St Aloysius College (Autonomous)

Mangaluru

Re-accredited by NAAC "A++" Grade

Course structure and syllabus of

B.A./B.Sc.

COMPUTER ANIMATION

Under NEP Regulations, 2020

(2021-2023 Batch)

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www.staloysius.edu.in

ESTD : 1880

ST ALOYSIUS COLLEGE(AUTONOMOUS)
P.B. NO. 720, MANGALURU – 575 003, KARNATAKA, INDIA
Phone:+91- 0824-4117701, 4117702, 4117703,4117704
Email: principal@staloysius.edu.in
aloysius.principal@gmail.com

Re-accredited by NAAC with '**A++**' Grade with CGPA 3.67/4 (Cycle 4)
Recognised as Centre for Research Capacity Building under UGC-STRIDE Scheme
Recognised under DBT – BUILDER Scheme, Government of India
College with "STAR STATUS" Conferred by DBT, Government of India
Recognised by UGC as "College with Potential for Excellence"

Date: 21-02-2022

NOTIFICATION

Sub: Syllabus of **B.A. /B.SC. COMPUTER ANIMATION** under NEP Regulations, 2021.
(As per Mangalore University guidelines)

Ref: 1. Decision of the Academic Council meeting held on 18-12-2021 vide Agenda No: 6
2. Decision of the Academic Council meeting held on 09-07-2022 vide Agenda No: 14
3. Decision of the Academic Council meeting held on 25-02-2023 vide Agenda No. 12
4. Decision of the Academic Council meeting held on 02-09-2024 vide Agenda No. 3
5. Office Notification dated 21-02-2022
6. Office Notification dated 17-08-2022
7. Office Notification dated 30-03-2023
8. Office Notification dated 26-09-2023

Pursuant to the above, the Syllabus of **B.A./B.SC. COMPUTER ANIMATION** under NEP Regulations, 2021 which was approved by the Academic Council at its meeting held on 18-12-2021, 09-07-2021, 25-02-2023 & 02-09-2023 is hereby notified for implementation with effect from the academic year **2021-22**.

PRINCIPAL

ST ALOYSIUS COLLEGE MANGALORE 575 003 AUTONOMOUS

REGISTRAR

To:

1. The Chairman/Dean/HOD.
2. The Registrar Office
3. Library

Date of BOS Heldin the department of Computer Application and Animation : 19/11/2021

Members Present:

1. **VC Nominee**:
   Dr.Veerabhadrappa
   Subject Expert:
2. Dr.Vasudeva
3. Dr.Jeevan Pinto
4. Mr.Ananthmurthy
5. Dr.Manjaiah
6. Ms Geetha
   Industrial Expert:
7. Mr.ArunRenny
8. Ms ShilpaShetty – Chairman
9. All members of Department.
10. A meeting of the Board of Study in Computer Animation was held on 28/08/2023
11. The following members were present for the meeting.
12. 1. Chair Person: Shlpa Shetty
13. 2. Members of Department
14. 3. Mr.Ananth Murthy, NMAMIT, Nitte
15. 4. Ms.Jeetha, Srinivas University
16. 5. Dr.Manjaiah D.H,VC Nominee, Mangalore University
17. 6. Dr.VasudevaAcharya, Department of IS, NMAMIT, Nitte
18. 7. Mr.Prakash Kumar, HOD, Vivekananda College, Puttur
19. 8.Mr.Shailesh, HOD, SDM College, Ujire
20. 9.Mr.Srikanth, PPC Udupi

Model Programme Structure (B2) for Bachelor of Science (Basic/Honours) Programme (Subjects with Practical)

Sem.	Discipline Core (DSC) (Credits)	Discipline Elective (DOE /Open Elective (OE) Credits)	Ability Enhancement Compulsory Courses (AECC), Languages (Credits) (L+T +P)		Skill Enhancement Courses (SEC) Skill based (Credits) (L*T*P)	Value based (Credits) (L*T+P)		Total Credits
	DSC A1(4+2) DSC B1(4+21	OE 1 (2)	L1-1(2), L2—1(L) (4 hrs. each)		SEC—1! (2) (1 + 0 + 2)	Yoga (I)(O• 0•2)	Health&Wellness (1) (0•0* 2)	25
	DSC A2(4*2) DSC B2(4*2)	0 E-2 (3)	L1-2(3), L2-2f3) (4 hrs. each)	Environmental Studies /2)		5 ports f1) fQ*O*2)	NCC/NSS/R&R(S&G)/ cultural fi)(P•o•z)	2S
		Exit option with Certificate (4 8 credits)						
	DSC A3(4*2) DSC B3(4+2)	0 E-3 (3)	L1-3(3], L2-3(3) (4 hrs. each l		SEC-2 : (2)(1+0+2}	SpOEt S (1) (O*O*2)	NCC/NSS/R&R(5&G)/ Cultural (1) (O*O* 2)	2 5
IV	DSC A4(4+2) DSC B4(4+2)	OE-4 (3)	L1-4(31, L2-4(3} (4 hrs. each)	-Constitution at India (2)		sQOFts(1) (D+0 2)	NCC/NSS/R&R(S&G)/ Eultuiral (1) (O*0*2)	25
		Exit option with Diploma in a particular Discipline (96 credits)						
V	DSC A5(I+2) DSC A6(Z•2) DSC B33 2) DSC B6f3+2)				SEC-3: SEC (2) (1+0 2)	s ports (1) /Q 0+2)	NCC/NSS/R&R(S&G)/ Cultural (1) (0+0+ 2)	24
VI	DSC A7(3 2) DSC A8(3+2) DSC B7(3*2) DSC B8(3+2I				SEC-4: Profession al Communication (2)	5 port s f1) /Q+0+ 2)	NCC/NHS/R&R(S&G)/ Cultural (1) (0*0*2)	Z4
		Exit with Bachelor of Degree in a particular Discipline (140 credits)						
VII	DSC A/B9(3* 2) DSC A/B10(3*2) DSC A/B11fZ)	DSC A/B E-1 (3) DS.C A/B E-2 (3) Res. Methodology (3)						22
VIII	DSC A/BL2(3] DSC A/B13(3) DSC A/B14(3)	DSC A/B E-3(3) DCC A/B E 4 (3) Research Project (6)'						21
	Award of Bachelor of Degree with Honours, B.5c. (Hons.) (18D credits)							

Curriculum Structure for BA/BSc Animation

Program: BSC / BA (Basic and Honors) Subject: Computer Animation

Sem	Discipline Specific Core Courses(DSC)	Hour of Teaching/ Week		Discipline Specific Elective Courses (DSC)	Hour of Teaching/ Week
		Theory	Lab		
1	DSC -1: Graphic Design for Animation DSC -1 Lab: Graphic Design Lab	4	 4		
2	DSC -2: Pre Production and 2D Animation DSC -2 Lab: 2D Animation Lab	4	 4		
3	DSC -3: Visual Effects DSC -3 Lab: Visual Effects Lab	4	 4		
4	DSC -4: 3D Modelling DSC -4 Lab : 3D Modelling Lab	4	 4		
5	DSC -5: 3D Texturing, Camera & Lighting DSC -6: Web Designing & Development DSC -5 Lab : 3D Texturing Lab DSC -6 Lab : Web Designing Lab	3 3	 4 4	VC-1: Story Board & Script Writing	
6	DSC -7: 3D Rigging & Animation DSC -8: 3D Dynamics & Effects DSC-7 Lab: 3D Rigging & Animation Lab DSC -8 Lab : 3D Dynamics & Effects Lab	3 3	 4 4	VC-2: Traditional Animation	
7	DSC- 9: Game Environment Design DSC- 10: Digital Designing & Advertisement DSC- 11: Film Making DSC- 9 Lab: Game Environment Design Lab DSC- 10 Lab: Digital Designing & Advertisement Lab	3 3 3	 4 4	DSE -1: Stop Motion and Cut-out Animation Group – 1 DSE -2: History of Animation DSE -3: Layout Designing Group - 2 Research Methodology:	 3 3 3
8	DSC -12: 3D Character Modelling & Animation DSC -13: Environment Sketching DSC -14: Production Techniques DSC -12 Lab: 3D Character Modelling & Animation Lab	3 3 3	 4	DSE -1: Comic Art & Design DSE -2: Sculpture design DSE -3: Ad Film Making Group - 3 Research Project:	3 3 3 6

PROGRAMMEOUTCOMES: BSC / BAwith Computer Animation combination

	Aftersuccessfulcompletionofthreeyear BSC / B.A. degreeprogrammewith ComputerAnimationas one of the major subject in two major system, a student of ComputerAnimationshould beableto;
ProgrammeOutcomes	• Obtain a knowledge on fundamental and advanced aspects of computer animation, graphic design & visual effects. • To innovate best practices for elements of design, web technology and Gaming. • To explore the theories of multimedia and animation to design and develop 2D/3D animations, film-making, visual effects for the Interactive media • Apply in depth knowledge of animation and the knowledge of principles of animation in every project • Able to work with professional skills in animation studios and production houses.
ProgrammeSpecificOutcomes	Design, create and animate characters and objects using fundamental principles of animation • Understand the techniques of 2D and 3D software. • Understanding stop motion and basic traditional animation • Understand the concept of linear and nonlinear editing, Video Capture and VFX techniques • Understand the web designing method with interactive animation

BA/BSC Animation-Program Structure

Proposed Scheme of Teaching & Evaluation for BA/BSc Animation (Basic/Hons)
having practical core courses

Sl. No	Course Code	Title of the Course	Category of Courses	Teaching Hours per Week (L + T + P)		SEE	CIE	Total Marks	Credits
				Theory	Lab				
1	G 110 DC1.1/ G 512 DC1.1	Graphic Design for Animation	DSC	4		60	40	100	3
2	G 110 DC1.1P/ G 512 DC1.1P	Graphic Design Lab	DSC		4	25	25	50	2
3	G 110 OE 1.1/ G 512 OE 1.1	Environment & Character Sketching	OE	3		60	40	100	3
4	G 110 DC 1.2/ G 512 DC 1.2	Pre-Production and 2D Animation	DSC	4		60	40	100	3
5	G 110 DC 1.2P/ G 512 DC 1.2P	2D Animation Lab	DSC		4	25	25	50	2
6	G 110 OE 1.2/ G 512 OE 1.2	Digital Designing	OE	3		60	40	100	3
7	G 110 DC1.3/ G 512DC1.3	Visual Effects	DSC	4		60	40	100	3
8	G 110 DC2.3P/ G 512 DC2.3P	Visual Effects Lab	DSC		4	25	25	50	2
9	G 110 OE 1.3/ G 512OE 1.3	History of animation	OE	3		60	40	100	3
10	G 110 DC1.4/	3D Modelling	DSC	4		60	40	100	3

	G 512 DC1.4								
11	G 110 DC2.4P/ G 512 DC2.4P	3D Modelling Lab	DSC		4	25	25	50	2
12	G 110 OE 1.4/ G 512 OE 1.4	Video editing	OE	3		60	40	100	3

Sem	**Discipline Specific Core Courses (DSC)**	**Hour of Teaching/ Week**		**Discipline Specific Elective Courses (DSC)**	**Hour of Teaching/Week**
		Theory	**Lab**		
5	DSC -5: 3D Texturing, Camera & Lighting	4		VC-1: Story Board & Script Writing	
	DSC -6: Web Designing & Development	4			
	DSC -5 Lab : 3D Texturing Lab		4		
	DSC -6 Lab : Web Designing Lab		4		
6	DSC -7: 3D Rigging & Animation	4		VC-2: Traditional Animation	
	DSC -8: 3D Dynamics & Effects	4			
	DSC-7 Lab: 3D Rigging & Animation Lab		4		
	DSC -8 Lab : 3D Dynamics & Effects Lab		4		
7	DSC- 9: Game Environment Design	3		DSE -1: Stop Motion and Cut-out Animation	3
	DSC- 10: Digital Designing & Advertisement	3		Group – 1	
	DSC- 11: Film Making	3		DSE -2: History of Animation	3
	DSC- 9 Lab: Game Environment Design Lab		4	DSE -3: Layout Designing	
	DSC- 10 Lab: Digital Designing & Advertisement Lab		4	Group - 2 Research Methodology:	3
8	DSC -12: 3D Character Modelling & Animation	3		DSE -1: Comic Art & Design	3
	DSC -13: Environment Sketching	3		DSE -2: Sculpture design	3
	DSC -14: Production Techniques	3		DSE -3: Ad Film Making	3
	DSC -12 Lab: 3D Character Modelling & Animation Lab		4	Group - 3 Research Project:	6

Semester:I

Course Code: G 110 DC1.1/G 512 DC1.1	**Course Title: Graphic Design for Animation**
Course Credits: 4 Total Contact Hours: 52	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

Oncompletion ofthiscoursestudentswill be ableto

- Understand the basic principles of graphic design using Corel Draw & Photoshop including typography, compositing, color, and composition
- Design layouts for web pages, paper adverts, brochures, CD covers, package designing event and exhibition stall designs, pop ups, touch ups, color corrections paintings, drawings, converting B/W photo to color
- Understand the vector and bitmap graphics and its properties
- Understand different tools and features of vector and bitmap software's.
- Select and create appropriate art to convey specific artistic expression that effectively communicates the artist intent.
- To able to create different kinds of designs like Logo, Brochures, certificates, greetings cards, pamphlets, business cards etc.
- Creating GIF Animation files

Content	Hours
Unit - 1	
Introduction to Graphic designing and Animation, elements of Graphic design, types of color modes, Introduction of Image, Pixel, Image features & properties, different formats, usage of Graphic design in market. Introduction to Vector Graphics, difference between Bitmap Graphics & Vector Graphics, print media, animation industry, importance of animation	13
Unit - 2	
Introduction to Corel draw, drawing lines, drawing calligraphic, drawing shapes like rectangle, squares, circles, arcs, converting objects to curves, positioning objects, aligning vector objects, spraying objects along a line, creating cartoon character, trimming & welding objects, intersecting objects. Creating logos, drawing with freehand & pen tool, drawing with the artistic	13

media tool, using blending tools, contouring the object, distorting objects, extruding as 3D objects, transparency effect,	
Unit - 3	
Introduction to Adobe Photoshop, bitmap image editing, creating bitmaps, Photoshop interface preference settings, resize image, resizing canvas, file types, document sizes, resolutions, customize document, crop tool, magnetic lasso tools, trimming image, uses of layers, background layer, creating, deleting & merging layers, re-arranging layers, linking layer movement, locking layer movement, layer transparency, using marquee tools, type tool, text boxes, font size, applying gradient colors, photo manipulation	13
Unit - 4	
Creating gif animation image, layer mask, script- image processor, drop shadow, inner shadow, inner glow, outer glow, bevel and emboss, satin, color overlay, gradient overlay, pattern overlay, stroke, pasting effects, RGB levels, hue & saturation, sharpen, dodge, burn, healing brush, blending options, radial & shape blur, brightness/contrast, creating new pattern, saving for web, creating magazine cover, greeting card, invitations, certificates brochures, advertisements.	13

Text Books:

- Adobe Photoshop CC Classroom in a Book - by Andrew Faulkner
- CorelDraw X7: The Official Guide – by Gary David Bouton
- Graphic Design School: A Foundation Course for Graphic Designers Working in Print, Moving Image and Digital Media by David Dabner
- Introduction to Graphic Design by SherinAaris

Reference Books:

- Photoshop CC Bible (Author - Lisa DaNaeDayley)
- Eric Adobe Photoshop CS4 Bible - by Stacy Cates, Simon Abrams, Dan Moughamian Publisher: Wiley India Pvt Ltd
- Phil 300 Photoshop-Workshops by Das Meisterstück In Sachen Tutorials by Stefan Petri Publisher: 4eck Media Gmbh

Course Code: G 110 DC1.1P/G 512 DC1.1P	**Course Title:Graphic Design Lab**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Creating basic Vector Art
2. Creating Logos by using weld, trim, intersect
3. Creating Cartoon Character by using pen tool & free hand tool
4. Creating Greeting cards & advertisements by using artistic media tools
5. Creating digital posters by using Photoshop
6. Photo manipulating & Photo corrections by using patch tool, healing brush & clone stamp tools
7. Converting black & white photo to color, also manipulating hair & skin colors
8. Decreasing image size by adding Photoshop Script
9. Creating magazine cover designs& newspaper advertisement
10. Creating different types of gif animations in Photoshop.

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

Course Code: G 110 OE 1.1	**Course Title: Environment & Character Sketching**
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Do shading, colouring and gesture drawings.
- Create different perspective sketching
- Understand principles of art in detail.
- Understand different pictorial drawings and dimensions.
- Draw and understand geometrical structures.

Course Content

Content	Hours
Unit - 1	
Character sketching, head study, illustration technology, modern art, geometrical drawings, drawing from objects and other geometrical shapes, sketches and study, drawing from life, color basics, perspectives, background designs, shadows and lights, human and cartoon figures, fun fiction, coloring, city landscapes, pattern creation, applying core skills, gesture drawings, flip book, walk cycle, design for marketing, space, illusion of depth, linear perspective,	12
Unit - 2	
Types of perspective, open and close compositions, repeated figures, multiple images, motion blur, value- introduction, patterns, light and shade, digital shading and lighting, points and lines- types, direction, quality, lines and outlines, contours, lines as value, shapes, geometric and rectilinear, curvilinear and biomorphic, abstract, positive and negative, collage, visual.	10
Unit - 3	
Color characteristics, color theory, wheels, triangles and trees, color through ages, color interactions, unity and harmony- thematic unity, gestalt and visual unity, achieving unity, balance- formal and informal balance, balance by position and eye direction, crystallographic balance.	10

unit - 4	
Scale and proportion, human scale, contrast and confusion, ideal proportion, contrast and emphasis- contrast, isolation, placement, absence of focal point, rhythm- rhythm and motion, alternating and progressive rhythm, rhythmic sensation.	10

Text Book:

- Beyond Art Fundamentals by Marisa Lewi
- Foundation of Art and Design, Thames & Hudson - by Alan Pipes
- How to Draw: Drawing and Sketching Objects and Environments from Your Imagination by Scott Robertson
- Perspective Made Easy Paperback Illustrated - by Ernest R Norling
- Drawing Dimensions: A Shading Guide for Teachers and Students - By Holmes V Catherine

Reference Books:

- Pen and Ink Drawing Workbook by Alphonso a Dunn
- How to Draw Cool Stuff: A Drawing Guide for Teachers and Students Hardcover – By Catherine Holmes
- Elements of design: structure of visual relationships - By Gail Greet Hannah, Rowena reed Kostellow
- Perspective drawing (Paperback) – By Kenneth W. Auvil,

Semester:II

Course Code: G 110 DC1.2/G 512 DC1.2	Course Title: **Pre-Production and 2D Animation**
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

After completing this course satisfactorily, a student will be able to:

- Learn animation fundamentals and understand how animation works.
- Knowledge about using animation principles in 2D applications and understand the fundamental skills of 2D space
- Work on timeline and understand tools and features to create 2D drawings
- Work systematically on layers and masking for creating motion animation
- Rendering and exporting 2D animation files in different file formats.
- Create animation sequences that employ basic cinematography principles and storytelling skills to create, develop and execute animation sequences
- Develop, assemble and present a demo reel or portfolio in a manner that meets current industry expectations, and highlights one's creativity, skills and proficiency with relevant animation software and related technologies.

Course Content

Content	Hours
Unit - 1	
Introduction to 2d animation, animation uses, animation industry, 2d animation production process, story board drawing, reverse story board, other media for animation, principles of 2d animation, art design, qualities of an 2d artist, computer animation production tasks, digital editing, digital video early activity.	13
Unit - 2	
Story and concept, background design, animatic, interface – drawing toolbar, view toolbar, grading toolbar, option toolbar, properties panel, modelling objects and shaping, timeline status, layers, play head, timeline header, creating layer, folders & properties, layer mask, symbols, graphic move clip button, using library.	13

Unit - 3	
Animating objects, tweening animations, motion tween, shape tween, filters drop shadow, blur, glow, bevel, gradient glow & bevel, camera animation, sound importing, sound placing, sound button, editing, start and end points of sound, publish setting, SWF, GIF, JPEG, PNG, QuickTime formats.	13
Unit - 4	
Masking layer, letter animation using mask, character creation, layout design, divided layout, use of layers, character rig, leg walk, man walk, eye and lips movement, interactive pages, 2d games using action script, introduction to other animation tools, advantage and disadvantages of the various 2D applications.	13

Text Books

- Computer Animation: Algorithm and Techniques by R Parent, Morgan Kaufmann. Morgan Kaufmann Publishers
- Character Animation Fundamentals: Developing Skills For 2D And 3D Character Animation by Steve Roberts
- Mastering Digital 2D And 3D Art by Les Pardew, Don Seegmiller Publisher: Course Technology
- Dynamic Life Drawing for Animators: Bring your artwork to life with the power of the FORCE Watch,
- Book by Michael D. Mattesi
- The Animator's Survival Kit: The Animator's Survival Kit: A Manual of Methods, Principles, and Formulas for Classical, Computer, Games -by Richard Williams

Reference books

- Animation for Beginners: Getting Started with Animation Filmmaking - by MorrMeroz
- Adobe Flash Professional CC: A Tutorial Approach - by Prof Sham Tickoo Purdue Univ
- Adobe Flash Animation: Creative Storytelling for the Web and TV - by Philip Carrera
- Adobe Flash CS3 Professional Bible - by Robert Reinhardt and Snow Dowd
- Teach Yourself Adobe Flash - by NiranjanJha

Course Code: G 110 DC1.2P/G 512 DC1.2P	Course Title: **2D Animation Lab**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Tools and steps involved in first simple animation using motion twining – basic shapes–Shape Twining–shape tweeningin Flash MX.
2. Importing video files into Flash using Adobe Media Encoder and tracing the video file.
3. Creating mask animation and path animation
4. Creating sunset scenery in Adobe flash
5. Creating Camera Animation like push in and pull out, panning.
6. Key frames and position animation
7. Background layout moment animation for movie scenes
8. Character Rigging for 2D cartoons
9. Flat Character Animation for rigged character
10. Creating a complete 2D animation with characters and dialogue.

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

Course Code: G 110 OE 1.2	**Course Title: Digital Designing**
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

- Understand digital design for print and web: resolutions, files formats, tools & menus, layouts
- Design layouts for web pages, paper advertisements, brochures, CD covers, package designing event and exhibition stall designs, pop ups, color corrections paintings, drawings, converting B/W photo to color
- A student will get a complete overview of the whole print from design to the layout to print it
- Use basic Photoshop skills and concepts to develop effective graphics for both web and print media.
- Discover how to edit their own photographs to get rid of dust and scratches, fix the color, and correct image exposure
- understand how best to choose fonts and colors for digital designs
- understand key industry-standard techniques, that are used in the print and design industries

Course Content

Content	**Hours**
Unit - 1	
Importance of Digital Designing, Introduction to Vector & Raster graphics, difference between digital media & print media, newspaper & magazine color settings, understanding pixels & High definition resolution, Corel draw layout and workspace, page settings & formats, RGB & CMYK color modes, gradient colors for advertisings, hex values of colors, raster image pixels & vector lines, adjusting resolution for different files	12
Unit - 2	
Drawing vector lines, Drawing shapes, Drawing rectangles and squares, transformations, and effects, Positioning objects, Aligning and distributing objects, Using curve objects, creating cartoon character Drawing with Freehand Tool, Pen tool, Blending tool, Contouring the Object, Distorting	10

Objects, Extruding of the Object, Drop Shadow, Applying Transparency Effect, Trim, Welding objects, Intersecting objects.	
Unit - 3	
Introduction to Adobe Photoshop, bitmap image editing, converting as smart objects, creating bitmaps, Photoshop interface preference settings, resize image & canvas, file types, document sizes, resolutions, magnetic lasso tools, trimming & cropping image, uses of layers, background layer, creating, deleting & merging layers, re-arranging layers, linking layer movement, locking layer movement, layer transparency, using marquee tools, type tool options, applying gradient colors, photo manipulation	10
Unit - 4	
Creating gif animation image, layer mask, script- image processor, drop shadow, inner shadow, inner glow, outer glow, bevel and emboss, satin, color overlay, gradient overlay, pattern overlay, stroke, pasting effects, RGB levels, hue & saturation, sharpen, dodge, burn, healing brush, blending options, radial & shape blur, brightness/contrast, creating new pattern, saving for web, creating magazine cover, greeting card, invitations, certificates brochures, advertisements.	10

Text Books

- How to Use Graphic Design to Sell Things - by Michael Bierut
- Adobe Photoshop CC Classroom in a Book – by Andrew Faulkner and Conrad Chavez
- CorelDraw X7: The Official Guide – by Gary David Bouton
- Designing Brand Identity: An Essential Guide for the Whole Branding Team - by Alina Wheeler
- How to be a Graphic Designer, Without Losing Your Soul - by Adrian Shaughnessy

References

- The Non-Designer's Design Book - by Robin Williams
- The Elements of Typographic Style - by Robert Bringhurst
- The Design of Everyday Things - by Don Norman
- Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation – by Tim Brown

Third Semester

Course Code: DSC-3	Course Title: Visual Effects
Course Credits: 4 Total Contact Hours: 52	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

Aftercompletion ofthiscoursestudentsshould be ableto

- Understand the concept of linear and nonlinear editing.
- Understand the concept of transitions, layering.
- Mastering filmmaking terminology to communicate effectively throughout all stages of production.
- Creating quality media productions including skills in story development, producing, cinematography, editing, and audio production/post production.
- Edit and compress video for use in various delivery modes of digital media using standard digital video editing software.
- Identify hardware and software protocols specific to the field of visual effects.
- Create photo-real images to match live action footage by the application of advanced rendering techniques.
- Integrate 2D and/or 3D computer generated imagery and live action elements using compositing techniques.

Course Content

Content	Hours
Unit - 1	
Introduction and getting organized and Understand the Premiere interface. Non-linear versus linear editing, video capture, formats and resolution, Analog versus Digital - the difference, Transitions-Fades, Cuts, Dissolves, Wipes, Keying & Layering, formats- Avi, MPG-2, Mov, Wmv, VCDs and DVDs, Internet formats, VHS	13

Unit - 2	
Introductionto Motion Capture, Live Video capture from capture card, tuner card, satellite & local channel capture to edit, Capturing and gathering media Build and organize your story, – titles, importing, Rough cut, Trim your story, Stop Motion, Motion Effects Text, Titles, Multichip Filtering and Keying, Organizing Clips In The Browser, THE Creation of Sequences and BINS, The Icon View and Columns View, Marking Controls.	13
Unit - 3	
Elements of editing,The Timeline Buttons and Controls, The Timeline Overview, Editing Clips Into The Canvas & Timeline, Transferring Clips in the Timeline, applying key frames, Trimming Using the Selection Tool, Closing and Finding Gaps, Adjusting Audio Over Time, The Audio Mixer & using the voice over tool, Delete Between the In/out Points,	13
Unit - 4	
Introduction to After Effect, titling styles, Lights and Cameras, Expressions, Motion tracking, Painting, applying animation presets, blending modes, 3d layers, mattes, rendering techniques, exporting composition to other file formats. Using cameras in editing and applying vfx, demonstrate basic media management techniques.	13

Text Books:

- Adobe Premiere Pro Classroom in a Book (2022 Release) by Maxim Jago Pearson Education (US)
- Adobe Premiere Pro CS6 - The Official Training Workbook from Adobe Systems
- Learn Adobe Premiere Pro CC for Video Communication by Joe Dockery, Rob Schwartz, Conrad Chavez
- Learn Adobe After Effects CC for Visual Effects and Motion Graphics by Joe Dockery, Conrad Chavez
- Adobe After Effects CC Classroom in a Book by Adobe Creative Team

Reference Books:

- Keith Underdahl - "Adobe Premiere elements for dummies
- Adobe After Effects CS5 Classroom In A Book:The Official Training Workbook From Adobe Systems by Adobe Press

Course Code: DSC-3 Lab	**Course Title:Visual Effects Lab**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 20
Exam Marks: 30	Exam Duration: 3 Hours

Practical Lab

11. Creating basic Graphic key animation
12. Capturing footage for new VFX projects
13. Creating & modifying movie titles using Saber.
14. Applying audio filters-Animating filter-using third party plugin
15. Using Green screen and blue screen effects for duble acting editing
16. Creating product advertisements, program trailers and movie trailers
17. Working with colour grading techniques
18. Using Rotoscoping of captured footage in editing
19. Creating image slideshow and transition effects
20. Using key frame changing & making the pace of a clip & export techniques.

Evaluation Scheme for Practical Examination

Assessment Criteria	**Marks**
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total	**50(reduced to 25)**

Course Code: CSOE3/CAOE3	Course Title: History of animation
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs):

After completing this course satisfactorily, a student will be able to:

- Understanding how the techniques in the past made things the way they are today
- Understanding the thoughts, ideas, and concepts of various fields artists in the past
- Gives an In-Depth Look at the World Art
- Understanding & orient ourselves in the present animation techniques
- Understand how to Integrate Information from the past

Course Content

Content	Hours
Unit - 1	
Early Animation, The past – Cave painting, Flip book, Egyptian murals, the magic lantern, The present – Stop motion, CGI animation, the future animated humans, Victorian parlor toys, Zoetrope (190 AD: 1834) Thaumatrope (1824), Phenakistoscope (1831), Praxinoscope (1877).	12
Unit - 2	
Animation industry in different country, Chinese animation, Iranian Animation, Japanese animation, British animation, French animation.	10
Unit - 3	
First color cartoon, First animated feature film, early Walt Disney, History of mickey mouse, silly Symphonies, origin of Warner Bros, MGM cartoon studios, sound animation.	10
unit - 4	
The rise of Computer Animation, the fall of traditional animation, from big screen to small screen, start of television era, modern animation in USA, eighties trends, golden age of animation.	10

Text Book:

- The World History of Animation - By Stephen Cavalier, Sylvain Chomet
- Creators of Life - A History of Animation - By Donald Heraldson
- The Comic Book History of Animation: True Toon Tales of the Most Iconic Characters, Artists and Styles! - By Fred Van Lente, Ryan Dunlavey
- The History of Chinese Animation by Sun Lijun

Reference Books:

- Hollywood Cartoons American Animation in Its Golden Age - By Michael Barrier
- French Animation History By Richard Neupert

IV Semester

Course Code: DSC-4	Course Title: 3D Modelling
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

After completing this course satisfactorily, a student will be able to:

- Knowledge about using 3D applications and understand the fundamental skills of 3D space
- Creating different types of polygon models
- Creating 3D objects using line & NURBS
- Creating interior designs & exterior designs
- Rendering and exporting 3D files in different image file formats.
- Create different 3D environments, models, structures, architectures.
- Understanding how mesh works in 3D modelling.

Course Content

Content	Hours
Unit - 1	
Understanding 3D Space, The Interface Elements, Using the Menus, Learning the main toolbar, Viewing the floating toolbars, Using the Viewports, Using the Command Panel, Working with rollouts, Orthographic and Perspective, Zooming a view, Panning a view, Rotating a view, Controlling viewports with a scroll wheel, Merging and replacing objects, Rendering preferences, Gizmos preferences, Creating Primitive Objects, Using the Create panel, Assigning colors, Exploring the Primitive Object Types, Standard Primitives, Extended Primitives, Modifying object parameters, Translating, Rotating, and Scaling Objects,	13

Unit - 2	
Applying modifiers, Using Pivot Points, Mirroring Objects, Creating groups, Ungrouping objects, Attaching and detaching objects, Building Links between Objects, Introducing Modifiers and Using the Modifier Stack, Free Form Deformer modifiers, Parametric objects versus editable objects, Working with shape primitives, Editing Splines, Editing vertices, Using Spline Modifiers, Creating Editable Poly Objects, Edit Geometry rollout, Extrude modifier, Face Extrude modifier, MeshSmooth modifier, NURBS Curves and Surfaces	13
Unit - 3	
Understanding Compound Object Types,ShapeMerge Object, Creating Connect Objects, Modeling with Boolean Objects, Creating a Scatter Object, Creating a Loft Object, Using the Get Shape and Get Path buttons, The Deformation window interface, Modeling some interior objects, Modeling a garden, Creating AEC Extended objects, Creating Mountains, Exterior Modeling using railing and wall, creating doors, windows and stairs, Creating street for gaming	13
Unit - 4	
Modelling in Maya -Maya interface, the view window, tools, buttons, customizing view, zooming in and out, navigate between different artwork displays through key commands and shortcuts, creating basic 3D models, using Transform tools to move, rotate, and scale, how to group and parent objects and pivot them, selecting components and rotating, scaling, and transforming the elements of the model. face and edge deleting, extrude, poke, or cut to add details to the objects, Boolean, duplicate, flip, split polygons by creating new vertices and faces and draw new polygons freehand, creating gradients and bevels to smoothen edges, modeling basic shapes and figures using primitives.	13

Text Books

- 3D MAX Bible 2022, Publisher: Wiley India Pvt Ltd
- Poly-Modeling with 3ds Max - Thinking Outside of the Box - By Todd Daniele
- Autodesk Maya And Autodesk 3ds Max Side-By-Side by Les Pardew, Mike Tidwell Publisher: Course Technology, BarrettFox
- 3ds Max Modeling for Games Insider's Guide to Game Character, Vehicle, and Environment Modeling By Andrew Gahan
- Introducing Autodesk Maya 2022: Autodesk Official Press -by DariushDerakhshani

Reference books

- 3D Art Essentials The Fundamentals of 3D Modeling, Texturing, and Animation By Ami Chopine
- Getting Started in 3D with 3ds Max Model, Texture, Rig, Animate, and Render in 3ds Max - By Ted Boardman
- Autodesk 3ds Max 2020: a Detailed Guide to Modeling, Texturing, Lighting, and Rendering, 2nd Edition (in Full Color) By PradeepMamgain

Course Code: DSC-4 Lab	Course Title: **3D Modelling Lab**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 52	Formative Assessment Marks: 20
Exam Marks: 30	Exam Duration: 3 Hours

Practical Lab

1. Creating a 3D House by using standard primitives
2. Creating interiors like chair, tables by using spline objects
3. Creating Architectural modelling designs
4. Creating a Garden & forest, landscape scenes by using foliage options
5. Creating anAirplane and Helicopter by using polygon extrude & bevel option
6. Modelling the Character –creating a Male &Female Character
7. Creating wall, curtain, sofa, window and railings, stairs
8. Modelling a car –using HighPolygonal.
9. Creating lock, key, lamp, sandals and other daily used objects
10. Modelling a product designs by Boolean, face extrude & shape merge

Evaluation Scheme for Practical Examination

Assessment Criteria	**Marks**
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total	**50**

Course Code: CSOE4/CAOE4	**Course Title: Video editing**
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

- Identify and describe key terms, concepts, major trends and periods related to various modes of production.
- Learn how to combine basic design principles in video editing.
- Demonstrate skills required to create quality media productions
- Apply methodological design process for construction of a television program.
- create an audio visual television program

Course Content

Content	**Hours**
Unit - 1	
Over view of the editing process, Advantages, elements of editing, Principles of editing, Non-linear versus linear editing, video capture, formats and resolution, Analog versus Digital - the difference,	12
Unit - 2	
Titles and credits, safe titles, Transitions-Fades, Cuts, Dissolves, Wipes, Keying & Layering, formats- Avi, MPG-2, Mov, Wmv, VCDs and DVDs, Internet formats, VHS , 3D compositing, DI process in films.	10
Unit - 3	
Video and audio editing softwares, Capturing and gathering media Build and organizing, importing, Rough cut, Trim the story, Motion Effects Text,	10
Unit - 4	

Multichip Filtering and Keying, Organizing Clips In The Browser, THE Creation of Sequences and BINS, The Icon View and Columns View, Marking Controls.	10

Text Books

- The Video Editing HandbookFor Beginners - By Aaron Goold
- Editing Digital Video - The Complete Creative and Technical Guide By Robert M. Goodman, Patrick McGrathEditing
- Digital Video (Digital Video and Audio Series),
- Adobe Premiere Pro CC Classroom in a Book, By Maxim Jago. By Adobe

References

- Digital Audio Editing Fundamentals - By Wallace Jackson
- The Art and Science of Digital Compositing, Morgan Kaufmann by Ron Brinkmann
- Digital Compositing for film and Video, Focal Press

Fifth Semester

Course Code: DSC -5	Course Title: 3D Texturing, Camera & Lighting
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

Aftercompletion ofthiscoursestudentsshould be ableto

- Give detailed texturing and colouring to 3D characters or objects.
- Understand how shaders are applied.
- Understand different mapping done to enhance the details of the object.
- Understand the concept of hair dynamics and different presets.
- Creating camera animations.
- Creating a desired lighting required for the 3D scene e.g. interiors, exteriors.

Course Content

Content	Hours
Unit - 1	
Working with default maps, Understanding Material Properties, Opacity and transparency, Shininess and specular highlights, Working with the Material Editor, Using the sample slots, Naming materials, Getting new materials, Assigning materials to objects, Understanding Material Map Types, 2D maps, 3D maps, Reflection and refraction maps, Diffuse Color mapping, Specular Level mapping, Glossiness mapping, Opacity mapping, Bump mapping, UVW Map modifier, Using the Unwrap UVW modifier,	12
Unit - 2	
Working with Shaders& Hair,Using Shading Types, Blinnshader, Phongshader, Anisotropic, Multi-Layer shader, Oren-Nayar-Blinnshader, Metal shader, Strauss shader, Translucent shader, Multi-Layer Materials, Blend, Double Sided, Using Compound Materials, Raytrace Materials, Multi/Sub-ObjectTop/Bottom, Ink 'n' Paint Material, Using material IDs, Working with Hair, Growing hair, Setting hair properties, Adding hair to a Man's head, Using hair presets, Using Hair Dynamics, Running a simulation,	10

Unit - 3	
Working with Cameras, Creating a camera object, Creating a camera view, Controlling a camera, Aligning cameras, Setting Camera Parameters, Lens settings and field of view, Camera type and display options, Using the Motion Blur effect, Using the Depth of Field effect,	10
Unit - 4	
Working with Lights, Basic Lighting Techniques, Natural and artificial light, Shadows, Light Types, Default lighting, Ambient light, Omni light, Spotlight, Direct light, Skylight, Creating and Positioning Light Objects, Transforming lights, Using the Sunlight and Daylight Systems, Using the Compass helper, Understanding Azimuth and Altitude, Specifying date and time, Specifying location, Volume light parameters	10

Text books

1. 3D MAX Bible 2022, Publisher: Wiley India Pvt Ltd
2. Autodesk 3ds Max 2022 Essentials: Autodesk Official Press by - Randi L. Derakhshani&DariushDerakhshani
3. Inside 3d Studio Max: Animation by Kennedy macstrifrantz Publisher: New Riders

Course Code: DSC -5 Lab	Course Title: **3D Texturing Lab**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Applying different textures to 3D objects
2. Creating multi color objects – using multi sub object map
3. Creating shining & reflecting objects.
4. Creating glass texture by using ray trace map
5. Creating facial texture by using UVW Map
6. Using 2D & 3D Maps for different scenes

7. Using Hair & Fur modifier and creating real hair for the character
8. Using Camera in the indoor & out door scense
9. Attaching camera to the path and animating it
10. Creating spot light, target light omni light.
11. Different types of lights in different scenes
12. Creating projector scenes using projector map

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

Course Code: DSC -6	**Course Title: Web Designing & Development**
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

Aftercompletion ofthiscoursestudentsshould be ableto

- Understand the principles of creating an effective web page, including an in-depth consideration of information architecture.
- Become familiar with graphic design principles that relate to web design and learn how to implement theories into practice.
- Learn the language of the web: HTML and CSS.
- Develop skills in digital imaging (Adobe Photoshop.)
- Be able to embed social media content into web pages.
- To create web elements like buttons, banners & Bars and of course complete UI designs.

Course Content

Content	Hours
Unit - 1	
Different types of computer networks, Introduction to World Wide Web, Growth of internet, Accessing internet through modem and ISP, introduction to browsers, search engines. How web pages will work, Introduction to web hosting. Introduction to CMS (content management system) sites.	12
Unit - 2	
Growth of HTML, Types of web pages, and Basic structure of Html files, formatting of text with different styles. Inserting images into web pages, applying background color and textures, creating tables, spanning of rows and columns, nesting of tables, inserting video files and flash files into it	10
Unit - 3	
Applying interactivity using forms, designing log in form feedback form and contact us forms. Using submit buttons and reset buttons, various other types of forms like radio and checkboxes, drop down menu and password, Creating hyperlinks, email links and website links, image links video and audio file links, downloading files	10
Unit - 4	
Dividing web pages using frames, nesting of frames, using cascading style sheets, managing websites, using spry menu when developing sites, using Photoshop for mock up web pages, slicing the page, replicating it, publishing on the internet.	10

Text books

- Willard-"Html 5: Beginner's Guide"
- Adobe Systems-"Adobe Dreamweaver CS3: classroom in a book"
- Joseph W. Lowery -"Dreamweaver CS3 Bible"
- Jennifer Niederst, Jennifer Niederst Robbins -"Learning Web design: a beginner's guide
- o HTML, graphics, and beyond"

Course Code: DSC -6 Lab	Course Title: **Web Designing Lab**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Web page designing in Photoshop and slicing method
2. Basic structure of HTML file including various head and body tags
3. Simple web page creation with images and text
4. Hyperlinks –HTML link, image links, pdf, email and download links
5. Incorporating video and animate files into web pages
6. Displaying tabular data in web pages using tables
7. Web page using forms and Frameset tags.
8. Spry menu bar, tabbed panel, Accordion etc.
9. Web page layouts – tables and div tags
10. Creating a complete website (minimum 3 pages)

Evaluation Scheme for Practical Examination

Assessment Criteria	**Marks**
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

Vocational Course

Course Code: VC-1:	**Course Title: Story Board & Script Writing**
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

Aftercompletion ofthiscoursestudentsshould be ableto

- Write the scripts for movies and advertisements.
- Learn the good and bad body languages and essence of cinema.
- Develop skills in camera techniques and its meaning.
- Gaining knowledge of communication skills.
- Be able to understand and interpret movies.

Course Content

Content	Hours
Unit - 1	
Basic elements of story, Archplot, Multiplot, Miniplot, Nonplot, Antiplot structure. History of Indian Cinema. Language of Cinema. History & Development. Discuss Theme, Meaning, Emotion and Character. Movie Analyse, Layouts, locations, mapping. Props design. Reverse story board	12
Unit - 2	
Discuss historical approaches to structure, power and conflict, reversals of plot and expectation, the inciting incident, progressive complications, turning points. Set ups and pay offs, crisis, climax and resolution. Indoor setup requirements, Outdoor set ups.	10
Unit - 3	
Principles of Exposition, Backstory, Flashbacks, Screenwriting Problems, narrative and Dialogue, Produce a series of cohesive storyboards from a script. Recognize and define common storyboard terminology.	10
Unit - 4	
Apply basic drawing techniques to create legible storyboards. Create and output a simple Animatic from scratch. Identify and state common pre-production workflow.	10

Text books

- Movie Storyboards: The Art of Visualizing Screenplays Hardcover – by FionnualaHalligan
- Film Directing: Shot by Shot - Visualizing from Concept to Screen - by Steve D Katz Steve D. Katz
- The Visual Story: Creating the Visual Structure of Film, TV, and Digital Media - by Bruce Block
- The Art of the Storyboard, 2nd Edition: A Filmmaker's Introduction - by John
- Storyboards: Motion In Art - by Mark A. Simon
- Professional Storyboarding: Rules of Thumb - by Sergio Paez (Author), Anson Jew (Author)

Sixth Semester

Course Code: DSC -7	Course Title: 3D Rigging & Animation
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

Aftercompletion ofthiscoursestudentsshould be ableto

- Mastering 3D rigging and animation to bring characters, objects, and scenes to life
- Able to work as a character animator, creating movements and expressions for characters in films, TV shows, video games, and advertisements.
- Understand 3D animations to visualize buildings, interiors, and landscapes
- Understand Animation to explain complex medical and scientific concepts, making them easier to understand for both professionals and the general public.
- Understanding problem-solving skills as students figure out how to make characters move realistically, create convincing physics simulations, and troubleshoot technical issues.
- Creating a Character and different types of object animation clips

Course Content

Content	Hours
Unit - 1	
Working with Object Animation, The Rendering Menu, Understanding the Max Renderers, Creating Atmospheric Effects, Adding effects to a scene, Using the Fire Effect, Using the Fog Effect, Creating Lens Effects, Glow, Ring, Star, Ray, Batch Rendering Scenes, Using the Batch Render tool, The Video Post toolbar, Adding an image input event, Adding scene events, Adding image filter events, Adding an image output event, Assigning controllers in the Track View, Transform controllers, Position track controllers, Rotation and Scale track controllers, Learning the Track View Interface, Track View menus and toolbars, Track View menus and toolbars,	12

Unit - 2	
Working with Particles, Creating Particles and Particle Flow, Understanding the Various Particle Systems, Using the Spray and Snow Particle Systems, Using the Super Spray Particle System, Super Spray Basic Parameters rollout, Particle Generation rollout, Particle Type rollout, Using the Blizzard Particle System, Using the PArray Particle System, Using the Time Controls, Setting frame rate, Auto Key mode, Set Key mode, Using the Motion Panel, Animating Objects, Animating cameras, Animating lights, Animating materials,	10
Unit - 3	
Working with Space warps & Reactor, Creating and Binding Space Warps, Creating a Space Warp, Binding a Space Warp to an object. Space Warp Types, Force Space Warps, Deflector Space Warps, Geometric/Deformable Space Warps, Modifier-Based Space Warps, Using reactor, Springs, wind, Using the Preview window, Creating animation keys, Morpher modifier, Working with the constraints,	10
Unit - 4	
Working with Biped & Bones, Creating a Biped, Customizing a biped, Modifying a biped, Bending links, Working with Postures and Poses, Animating a Biped, Using Footstep Mode, Creating a Rigging Workflow, Building a Bones System, Assigning an IK Solver, Setting bone parameters, IK Limb solver, Understanding the Skinning Process, Binding to a skeleton,	10

Text books

- Kelly LdotMurtock – " 3DS Max Bible 2015"
- 3D MAX Bible 2022, Publisher: Wiley India Pvt Ltd
- Autodesk 3ds Max 2022 Essentials: Autodesk Official Press by - Randi L. Derakhshani&DariushDerakhshani
- Inside 3d Studio Max: Animation by Kennedy macstrifrantz Publisher: New Riders

Course Code: DSC -7 Lab	Course Title: **3D Rigging & Animation Lab**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Creating ball bouncing animation
2. Ceiling fan & Table fan Animation
3. Creating Cracker blast animation
4. Fire animation with glow effect
5. Creating flag flying using wind animation
6. Object motion and basic techniques in Animation
7. Face morphing animation
8. Rigid body animation
9. Flying fabric motion
10. 3D walk through animation
11. Character bones animation
12. Creating 3D clip and rendering

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

Course Code: DSC -8	**Course Title: 3D Dynamics & Effects**
Course Credits: 4	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

Aftercompletion ofthiscoursestudentsshould be ableto

- Mastering Dynamics and effects, particle, and emitters
- Able to work as a special effects artist, creating collisions and explosion for action films, TV shows, video games,
- Understand 3D animations to visualize sfx, interiors, and landscapes
- Understand Soft body and rigid body animation, making them easier to understand for both professionals and the general public.
- Creating a Special effects and collider animations for advertisement company

Course Content

Content	**Hours**
Unit - 1	
Working with Object Animation, The Rendering Menu, Autodesk Maya, Tools and Interface, Introduction to dynamics, Particle objects, Goals, Emitter, various methods, Particle Tool, Make Collide, Emit from Object, particle Shape, Particle Sample Info Node, Gravity field.	12
Unit - 2	
Make an object move with a dynamic parent, Duplicate particle objects, create particles, Particle collisions, Place particles on a surface, animate particles, set particle lifespan, use lights, reflections, refractions, and shadows, particle colour, Control execution time of particle dynamics, Apply forces in an object's local space.	10

Unit - 3	
Volume Axis, Vortex, move – Resize – Rotation, Newton, Gravity, Drag, Air, Soft bodies, Rigid bodies, Rigid body constraints, Springs, Duplicate soft bodies, Paint Soft Body Weights Tool, Edit attributes of a rigid body, rigid Solver, Fire, Lightning, Surface Flow, Curve Flow.	10
Unit - 4	
Key and parent constraints, Create Active Rigid Body, Create Passive Rigid Body, Break Rigid Body Connections - Set Passive Key - Set Active Key, Create Constraint, fixing problems with constraints, Create Smoke, Surface Flow procedures, nParticles and nDynamics.	10

Text books

- Elemental magic – "joseph gilland"
- Maya studio projects: Dynamics 1st edition- Todd Palamar
- Learning Autodesk maya 2019- Autodesk
- Autodesk maya 2023 basic Guide

Course Code: DSC -8 Lab	Course Title: **3D Dynamics & Effects**
Course Credits: 2	Hours of Teaching/Week: 4
Total Contact Hours: 42	Formative Assessment Marks: 25
Exam Marks: 25	Exam Duration: 3 Hours

Practical Lab

1. Creating Particles
2. Creating dust blast
3. Creating Cracker blast animation
4. Fire animation with emitters
5. Creating fish and motion path animation.
6. Water flow animation.
7. Particle dance lady animation
8. Rigid body animation
9. Soft body animation
10. Set driven key animation
11. Explode animation

Evaluation Scheme for Practical Examination

Assessment Criteria	Marks
Program-1	15
Program-2	20
Practical Records	10
Viva	5
Total (Converted to 25)	**50**

Vocational Course

Course Code: VC-2:	**Course Title: Traditional Animation**
Course Credits: 3	Hours of Teaching/Week: 3
Total Contact Hours: 42	Formative Assessment Marks: 40
Exam Marks: 60	Exam Duration: 3 Hours

Course Outcomes (COs)

Aftercompletion ofthiscoursestudentsshould be ableto

- Traditional animation skills make students a valuable asset to animation studios that create hand-drawn or hybrid animations.
- Students will be able to work in the field of art and design, such as character design, storyboarding, concept art, and illustration.
- Develop skills in drawing and sketching
- Gaining knowledge to work as a freelance animator, taking on projects such as animated commercials, music videos, or short films.
- Be able to understand to work in both traditional and digital animation pipelines

Content	Hours
Unit - 1	
History of animation, Rotoscoping, cartoonanimation, stop motion animation, thaumatrope, story board, script writing, scene designs, perspectives, live sketching,line drawings.	12
Unit - 2	
Background animation, foreground character animation, BG design,Prop design, scene planning, sequence setting, set artists, hand drawings.head theory, anatomy study, guesture study.	10
Unit - 3	
Layout design, divided layout design, active set design, traditional camera techniques, tred art, warli art, roman drawings, frame by frame animation, keying, sand animation, lighting animation.	10
Unit - 4	
Story board, , anime drawings, facial expression art, character sketching and colouring, story- scene- script – planning, Solid drawings, animatic drawings.	10

Text books

- Animation for Beginners - Basic Principles of Animation for Motion Graphics by Lisa Lee
- Character Design For Complete Beginners - Master the art of character drawing and design for comics, games and animated films by DananThilakanathan
- The Visual Story: Creating the Visual Structure of Film, TV, and Digital Media - by Bruce Block
- The Art of the Storyboard, 2nd Edition: A Filmmaker's Introduction - by John
- Frame-By-Frame Stop Motion - The Guide to Non-Puppet Photographic Animation Techniques, Second Edition by Tom Gasek

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Scheme of Assessment for Theory Examination

Question Pattern		Marks
Part – A		
1. Answer any FIVE sub-questions (5×2=10)		
Sub-question	Unit	
a		**10**
b		
c		
d		
e		
f		
Part – B **(Answer any FOUR sub-questions (4×5=20)**		
2		**20**
3		
4		
5		
6		
Part –C **(Answer any TWO sub-questions (3×10=30)**		
7		**30**
8		
9		
Total		**60**

INTERNSHIPS under UGC regulation, 2023.

INTERNSHIP GUIDELINES

NEP 2020 has devised transformative initiatives in the field of higher education. The skills required for developing employability ingenuities are fostered by introducing internship as an important component in the curriculum.

Internship is provided in two modes-

i. Internship for enhancing the employability
ii. Internship for developing the research aptitude

As per the UGC Guidelines for **"Implementation of Internship/Research Internship for Undergraduate Students**" our institution has structured the internship course under the following categories-

i. Internship for enhancing the employability

The interns may pursue their internships in varied industries perse and go beyond the clusters prescribed by the central, state, micro and local governments. An indicative list is provided by UGC which comprises of –

1. Trade and Agriculture Area
2. Economy & Banking Financial Services and Insurance Area
3. Logistics, Automotive & Capital Goods Area
4. Fast Moving Consumer Goods & Retail Area
5. Information Technology/Information Technology enabled Services & Electronics Area
6. Handcraft, Art, Design & Music Area
7. Healthcare & Life Science Area
8. Sports, Wellness and Physical Education Area
9. Tourism & Hospitality Area
10. Digitisation& Emerging Technologies (Internet of Things/Artificial Intelligence/Machine Learning/Deep Learning/Augmented Reality/Virtual Reality, etc.) Area
11. Humanitarian, Public Policy and Legal Service Area
12. Communication Area
13. Education Area
14. Sustainable development Area

15. Environment Area
16. Commerce, Medium and Small-Scale Industries Area and other areas approved by the statutory bodies of the institution from time to time.

ii. Internship for developing the research aptitude

Building of the research aptitude is a formative way to uncover facts and present the outcomes in an organised manner. Research internship aims at providing hands-on training to work on research tools, techniques, methodologies, equipment, policy framework and various other aspects in pursuing quality research.

The research interns can apply in research institute, research lab, national or internationally reputed organizations, research labs, working with faculty, mentors from distinguished fields.

INTERNSHIP STRUCTURE

- Internship is organised, executed and monitored by the Research & Development Cell (RDC) of the institution.
- Since the internship is time bound, a research supervisor is assigned to the interns for sharing expertise and follow up of their Internship Progress.
- Orientation sessions and interaction faculty-wise was initiated.
- A Nodal Officer was appointed along with four block-wise coordinators to harness the possibilities and effectively implement internship at department level.
- Internship Report Format is drafted for maintaining the uniformity in reporting ethos.
- The Nodal Officer is in charge of corresponding with the Internship Providing Organization (IPO) is any organization, HEI, philanthropy, farmer, government organization, R&D institutions, research labs, artisans, enterprises, institution/person of eminence, cooperatives, corporates providing an opportunity to the student for Internship during the programme.
- The Nodal Officers along with the block coordinators must be approached in case of any issues and will be responsible for any official registration, enrollment and upkeep of the internship programme and the students.
- Internship Supervisors/ Mentors are appointed and a lot of students are assigned to them who inturn are responsible to ensure the authenticity of the internship certificate provided and monitor the hours of the work undertaken by the interns.

- Students may apply for Internship Programme through the Nodal Officer or Online Internship Apps such as Internshala, Go Intern and so on to avail the Internship Offers.
- It is preferred to undertake internship in physical mode. Digital Mode or Group Internships are an option.
- Internship Reports must be endorsed by the Internship Supervisor/ Mentor.

ACADEMIC CREDENTIALS

- The internship as a course is mandatory for the under-graduate level fetching 2 credits each.
- For an internship, one credit of Internship means two-hour engagement per week.
- 60 – 90 Hours is mandatory to be undertaken by every student who is interning in any of the modes mentioned above.
- Hands-on training/ Orientation is mandatory before commencement of the internship/research internship programme.

EVALUATION

Report writing (15-20 pages)- Format will be sent to the Internship Mentors/ Project Guides	20 Marks
Powerpoint Presentation	10 Marks
Viva Voce (One to One)	10 marks
External Assessment (Internship)/ External Evaluation (Project Report)	10 Marks
Total	**50 Marks**
Number of Hours	**60 hours (Internship)**

EVALUATION AND ASSESSMENT COMPRISES OF-

i. Activity logbook and evaluation report of Internship Supervisor
ii. Format of presentation and the quality of the intern's report
iii. Acquisition of skill sets by the intern
iv. Originality and any innovative contribution
v. Significance of research outcomes
vi. Attendance

ANNEXURE

FORMAT OF THE INTERNSHIP REPORT

ST ALOYSIUS COLLEGE (AUTONOMOUS) MANGALURU

INTERNSHIP REPORT FORMAT

1. Title Page (1 page)

- Student Name, Class, Register Number, Name of the College
- Name of the Company
- Internship Dates (Duration – Date of commencement –Date of completion)
- Certificate from Dean/Head of Department **(1 page)**
- Declaration by the Student **(1 page)**
- Certificate from the Internship Mentor **(1 page)**
- Company Certificate with Official Logo and Authorized Signature **(1 page)**

REFER SAMPLE 1 to SAMPLE 6 ANNEXED TO THIS FORMAT (Page No. 3 - Page No. 6)

2. Table of Contents (1 page)

- Keep it in Tabular Form
- Serial Number, Particulars and Page Number (three columns)

3. Acknowledgements *(*1 page)

(Mention how they helped you and what you learnt from each person)

4. Brief Profile of the Company/entity (2 pages)

- History- Vision- Mission of the Company
- Regular Business Activities (Broad/Specific)
- Intern's role in Overall Work Scheme

5. Tasks Assigned (1 page)

- Mention in points the various tasks assigned

6. Learning Objectives (1 page)

(Example: three objectives are mentioned- any other objective kindly mention)

- Mention the following learning objectives-
  - ✓ To pursue internship in a company or an institution which gives opportunity to explore and nurture our skills.
  - ✓ To undertake experiential learning to improvise the technical and social skills.
  - ✓ To build curriculum vitae and strengthen the work experiences.
  - ✓ Any other (kindly specify)

7. Responsibilities including Job Description (7 pages)

- Internship Position in the Company (Example: Database Management Assist as Designation)
- Day Wise Report (Mention- Date, Time, Venue, Staff In-charge Name and Designation, Detailed report on daily basis)
- Mention Specific Tasks, Skills you learnt and experiences that developed you professionally.
- Mention even the talks, seminars attended, training sessions attended.
- Attach the relevant documents and certificates and evidential documents.

8. Skills and Experiences (Learning Outcomes) (1 page)

- Specific skills developed relate it to educational experiences and your career goal.
- Professional traits acquired.

9. Conclusion (1 page)

- Potentialities for future internships
- Helping the organization in better understanding of the need and interest of interns.

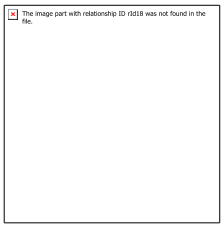
10. Annexure

- Attach relevant documents, certificates and photographs

Principal 22-01-2023 **Registrar**

SAMPLE 1

Title page



ST ALOYSIUS COLLEGE (AUTONOMOUS) MANGALURU

Internship Report on ---------- (area of work)

at ---------- (name of the company, place)

Submitted to St Aloysius College (Autonomous), Mangaluru in partial fulfillment of the requirements for the award of the

Degree of Bachelor of ……jh ……

B. ……..

By

(Name of the Student)

(Class and Register No)

Under the guidance of

Name and address of Internal Guide

2023 – 2024

SAMPLE 2

Certificate from the Dean/HOD

FACULTY OF ……..

ST ALOYSIUS COLLEGE (AUTONOMOUS)

LIGHT HOUSE HILL ROAD, MANGALORE – 575 003

CERTIFICATE

This is to certify that Mr./Ms …….. bearing Register number…….. has successfully completed his/her internship on ……..……. (area of work) at ……..(name of the company and place).

This internship report is prepared after having undergone internship for the period as stipulated by the College and is submitted to St Aloysius College (Autonomous) Mangaluru, in partial fulfilment of the requirements for the award of the Degree of Bachelor of …….. during the year 2023-24.

Date: Signature with name and Designation

Place: Seal

SAMPLE 3

Declaration by the student

DECLARATION

This is to certify that this internship report has been prepared by me after undergoing internship from……to……(duration) at …….. (name of the company and place). This report is my original work and is being submitted for the partial fulfilment of the requirements of the award of the Degree of ……..

This report has not been submitted earlier to this College or any other Universities/Institutions for the fulfilment of the requirements of the course of the study.

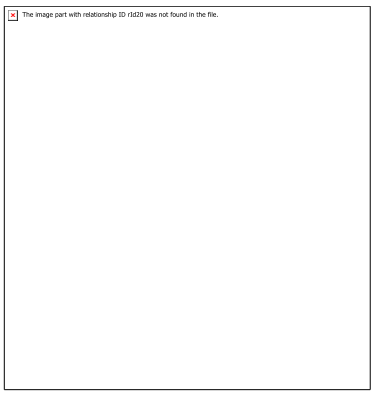
Date: Signature

Name of the student

Place: Register No

SAMPLE 4

Certificate from Internship Mentor



CERTIFICATE

This is to certify that …….. (Name of the student), Register Number……., of ……., has successfully completed his/her internship on……(area of work) at …… (name of the company and place), in partial fulfilment of the requirements for the Degree of ……. The internship report has been prepared by him/her under my guidance and supervision. I further certify that no part of this report has been submitted for the award of any degree, diploma, fellowship or such other similar title.

Name and Designation of the Internship Mentor:

Date:

Place: Signature

(Internship Mentor)

SAMPLE 5

Certificate of Performance from the company in its letter head

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr/Ms ……..…(name of the student),…… (Reg No), student of B.Com at St Aloysius College (Autonomous) Mangaluru, has done his /her internship in our company on …….. ……., (area of work), for the purpose of partial requirements for the award of the Degree of Bachelor of Commerce. He /She has completed the internship from our company for the period from ……to…… (date of internship).

During his/her tenure of the internship his/her conduct and character was good.

Signature

Name and Designation

Company seal

Date:

Place:

****