Deccan Education Society's
FERGUSSON COLLEGE (AUTONOMOUS),
PUNE

Syllabus

for

S. Y. B. Sc. (Animation)

[Pattern 2019]

(B.Sc. Animation Semester-III and

Semester-IV)

From Academic Year

2020-21

Deccan Education Society's
Fergusson College (Autonomous), Pune

S.Y.B.Sc. Animation (Pattern 2019)

From academic year 2020-21

Particulars	Name of Paper	Paper Code	Title of Paper	No. of Credits
S.Y. B.Sc. Semester III	Theory Paper - 1	ANI2301	Technical English-I	3
	Theory Paper - 2	ANI2302	Production Process	3
	Theory Paper - 3	ANI2303	3d Modeling, Texturing and Rendering	3
	Practical Paper - 1	ANI2304	Animation Practical -I	4
	Practical Paper – 2	ANI2305	Animation Practical –II	4
	Practical Paper - 3	ANI2306	Animation Practical –III	4
S.Y. B.Sc. Semester IV	Theory Paper - 1	ANI2401	Technical English - II	3
	Theory Paper - 2	ANI2402	3D Rigging and Animation	3
	Theory Paper - 3	ANI2403	Composting and motion Graphics	3
	Practical Paper - 1	ANI2404	Animation Practical –IV	4
	Practical Paper – 2	ANI2405	Animation Practical –V	4
	Practical Paper - 3	ANI2406	Animation Practical –VI	4

S.Y. B.Sc. Animation, Semester III

Subject: Technical English-I Paper -1 (ANI2301):

[Credits-3]

Course Outcomes

At the end of this course, students will be able to

CO1 Aims to rectify the most common errors in English language that students succumb to. This unit ensures that students develop positive proofreading skills to enabling children to have positive command over the English language by eliminating linguistic barrier in communication.

CO2 Exposition on written communication as an important form of communication. It makes the students aware of the writing process, modern business management philosophies, and political correctness in language and expression.

CO3 Familiarises the students with varied forms of applied formal writing which will bridge the gap between education and employment.

CO4 Enables the students to interact with formal correspondence from letter to email, resume and cover letter.

Unit	Details	Lectures
I	**Grammar** 1. Subject-Verb and Pronoun-Antecedent (Referent) Agreement 2. Punctuation: Apostrophe, Colon, Comma, Dash, Ellipses, Exclamation Point, Hyphen, Parenthesis, Period, Question Mark, Quotation Marks and Semi-colon 3. Use of Articles 4. Use of Active and Passive Voice 5. Proofreading Methods	**[12]**
II	**Defining Technical Writing** 1. Technical Writing Definition 2. Technical Writing Scenario 3. Teamwork 4. 21st Century Business Management Philosophies a. Six Sigma b. Total Quality Management c. Human Performance Improvement 5. Writing Process a. Prewriting b. Writing c. Rewriting 6. Overview of Audience Recognition: High-Tech, Low-Tech, Lay, Multiple Audience 7. Sexist and Biased Language	**[12]**

III	**Business Correspondence**	**[12]**
	1. Memorandum: Purpose, Criteria, Format	
	2. Emails: Purpose, Audience Recognition, Criteria, Format	
	3. Letters: Letter Components	
	4. Letter Format	
	a. Full Block	
	b. Modified Block	
	c. Simplified Block	
	5. Criteria for different types of letter: Letter of Inquiry, Good-News, Bad-News, Complaint, Adjustment Letters, Sales Letters	
	Job Writing	**[12]**
	1. Resume Writing: Components	
	2. Format of a Resume	
	3. Modern Resume	
	4. Cover Letter	
	5. ASCII Resume	
	6. Cover Letter	
	7. Email Cover Letter	

Reference Book:

- *Technical Writing: Process and Product – Sharon J Gerson and Steven M Gerson*

S.Y. B.Sc. Animation, Semester III
Subject: Production Process Paper -2 (ANI2302):

[Credits-3]

Course Outcomes

At the end of this course, students will be able to

CO1	Create work flow of animation short film.
CO2	Create concept design/art for short animation film.
CO3	Create Character design from real life.
CO4	Get knowledge of storyboard and animatics.

Unit	Details	Lectures
I	**Pre-Production** 1.1 Concept And Story 1.2 Concept Design 1.3 Difference between concept & Story 1.4 Building one from the other 1.5 Storytelling	**[6]**
II	**Research** 2.1 Period/Location 2.2 Historic / Scientific facts 2.3 Society 2.4 Costumes 2.5 Props	**[5]**
III	**Character Design** 3.1 Anthropomorphism 3.2 Personality 3.3 Shape Languages 3.4 Character Bible and Design 3.5 Different types of Character 3.6 Male, female and children 3.7 Character Biography 3.8 Character Construction and Proportion	**[8]**
	Character Model Sheets 4.1 Turn- around 4.2 Expression Chart 4.3 Extreme poses 4.4 Proportion Chart	**6**
	BG Design 5.1 Color Keys 5.2 Color moods 5.3 Location, Plan, 5.4 Establishing BG, 5.5 Key Location 5.6 Props Design	**8**
	Story-Board for animation 6.1 Aspect Ratio 6.2 Camera Angle 6.3 Camera Movement	**12**

	6.4 Camera Shot 6.5 Rule of Composition	

Books-

1. Storyboard Design Course by Giuseppe Cristiano ---- Barron's

2. How to write for Animation – Jeffery Scott- The Overlook Press Woodstock and New york

3. The Art of layout and storyboarding – Mark T.Byrne

S.Y. B.Sc. Animation, Semester III
Subject: 3d Modeling, Texturing and Rendering Paper -3 (ANI2303):

[Credits-3]

Course Outcomes
At the end of this course, students will be able to
- **CO1** Model and texture complex interior, exterior model on their own.
- **CO2** Students will be well versed with realistic lighting and latest rendering techniques.
- **CO3** They will be able to animate the camera and create nice walkthroughs.
- **CO4** Students will be able to undertake individual projects and deliver best quality output.

Unit	Details	Lectures
I	**Intro to 3d and Basic Interface** Common used Tools Common used Operations	8
II	Interior Modeling – Hall/Bedroom Character Modeling	8
III	Materials and Hyper shade Types of mapping Making Complex materials	9
IV	Animating Camera Paint Effects Lighting setup and type of lights 3 Point light system Animating Lights	10
V	Rendering Concept and setup Arnold Render System Making an Interior with character (Basic pose) and rendering with Arnold.	10

Books-

1. Autodesk Maya 2019 Basics Guide
2. Digital Lighting and Rendering (Voices That Matter) 3rd Edition- By Jeremy Brin
3. Digital Modeling ([digital]) 1st Edition- By William Vaughan
4. Advanced Maya Texturing and Lighting

S.Y. B.Sc. Animation, Semester III
Subject: Animation Practical I. Paper -4 (ANI2304):

[Credits-4]

Course Outcomes

At the end of this course, students will be able to

CO1 Create work flow of animation short film.
CO2 Create concept design/art for short animation film.
CO3 Create Character design from real life.
CO4 Get knowledge of storyboard and animatics.

List of practicals (Compulsory 10 + 2 Activity)

	PAPER CODE: ANI2304 **PAPER –:** Animation Practical I **[Credit -4: No. of Practicals 10]**
1	Concept Art
2	Concept Art
3	Character Design Male
4	Character Design Female
5	Character Design Children
6	Layout Design
7	Layout Design
8	Color Key
9	Storyboard
10	Animatics

S.Y. B.Sc. Animation, Semester III
Subject: Animation Practical II. Paper -V (ANI2305):

[Credits-4]

Course Outcomes

At the end of this course, students will be able to

- **CO1**   Create work flow of new-paper page design.
- **CO2**   Understand how to work with layers and graphics.
- **CO3**   Create page creation and working Typography.
- **CO4**   Creating point, color and path.

	PAPER CODE: BVA2305 **PAPER –:** Animation Practical II **[Credit -4: No. of Practicals 10]**
1	Visiting Card Design
2	Page Design
3	Poster Design
4	Birthday Card Design
5	Greeting Card Design
6	Greeting Card Design
7	Magazine Cover Design
8	Magazine Design
9	Calendar Design
10	News paper Page Design

S.Y. B.Sc. Animation, Semester III
Subject: Animation Practical III. Paper -VI (ANI2306):

[Credits-4]

Course Outcomes

At the end of this course, students will be able to

CO1   Model and texture both organic and inorganic models.

CO2   They will be able to create interiors and exteriors sets required in films and television.

CO3   They will be well versed with prop modelling, car modelling and Hair & Fur systems.

CO4   They will also be able to model and texture both Biped and Quadraped creatures.

List of practicals (Compulsory 10 + 2 Activity)

	PAPER CODE: BVA2306 **PAPER –:** Animation Practical III **[Credit -4: No. of Practicals 10]**
1	Interior Modeling and Texturing – Hall / Kitchen
2	Character Modeling and texturing – Human body
3	Exterior Modeling and texturing - A bridge over River / Tower of Pisa
4	Props Modeling and texturing – Sword/ Gun
5	Props Modeling and texturing – Sword/ Gun
6	Animal Modeling and texturing
7	Car Modeling and texturing
8	Car Modeling and texturing
9	Making Hair / Fur for Animals
10	Show reel of the above Topics

S.Y. B.Sc. Animation, Semester IV
Subject: Technical English-II Paper -1 (ANI2401):

[Credits-3]

Course Outcomes

At the end of this course, students will be able to

CO1 Enables students to draft and organise brochures, fliers and newsletter

CO2 Gives students a basic idea on how to draft any technical description, user-manual etc.

CO3 Students are introduced to creative writing session where they will be able to write an outline for creative writing and blog writing with audience recognition

CO4 To enhance student's oral communication and presentation skills

Unit	Details	Lectures
I	**Fliers, Brochure and Newsletters** 1. Criteria for writing fliers 2. Sample Flier 3. Criteria for writing brochure 4. Cubing and general format of brochure 5. Sample Brochure 6. Criteria for writing Newsletter 7. Report Writing 8. Sample Newsletter	**[12]**
II	**Technical Description, Instruction and User Manual** 1. Writing Instruction 2. Criteria for writing short instruction 3. Criteria for writing a User Manual 4. General Format of short instruction and user manual	**[12]**
III	**Creative Writing** 1. Outline 2. Read for inspiration 3. Preparation of Draft 4. Blog Writing: 5. Lay-Audience Writing, Purpose 6. Importance of Title and Introductory Paragraph 7. Body and Closing Paragraph	**[12]**
	Oral Communication 1. Verbal and Non-Verbal Communication 2. Telephone and Voice Mail Etiquette 3. Formal and Informal Oral Presentations 4. Types of Oral Presentation 5. Preparation of Visual Aid – Keynote Presentation	**[12]**

Books-

1. *Technical Writing: Process and Product – Sharon J Gerson and Steven M Gerson*

2. Creative Writing Handbook - A Beginner's Manual by Anjana Neira Dev and Others, Published by Pearson, Delhi, 2009.

S.Y. B.Sc. Animation, Semester IV
Subject: 3D Rigging and Animation Paper -II (ANI2402):

[Credits-3]

Course Outcomes

At the end of this course, students will be able to

CO1 Create and understand rig system so as to make the creature/object ready to animate.

CO2 They will be able to create different expressions of the creature as per the given mood of the scene.

CO3 Create different animations like walk cycle, run cycle, fight, etc

CO4 They will also be able to handle camera and animate it as per the shot.

Unit	Details	Lectures
I	Basics of Principles of Animation Bouncing ball-Setting Keys and Graph Editor Making Human Body ready for Rig Putting Joints and Renaming Putting IK Handles and Pole Vectors Inverse Foot with SetDriven keys Spine Control	[12]
II	Fist controller with SetDriven key Neck and Head controller Eyes Controller Master Controller Types of bind-Soft & Rigid Binding the character Paint Weights	[12]
III	Type of Blend Shapes Making Phonetics A,E,I,O,U,M,F Finalizing and Cleaning the Rig	[10]
IV	Walk cycle Run Cycle Dialogue between characters Fight Scene with Two Characters Animating Camera and render Sequence	[11]

Books-

1. Rig it Right! Maya Animation Rigging Concepts, 2nd edition- By Tina O'Hailey
2. Animation Methods: Rigging Made Easy : Rig Your First 3D Character in Maya Animation Methods - By David Rodriguez
3. Stop Staring: Facial Modeling and Animation Done Right - By Jason Osipa

S.Y. B.Sc. Animation, Semester IV
Subject: Composting and motion Graphics, Paper -III (ANI2403):

[Credits-3]

Course Outcomes

At the end of this course, students will be able to

CO1	Learn the history ,different aspects and tools of motion graphics,
CO2	They will be able to create motion graphic videos widely used in Film, Television and Advertising sector,
CO3	They will also be well versed with all the available compositing techniques extensively used in films and television shows these days.
CO4	They will be able create titles and credits of film and television.

Unit	Details	Lectures
I	What is Motion graphics and its history Motion Graphics in Film & Television Different tools available for Motion Graphics What is Composition, Composition Settings and its principles	[12]
II	Introduction to layers & its types Importing, Exporting and Nesting Text animation Stroke Animation Rotoscopying/ Masking Chroma Keying	[12]
III	Wire Removal Tracking Color Correction & Color Grading 3d Projection	[12]
IV	Adding subtitles and Credits Creating Titles Using animation & Text presets Introduction to expressions	[11]

Books-

1. The Art and Science of Digital Compositing: Techniques for Visual Effects . By Ron Brinkmann
2. After Effects For Designers: Graphic And Interactive Design In Motion
3. Creating Motion Graphics with After Effects: Essential and Advanced Techniques - By Chris Meyer, Trish Meyer

S.Y. B.Sc. Animation, Semester IV
Subject: Practical in Animation IV, Paper -IV (ANI2404):

[Credits-4]

Course Outcomes

At the end of this course, students will be able to

CO1	Animate both organic and inorganic objects,
CO2	They will be able to create walk-run cycle, fight scene,
CO3	Create blend shapes of the characters,
CO4	They will also know the importance of Acting required for creating computer generated animations.

List of practicals (Compulsory 10 + 2 Activity)

	PAPER CODE: ANI2404 **PAPER –:** Animation Practical IV **[Credit -2: No. of Practicals 10]**
1	Bounce ball
2	Ball animation with tail
3	Walk cycle
4	Run Cycle
5	Acting for animation
6	Dialogue between two characters
7	Fight Scene Between two Characters
8	Animal walk cycle- Dog / cheetah
9	Bird Flying Animation
10	Make showreel of above topics

S.Y. B.Sc. Animation, Semester IV
Subject: Practical in Animation V, Paper -V (ANI2405):

[Credits-4]

Course Outcomes

At the end of this course, students will be able to
- **CO1** Rig both organic and inorganic objects,
- **CO2** They will be able to rig humans, birds and animals,
- **CO3** They will also be able to rig props and cars,
- **CO4** They will be able to create dialogues with the help of blend shapes.

List of practicals (Compulsory 10 + 2 Activity)

	PAPER CODE: ANI2405 **PAPER –:** Animation Practical V **[Credit -2: No. of Practicals 10]**
1	Pendulum rig
2	Camera Rig
3	Car Rig
4	Human Rig Male
5	Human Rig Female
6	Cartoon Rig
7	Blend Shapes
8	Animal Rig
9	Bird Rig
10	Make showreel of above topics

S.Y. B.Sc. Semester IV
Subject: Practical in Animation VI, Paper -VI (ANI2406):

[Credits-4]

Course Outcomes

At the end of this course, students will be able to
- **CO1** Create titles and credits of films and television,
- **CO2** They will be able to make motion graphics and typographic videos,
- **CO3** They will be well versed with Stroke animation, whiteboard animation and other effects,
- **CO4** They will learn all compositing techniques required in Post production process of a film.

List of practicals (Compulsory 10 + 2 Activity)

	PAPER CODE: ANI2406 **PAPER –:** Animation Practical VI **[Credit -2: No. of Practicals 8]**
1	Making Subtitles
2	Making Creative titles
3	Making Creative titles
4	Making neon sign boards
5	Stroke effect animation
6	Chroma Removal from scene
7	Chroma Removal from scene
8	Wire removal from scene
9	Changing name plate
10	Make showreel of above topics