Y. B.Sc. Animation

With effect from June 2019

Program Structure

Semester	Course Code	Course Title	Course	No. of credits
I	ANI1101	Introduction to Fundamentals of Computer	TCore-1	3
	ANI1102	Introduction to Mass Media	TCore-2	3
	ANI1103	Basics of Animation	TCore-3	3
	ANI1104	Animation Practical - I	PCore-1	4
	ANI1105	Animation Practical - II	PCore-2	4
	ANI1106	Animation Practical - III	PCore-3	4
	ANI1107	Animation Practical - IV	PCore-4	4
II	ANI1201	Script Writing	TCore-4	3
	ANI1202	Visual Communication	TCore-5	3
	ANI1203	Introduction to Animation Techniques	TCore-6	3
	ANI1204	Animation Practical - V	PCore-5	4
	ANI1205	Animation Practical - VI	PCore-6	4
	ANI1206	Animation Practical - VII	PCore-7	4
	ANI1207	Animation Practical - VIII	PCore-8	4

Semester	Course Code	Course Title	Course	No. of credits
III	ANI2301	Technical English I	TCore-1	4
	ANI2302	Production Process	TCore-2	4
	ANI2303	3D Modelling, Texture and Lighting (Maya)	TCore-3	4
	ANI2304	Pre-Production	PCore-1	4
	ANI2305	Page Design (In-design)	PCore-2	4
	ANI2306	Animation Practical in 3D	PCore-3	4
IV	ANI2401	Technical English II	TCore-4	4
	ANI2402	3D Animation and Rigging	TCore-5	4
	ANI2403	Compositing and Motion Graphics	TCore-6	4
	ANI2404	Introduction to 3D Animation (Maya)	PCore-5	4
	ANI2405	Introduction to 3D Rigging (Maya)	PCore-6	4
	ANI2406	Compositing and Motion Graphics	PCore-7	4

Semester	Course Code	Course Title	Course	No. of credits
V	ANI3501	IPR and Cyber Security	TCore-1	4
	ANI3502	Web Design	TCore-2	4
	ANI3503	3D (Blender)	TCore-3	4
	ANI3504	Practical in 3D and Sculpting	PCore-1	4
	ANI3505	Practical in Web Design	PCore-2	4
	ANI3506	Practical in VFX and Dynamics (Natron)	PCore-3	6
VI	ANI3601	Game Design	TCore-4	4
	ANI3602	Post Production	TCore-5	4
	ANI3603	User Interface Design	TCore-6	4
	ANI3604	Digital Editing and UI Design	PCore-5	4
	ANI3605	Game Production	PCore-6	4
	ANI3606	Internship/Project	PCore-7	6

Programme Outcomes

PO1	Design solutions: Students will possess strong design solutions to create or edit complex structures for designing. The design approach will be simple but powerful and reusable.
PO2	Problem Analysis:- Students will possess a strong problem analysis and solving abilities. As the course is designed to increase the thinking abilities of students, the students can very well identify and solve problems with animation and graphics.
PO3	Experimental Approach Students will be trained to perform an experiment procedure to enhance the performance of work. Experimental procedure to enhance the performance of work. Experimental work will be analyzed thoroughly before it could be implemented in routine procedure.
PO4	Effective communications As the students are trained soft skills, they will have no problems in communications and thus can have an effective communication.
PO5	Social Interaction Students are well versed with web and its use, so they can broaden their influence by using social media. Students will have a good and strong social status.
PO6	Constant learning approach. Students will have a strong knowledge about the industry and even will be open minded for new thoughts. By learning the history trends and current trends, students can become good entrepreneurs.

	PO1	PO2	PO3	PO4	PO5	PO6
SEM 1						
ANI1101	X					
ANI1102		X			X	
ANI1103		X	X	X	X	
ANI1104			X			
ANI1105		X	X	X	X	
ANI1106		X	X			
ANI1107		X		X		X
SEM 1						
AN1201		X			X	
AN1202		X			X	X
AN1203	X		X	X	X	
AN1204	X		X	X		X
AN1205			X	X		X
AN1206		X	X			
AN1207	X			X		X

Semester I

ANI1101: INTRODUCTION TO FUNDAMENTALS OF COMPUTER

Credits: 3

<p>Course Outcomes The learner:</p> <ul style="list-style-type: none"> • Bridge the fundamental concepts of computers with the present level of knowledge of the students. • Familiarize operating systems, programming languages, peripheral devices, networking, multimedia and Internet. • Describe the usage of computers and why computers are essential components in business and society. • Identify categories of programs, system software and applications. Organize and work with files and folders. • Describe various types of networks, network standards and communication software. 	<p>Suggested Teaching Pedagogy</p> <ul style="list-style-type: none"> • Effective use of Practical based learning through ICTs and latest knowledge of Technology.
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Credit	Unit No.	Title of Unit and Contents
I	1	<p>Introduction</p> <p>1.1 Characteristics of computer 1.2 Evolution of computer 1.3 Computer generation</p>
	2	<p>Basic Computer Organization</p> <p>2.1 Input unit 2.2 Output unit 2.3 Storage unit 2.4 ALU,CU,CPU 2.5 The system Concept</p>
II	3	<p>Secondary Storage Devices</p> <p>3.1 Sequential and Direct-Access Devices 3.2 Magnetic Disks 3.3 Optical Disks 3.4 Memory storage Devices</p>
	4	<p>Input-Output Devices</p> <p>4.1 What is input and output device 4.2 Keyboard 4.3 Point-and-Draw Device 4.4 Monitors 4.5 VDU 4.6 Plotters 4.7 Printer and types of printer</p>
	5	<p>Computer Languages</p> <p>5.1 Machine language 5.2 Assembly language 5.3 High-level language</p>
III	6	<p>Operating Systems</p>

	6.1 What is operating system? 6.2 Main functions of Operating systems 6.3 What is process 6.4 Process management in early systems 6.5 Memory management 6.6 File management 6.7 Device management 6.8 Security
7	Classification of Computers 7.1 Notebook Computer 7.2 Personal Computers 7.3 Mainframe system 7.4 Supercomputer 7.5 Client and server computers 7.6 Handheld Computer

Learning Resources

1. Computer Fundamentals By Pradeep K. Sinha&PritiSinha, sixth Edition (BPB Publication)
2. Fundamentals of Computers by V.Rajaraman

ANI 1102: INTRODUCTION TO MASS MEDIA

Credits: 3C

Course Outcomes The learner: <ul style="list-style-type: none">• The Student should get an idea about the basic Mass Media.• Understanding the process of making and transmitting content.• To understand the scope of mass media especially for Animation.• To understand the general characteristics of the media.• To know about differentiating mass media.	Suggested Teaching Pedagogy <ul style="list-style-type: none">• Audio Visual content for interactive and discussion based teaching learning process.
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Credit	Unit No.	Title of Unit and Contents
I	1	History of Media 1.1 Print 1.2 Electronic 1.3 New Media 1.4 Internet
	2	Indian Cinema 2.1 History 2.2 Form and Style 2.3 Stereotypes 2.4 New Trends
II	3	Media Industry 3.1 Cultural Industry 3.2 Audio Visual Content 3.3 Documentaries 3.4 Web Content
III	4	Mass Media and Society 4.1 Media and Children 4.2 Media and Women 4.3 Effect on Society 4.4 Future of Mass media

Learning Resources

- Mass Communication in India by Keval Kumar.
- Handbook of Indian Cinema Routledge Publication.
- Broadcast Journalism and new media by Keshav Sathye
- Mass Communication by Villanilam

ANI1103: BASICS OF ANIMATION

Credits: 3C

<p>Course Outcomes The learner:</p> <ul style="list-style-type: none"> • It begins with the introduction of world of Animation; it starts with evolution of animation and history. • Overview of various optical toys and animation before films. • Understanding process of different animation techniques developed with various equipment and how they process. • Introduction of the animation techniques such as cell animation, cut-out animation, clay animation, shadow play, pixilation and basic principle of animation. • Understanding the art of movement and critically analyze creative work and work of other artist. 	<p>Suggested Teaching Pedagogy</p> <ul style="list-style-type: none"> • Software based and aesthetics with basics of visual understanding of drawings and paintings with creative approach.
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Credit	Unit No.	Title of Unit and Contents
I	1	<p>EARLY ANIMATION</p> <p>1.1 Pre-History 1.2 Persistence of Vision 1.3 History of stop motion</p>
	2	<p>EARLY STUDIOS AND ANIMATION PIONEERS</p> <p>2.1 Walt Disney 2.2 Max Fleischer 2.3 Tex Avery 2.4 Warner bros</p>
II	3	<p>EARLY APPROACHES TO MOTION IN ART</p> <p>3.1 Animation Before Films 3.2 The Magic Latern 3.3 Thaumatrope 3.4 Phenakistoscope 3.5 Zeotrope 3.6 Flip Book</p>
	4	<p>ANIMATION TECHNIQUES</p> <p>4.1 Stop Motion 4.2 Puppet 4.3 Cut-out 4.4 Clay Etc</p>
III	5	<p>HISTORY OF INDIAN ANIMATION, INDUSTRIES AND STUDIOS</p> <p>5.1 Growth of Indian Industry and Studio 5.2 Animation art in India</p>

Learning Resources

1. "Cartoon Animation", Preston Blair, Walter T. Foster, Apple Press, Limited, Eighth Edition, ISBN 1560100842
2. "History of Animation": Facts and Figures, Bredson, Philips Cardiff, Pearson Publications, 1972

ANI1104: ANIMATION PRACTICAL - I

Credits: 4C

Course Outcomes

The learner:

- Have a very good knowledge of basics of drawing and material handling.
- Understand the light, dark and transition of the tonal value.
- Understand the usage of positive and negative space in a design composition.
- Understand the color theory and color harmony to create good backgrounds.
- Gaining the composing knowledge of landscape and cityscape drawing and painting.

Pract No.	Title
1	Free hand Drawing
2	Color Schemes
3	Color Value
4	Pencil shading
5	2D Design
6	3D Design
7	Object Drawing (Man Made)
8	Object Drawing (Nature)
9	Landscape Design
10	Intro to Human Anatomy

Learning Resources

1. Figure Study Made Easy By- Aditya Chari -- Grace Publication
2. Perspective By Milind Mulik – Jyotsna Prakashan

ANI1105: ANIMATION PRACTICAL - II

Credits: 4C

Course Outcomes

The learner:

- Students will be able to successfully execute the "Principles of Animation.
- Apply action analysis and observations to animated drawings.
- Apply critical thinking skills elemental to the problem solving of design and the visual arts.
- Create drawings that convey action in terms of movement, emotion, attitude, and expression.
- Render basic animation movements for characters or objects while applying the mechanics and timing of squash and stretch, key poses, secondary actions, follow through, staging, overlapping action and weight.

Practical No.	Title
1	Bouncing Ball
2	Arc
3	Anticipation
4	Bird fly (Side view)
5	Bird fly (Front view)
6	Walk Cycle (Side view)
7	Walk Cycle (Front view)
8	Run Cycle (Side view)
9	Run Cycle (Front view)
10	SFX

Learning Resources

1. The Animation survival kit by Richard Williams.

ANI1106: ANIMATION PRACTICAL - III

Credits: 4C

Course Outcomes

The learner:

- Understanding the difference between Concept Art and Fantasy Art with converting from paper to digital format.
- Understanding the detail of brush strokes and difference between smudge, blur, Overlays, texture, mask and layer adjustments.
- Gain Knowledge of Print media, photo manipulation, digital painting.
- Understanding the color, composition, mid tone, shadow, hue and saturation, creating canvas, color tone and proportion.
- Understanding the process of create background for 2d animation, and texturing for 3d animation.

Pract No.	Title
1	Black and White photo to Color
2	Photo Manipulation
3	Digital Painting Object
4	Digital Painting Nature Object
5	Digital Painting Landscape
6	Character Design
7	Layout Design for Animation
8	Matte Painting

ANI1107: ANIMATION PRACTICAL - IV

Credits: 4C

Course Outcomes

The learner:

- Work in 3D environment.
- Make 3D objects, props and characters.
- Create a low poly game level.
- Create animation and Render a video file.
- Gain the knowledge of 3ds Max for interior and exterior designs.

Practical No.	Title
1	Navigation and primitives
2	Table Chair Setups.
3	Chess Set.
4	Create Rubik's Cube
5	Create Prop for character
6	Create a character
7	Manmade object
8	Game level Creation
9	Cupboard and TV Set Unit
10	Interior - Kids room

Semester II
ANI1201: SCRIPT WRITING
Credits: 3C

<p>Course Outcomes The learner:</p> <ul style="list-style-type: none"> • Student should understand the importance of script in the process of pre production. • To make the student enable to think from script writing point of view. • Student should learn about script writing style and to analyze any Audio Visual content Script. • To enable the pre production phase from ideas into script. • Student should able to write small scripts for audio visual content. 	<p>Suggested Teaching Pedagogy</p> <ul style="list-style-type: none"> • Output based training for generating ideas into story for making real short scripts.
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Credit	Unit No.	Title of Unit and Contents
I	1	<p>Introduction to Storytelling 1.1 What is Storytelling 1.2 Types of Storytelling 1.3 Pre- Production Process</p>
	2	<p>Narrative Techniques 2.1 What is narration? 2.2 Narrative Structure 2.3 Narrative treatment of the space & time</p>
II	3	<p>Development of Script 3.1 Idea and Concept Development 3.2 Character Development (Internal& External Features, Wants vs Needs, Obstacles, Stakes & Character Arc) 3.3 Character Psychology 3.4 Three act Structure 3.5 Visual treatment to a script</p>
	4	<p>Script Formats and their style 4.1 Scene heading 4.2 Parenthesis 4.3 Description 4.4 Scene Transition 4.5 Basic Idea of Shooting Script 4.6 Screenplay Structure (Screenplay Template)</p>
III	5	<p>Elements of Script 5.1 Story premise 5.2 Theme 5.3 Plot 5.4 Style and tone 5.5 Structure of Scenes/ Chronology</p>
	6	<p>The basic of dramaturgy 6.1 The Nature of Conflict 6.2 Types of conflicts</p>

		6.3 Difference between Character and Plot driven Script
	7	Different Genre of script 7.1 Genre include action, children, comedy, crime,drama, family,history, horror, romance, science fiction, teens and thriller 7.2 How to write a Synopsis

Learning Resources

- Save a cat by Blake Synder
- A directors method for Film & Television by Ron Richards

ANI1202: VISUAL COMMUNICATION

Credits: 3C

<p>Course Outcomes The learner:</p> <ul style="list-style-type: none"> • To understand theory of Visual Communication. • To study the models of Media with visual communication. • To study the various types of visual treatments. • To study the nature color theory. • To study the importance of visuals in media. 	<p>Suggested Teaching Pedagogy</p> <ul style="list-style-type: none"> • Audio Visual Content for understanding art and aesthetic of visual communication process.
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Credit	Unit No.	Title of Unit and Contents
I	1	<p>Communication basics</p> <p>1.1 Basics of Communication</p> <p>1.2 Process and Psychology</p> <p>1.3 Types of Common</p>
	2	<p>Introduction to visual grammar and camera angles</p> <p>2.1 Visual Grammar</p> <p>2.2 Shots</p> <p>2.3 History of Visual Communication</p>
II	3	<p>Symbolic communication</p> <p>3.1 Reading Visuals</p> <p>3.2 Symbolism</p> <p>3.3 Indian Context</p>
	4	<p>Reading visuals</p> <p>4.1 Visual Analytics</p> <p>4.2 Design Principles</p> <p>4.3 Impact of Visuals</p>
III	5	<p>Design and color theory effects</p> <p>5.1 Design Concept</p> <p>5.2 Color Theory</p> <p>5.3 Models</p> <p>5.4 Effects</p>

Learning Resources

- Visual Communication: Images with Messages by Paul Martin
- Visual Communication: Integrating Media, Art, and Science By Rick Williams, Julianne Newton

ANI1203: INTRODUCTION TO ANIMATION TECHNIQUES

Credits: 3C

<p>Course Outcomes The learner:</p> <ul style="list-style-type: none"> • Prepare and handling materials for clay modelling and cut out animation. • Understand the tool usage of tools for modelling and measuring. • Make armature and miniature modelling. • Create own character and creature for cut out and clay animation. • Create short animated clips of clay and cut animation. 	<p>Suggested Teaching Pedagogy</p> <ul style="list-style-type: none"> • Combination of Art and Aesthetics with appropriate use of software technology to create short animated clips.
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Credit	Unit No.	Title of Unit and Contents
I	1	<p>Appeal and History of Stop Motion</p> <p>1.1 Appeal & History of Stop Motion 1.2 Appeal of Medium 1.3 The Beginning of stop motion animation 1.4 Cut – out animation & Clay-mation</p>
	2	<p>Stop Motion Industry</p> <p>2.1 The Production Pipeline 2.2 Concept art and design 2.3 Storyboarding 2.4 Sound recording and exposure sheet 2.5 Designing and Building Puppets and Sets 2.6 Animation 2.7 Post-Production</p>
II	3	<p>Introduction to Claymation Technique</p> <p>3.1 Claymation Industry 3.2 Creating Clay model 3.3 Wire Armatures 3.4 Building Simple wire Armatures 3.5 Latex build-ups Puppets 3.6 Clay Puppets 3.7 Creating multi models for animation</p>
III	4	<p>Introduction to Cut-Out Animation Technique</p> <p>4.1 History of Cut out Animation 4.2 Traditional Cut out Technique 4.3 Digital Cut out Technique</p>
	5	<p>Character Design for Cut – out Technique</p> <p>5.1 Design character for cut out technique 5.2 Creating hand gestures 5.3 Facial expressions 5.4 Blink</p>

Learning Resources

The Art of Stop Motion Animation - by Ken Priebe -- Course techno

ANI1204: ANIMATION PRACTICAL - V

Credits: 4C

Course Outcomes
The learner:
<ul style="list-style-type: none">• Students will be able to successfully Create Character Animation.• Apply action, sound and acting to animated drawings.• Apply critical thinking skills elemental to the problem solving of design and the visual arts.• Create drawings that convey action in terms of movement, emotion, attitude, and expression.• Render basic animation movements of characters or objects while applying the mechanics and Principle of animation.

Practical No.	Title
1	FX- Water Splash
2	FX- Fire
3	FX- Smoke
4	Quadruped walk (Side)
5	Quadruped walk (Front)
6	Character animation with acting
7	Character animation with acting
8	Character animation with acting
9	Character animation with dialogue
10	Character animation with layout and sound

Learning Resources

1. The Animation survival kit by Richard Williams.

ANI1205: ANIMATION PRACTICAL - VI

Credits: 4C

Course Outcomes

The learner:

- Create vector shapes and backgrounds that incorporate principles of composition, perspective and color, with speed, accuracy and dexterity, using a variety of tools.
- Create 2D characters and environments that reflect the integration of graphic clarity, Design Principles, animation principles and concepts.
- Incorporate technology effectively in the development of animation projects.
- Communicate ideas, believable action and emotion effectively by employing principles of Animation and development in all aspects with layer concepts
- Refine personal narrative voice that holistically integrates with the elements of visuals and perform in order to deliver the quality outputs in animation.

Practical No.	Title
1	Bouncing Ball
2	Shape Tween
3	Frame by Frame Animation
4	Bird Fly
5	Walk Cycle (Side View)
6	Walk Cycle (Front View)
7	Run Cycle (Side View)
8	Run Cycle (Front View)
9	Character Animation
10	Character animation with dialogue

ANI1206: ANIMATION PRACTICAL - VII

Credits: 4C

Course Outcomes

The learner:

- Propose and justify creative solutions to common print design problems.
- Critique student and professional print design products based on learned skills and concepts.
- Design and produce effective digital illustrations for use in print.
- Utilize a specified range of software tools and techniques in order to create text and other effects.
- Demonstrate an awareness of contemporary digital design techniques and usage.

Practical No.	Title
1	Logo Design
2	Typography
3	Visiting Card Design
4	Brochure design
5	Cover page design
6	Cartoon Character design
7	Cartoon Character design
8	Landscape Design
9	Character Design
10	Character Design

ANI1207: ANIMATION PRACTICAL - VIII

Credits: 4C

Course Outcomes

The learner:

- Build up floor plans for any CAD file or image.
- Build exteriors for building.
- Animate camera in scenes.
- Make a complete walkthrough video.
- Build interior with image reference also.

Practical No.	Title
1	Basic Table model
2	Basic Chair Model
3	Interior - Living room
4	Interior - Bedroom
5	Floor plan from image.
6	Floor plan from AutoCAD file.
7	Building exterior from floor plan.
8	Turn table animations
9	Walkthrough camera animation
10	Video output of walkthrough