St Aloysius College (Autonomous)

Mangaluru

Re-accredited by NAAC "A" Grade

Bachelor of Vocational Studies In

ANIMATION & MULTIMEDIA

CREDIT BASED SEMESTER SYSTEM (2018 –19 ONWARDS)

Re-accredited by NAAC with 'A' Grade - CGPA 3.62
Ranked 94 in College Category – 2018 Under NIRF, MHRD, Government of India
Recognized by UGC as "College with Potential for Excellence"
College with 'STAR STATUS' conferred by DBT, Government of India

Date: 22-02-2019

NOTIFICATION

Sub: Syllabus of **B.Voc. in Animation & Multimedia**

Course under Credit Based Semester System.

Ref: 1. Academic Council decision dated 15-11-2018

2. Office Notification dated 05-02-2019

Pursuant to the Notification cited under reference (2) above, the Syllabus of **B.Voc in Animation & Multimedia** Course under Credit Based Semester System is hereby notified for implementation with effect from the academic year **2018-19.**

PRINCIPAL   **REGISTRAR**

To:

1. The Chairman/Dean/HOD.

2. The Registrar

3. B.Voc. Office

4. Library

Preamble

With the economic growth the demands for professionals and skilled manpower has increased manifold. This has given steep rise to demand for competent Professionals and skilled manpower in Animation & Multimedia Industry.

This programme is designed to cater to demands of professionally trained human resources.

The programme is highly relevant for all those who want to pursue a professional career in the field of Animation and Multimedia.

Aim: The programme aims to build individual capacities and train persons with adequate employability skills. The programme structure attempts to blend appropriate technical knowledge and skills, personal and professional skills.

Keeping in view the demands of the market and to provide flexible options for students the programme is designed in modular manner and allows entry and exit options at various levels. The learners will have flexibility to develop themselves according to their strengths and career interests.

The University Grants Commission (UGC) has launched a scheme on skills development based higher education as part of college/university education, leading to Bachelor of Vocation (B.Voc.) Degree with multiple exits such as Diploma/Advanced Diploma under the NSQF (National Skill Qualifications Framework). The B.Voc programme is focused on universities and colleges providing undergraduate studies which would also incorporate specific job roles along with broad based general education. This would enable the graduates completing B.Voc. to make a meaningful participation in accelerating India's economy by gaining appropriate employment, becoming entrepreneurs and creating appropriate knowledge.

The proposed vocational programme in Animation & Multimedia will be a judicious mix of skills, professional education and also appropriate content of general education. It is designed with the objective of equipping the students to cope with the emerging trends and challenges in the Animation field.

Silent feature of the Course:

1. Equipping students with knowledge, practice, & necessary job oriented skills enabling them to gain suitable employment.
2. Curriculum collaborated with the industry requirements.
3. Credit based Semester system
4. Exposure to real time application development at the end of each semester except first semester.
5. Certification of skill component by NSDC and various Sector Skill Council.
6. Collaborations with Industries for training and placements.
7. Internship in industry: partnership with firms.
8. Multiple exit points in 4 stages
9. Innovative and Career Oriented

1. TITLE: B. Voc. (Animation & Multimedia)

    Syllabus (Semester Pattern)

2. YEAR OF IMPLEMENTATION: Syllabus will be implemented from September 2018.

3. DURATION:

 B. Voc. Part I, II and III (Three Years)

 B. Voc. Part I - Diploma (One Year)

B. Voc. Part II - Advanced Diploma (One Year)

B. Voc. Part III – Degree (One Year)

4. **PATTERN OF EXAMINATION** - Semester Pattern
   - Theory Examination – At the end of semester as per Mangalore University Rules
   - Practical Examination:
     i. In the 1st, 3rd and 5th semester of B. Voc. there will be internal assessment of practical record, related report submission and project reports.
     ii. In the second semester of B. Voc. I there will be internal practical examination.
     iii. In the 4th and 6th semester of B. Voc. There will be external practical examination at the end of the semester.

5. **MEDIUM OF INSTRUCTION:** English

6. STRUCTURE OF COURSE : B. Voc. Part – I, II and III

<div align="center">Two Semester Per Year</div>

Three General Papers per year / semester

<div align="center">Three Vocational Papers per Year / Semester</div>

<div align="center">Two Practical papers per Year / Semester</div>

<div align="center">One Project / Industry Visit/ Study Tour / Survey</div>

7. SCHEME OF EXAMINATION:

A) **THEORY** –The theory examination shall be at the end of the each semester.

All the general theory papers shall carry 50 marks and all the vocational theory papers shall carry 40 marks Evaluation of the performance of the students in theory shall be on the basis of semester examination as mentioned above. Question paper will be set in the view of entire syllabus preferably covering unit of the syllabus

B) PRACTICAL

Evaluation of the performance of the students in practical shall be on the basis of semester examination (Internal assessment at the end of I, II and III and V Semester and external examination at the end of IV and VI semester as mentioned separately in each paper.

STANDARD OF PASSING

As per the guidelines and rules of B. Voc.

ELIGIBILITY FOR ADMISSION

A pass in Plus Two or equivalent examination or an examination recognized as equivalent thereto by this University.

CURRICULUM

The curriculum in each of the years of the programme would be a suitable mix of general education and skill development components.

DURATION

The duration of the B. Voc. Animation and Multimedia shall be three years consisting of six semesters. The duration of each semester shall be five months inclusive of the days of examinations. There shall be at least 90 working days in a semester.

ELIGIBILITY FOR HIGHER STUDIES -

Those who pass B.Voc. Animation and Multimedia Degree are eligible for admission to higher studies.

PROGRAMME STRUCTURE -

The B.Voc. Animation and Multimedia shall include:

- General Education Components
- Skill Components
- Project
- Internship
- Soft Skills and Personality Development Programmes

CREDIT CALCULATION -

The following formula is used for conversion of time into credit hours.

- One Credit would mean equivalent of 15 periods of 60 minutes each, for theory, workshops/labs and tutorials;

- For internship/field work, the credit weightage for equivalent hours shall be 50% of that for lectures/workshops;

COURSE STRUCTURE

NSQF Level	Skill Component Credits	General Component Credits	Normal Duration	Exit Points / Awards
Year 3	36	24	Six Semesters	B. Voc.
Year 2	36	24	Four Semesters	Advanced Diploma
Year 1	36	24	Two Semesters	Diploma

As per the UGC guidelines, there are multiple exit points for a candidate admitted in this course. If he/she is completing all the six credits successfully, he/she will get B. Voc. Degree in Animation and Multimedia. If he/she is completing the first four semesters successfully, he/she will get an Advanced Diploma in Animation and Multimedia. If he/she is completing the first two semesters successfully, he/she will get a Diploma in Animation and Multimedia.

Structure and Syllabus of B.Voc in Animation and Multimedia
Scheme and Syllabus
Bachelor of Vocation

B.Voc First Year: Animation and Multimedia (1st Semester)

CODE	SUBJECTS	L	T	P	TOTAL CREDITS*	External Marks	Internal Marks	Practical Marks	TOTAL MARKS
BV151.1	Language 1 (English)	3			3	70	30		100
BV 150.1 BV 152.1	Language 2 Kannada Hindi	3			3	70 70	30		100
BV153.1	Value Education		3		3	70	30		100
BV154.1	Computer Fundamentals		3		3	70	30		100
BV 155.1	Foundation Arts		3		3	70	30		100
BV156.1	Computer Graphics		3		3	70	30		100
BV157.1	Stop Motion & Cutout Animation		3		3	70	30		100
BV158.1P	Computer Fundamentals Lab			3	3	40	10	50	50
BV159.1P	Computer Graphics Lab			3	3	40	10	50	50
BV160.1P	Stop Motion Lab			3	3	40	10	50	50
	Total	**6**	**15**	**9**	**30**				**850**

Hrs L=credit; hrs of practical =credit

B.Voc First Year: Animation & Multimedia (2nd Semester)

CODE	SUBJECTS	L	T	P	TOTAL CREDITS*	External Marks	Internal Marks	Practical Marks	TOTAL MARKS
BV151.2	Language 1 (English)	3			3	70	30		100
BV150.2 BV 152.2	Language 2 Kannada Hindi	3			3	70	30		100
BV153.2	Environmental Science		3		3	70	30		100
BV154.2	History of Animation		3		3	70	30		100
BV155.2	2D Character &Environment Sketching		3		3	70	30		100
BV156.2	3D Modeling		3		3	70	30		100
BV157.2	Comic Art & Design		3		3	70	30		100
BV158.2P	3D Modeling Lab			3	3	40	10	50	50
BV159.2P	Animation Production Lab			3	3	40	10	50	50
BV160.2P	Comic Art & Design Lab			3	3	40	10	50	50
	Total	**6**	**15**	**9**	**30**				**850**

Hrs L=credit; hrs of practical =

B.Voc Second Year: Animation & Multimedia (3rd Semester)

CODE	SUBJECTS	L	T	P	TOTAL CREDITS*	External Marks	Internal Marks	Practical Marks	TOTAL MARKS
BV151.3	Language 1 (English)	3			3	70	30		100
BV152.3	Health, Safety & Environment		3		3	70	30		100
BV153.3	Fundamentals of Indian Constitution		3		3	70	30		100
BV154.3	Soft Skill		3		3	70	30		100
BV155.3	Production Techniques		3		3	70	30		100
BV156.3	2D Animation		3		3	70	30		100
BV157.3P	Introduction to 3D Texturing		3		3	40	10	50	50
BV158.3P	Production Techniques Lab			3	3	40	10	50	50
BV159.3P	2D Animation Lab			3	3	40	10	50	50
BV160.3P	Minor Projects			1	3			50	50
	Total	**3**	**18**	**7**	**28**				**800**

Hrs L= credit; hrs of practical=credit

B. Voc Second year: Animation & Multimedia (4th Semester)

CODE	SUBJECTS	L	T	P	TOTAL CREDITS*	External Marks	Internal Marks	Practical Marks	TOTAL MARKS
BV151.4	Language 1 (English)	3			3	70	30		100
BV152.4	Behavior Skill		3		3	70	30		100
BV153.4	Human Rights and Value Education		3		3	70	30		100
BV154.4	Fundamentals of Business Law		3		3	70	30		100
BV155.4	Web Technology		3		3	70	30		100
BV156.4	3D Lighting and Camera		3		3	70	30		100
BV157.4	Multimedia Techniques		3		3	40	10	50	50
BV158.4P	Web Technology Lab			3	3	40	10	50	50
BV159.4P	3D Texturing and Lighting Lab			3	3	40	10	50	50
BV160.4P	Minor Projects			1	1			50	50
	Total	**3**	**18**	**9**	**28**				**800**

Hrs L=credit; hrs of practical =credit

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B. Voc Third Year: Animation & Multimedia (5th Semester)

CODE	SUBJECTS	L	T	P	TOTAL CREDITS *	External Marks	Internal Marks	Practical Marks	TOTAL MARKS
BV151.5	Gender Equity		3		3	70	30		100
BV152.5	Legal and ethical aspects of Business		3		3	70	30		100
BV153.5	Interactive Animation		3		3	70	30		100
BV154.5	Post Production		3		3	70	30		100
BV155.5	Advanced Character Design		3		3	70	30		100
BV156.5	3D Rigging and Animation		3		3	70	30		100
BV157.5	Visual Effects		3		3	70	30		100
BV158.5P	3D Animation Lab			3	3	40	10	50	50
BV159.5P	Video Compositing Lab			3	3	40	10	50	50
BV160.5P	Project			2	2			50	50
	Total		21	9	29				850

Hrs L=1credit; hrs of practical =1credit

B. Voc Third Year: Animation and Multimedia (6th Semester)

CODE	SUBJECTS	L	T	P	TOTAL CREDITS *	External Marks	Internal Marks	Practical Marks	TOTAL MARKS
BV151.6	General Project Management		3		3	70	30		100
BV152.6	Inventory Management		3		3	70	30		100
BV153.6	Entrepreneurship		3		3	70	30		100
BV154.6	Advanced 3D Graphics		3		3	70	30		100
BV155.6	Dynamics and effects		3		3	40	10	50	50
BV 156.6 P	Dynamics Lab			3	3	40	10	50	50
BV 157.6 P	Script Writing Lab			3	3	40	10	50	50
BV 158.6 P	Story Boarding Lab			3	3	40	10	50	50
BV 159.6 P	Minor Projects (Animation Final Project)			3	3			50	50
BV 160.6	Main Project			2	2			50	50
	Total		15	14	29				700

hrs L=credit; hrs of practical =credit

B.VOC. IN ANIMATION & MULTIMEDIA DETAILED SYLLABUS

PROGRAMME OUTCOMES :

B.VOC Animation and Multimedia has been at the forefront in the animation industry. It offers many career profiles for trained and qualified candidates. Companies require people with great insight and knowledge about the animation techniques and modern-day technologies. **This course** can educate them with the specific know-how about the various subject areas within this course of study such as Animation Film Production and Pre-Production, Illustration Design, 3D Character Development and 2D Visual Effects (VFX). It widens the creative talent and improves technical skills, gives more focus on visualization techniques improve communication skill with good networking skills, flexibility to work on different aspects of animation.

SEMESTER – I

BV 154.1 - COMPUTER FUNDAMENTALS

RATIONALE :
Gaining the knowledge of hardware components and also about hardware configurations, getting the knowledge about MS Word and its features, knowing about MS Excel and its different applications and its different functions. Understanding the concepts of modern communication system.

COURSE OUTCOMES :
- Introduction to computer hardware.
- Understanding different hardware devices and their applications.
- Understanding MS Office and its options, features and parameters.
- Presentation with PowerPoint& understanding its application, working on templates, slideshow, custom animation and transition.

PROGRAM SPECIFIC OUTCOMES :
The student will be able to :
- Learn about different computer hardware devices and their applications.
- Work on MS Word application and can work on different features of the MS Word document and able to set the document with said configuration.

- Work on different types of presentations using MS PowerPoint with different slideshows, templates as required.
- Work on Modern communication system concepts.
- Understand the specifics of Tele conferencing, Video Conferencing, Modems etc.
- Work on networking through LAN, MAN, WAN etc.

SYLLABUS :

UNIT - 1

Introduction - Computer Hardware: Computer system as information processing system; Types of computer system, hardware options, CPU, input devices, output devices, storage devices, communication devices, configuration of hardware devices and their applications. Personal Computer: PC and its main components, hardware configuration, CPU and clock speed, RAM and secondary storage devices, other peripherals used with PC; Factors influencing PC performance; PC as a virtual office.

UNIT - 2

Word processing and Presentation - Introduction and working with MS-Word 2010 in Ms-Office; Features, Parts of MS Word application window, Creating, Saving and closing a document - Opening and editing a document - Moving and copying text, Text and paragraph formatting, applying Bullets and Numbering, Find and Replace, Insertion of Objects, Date and Time, Headers, Footers and Page Breaks Graphics, Mail Merge, Meaning purpose and advantages, creating, merged letters, mailing labels, envelops and catalogs, Working with Tables, Presentation with Microsoft PowerPoint, Features, advantages and application of Templates, slideshow, saving, opening and closing a Presentation, Inserting, editing and deleting slides, Types of slides, Formatting, Insertion of Objects and Charts in slides- Custom Animation and Transition.

UNIT - 3

Spread Sheet-working with MS EXCEL 2010 : Features of MS Excel - worksheet, workbook, cell, cellpointer, cell address etc., Parts of Ms Excel window -Saving, opening and Closing workbook - Insertion and deletion of worksheet – Entering and Editing data in worksheet - cell range - Formatting - Auto Fill -Formulas and its advantages - References: Relative, absolute and mixed - Functions: Meaning and Advantages of functions, different types of functions available in Excel - Templates - Charts - Graphs -Macros: Meaning and Advantages of macros creation, editing and deletion of macros, Data Sorting, Filtering, validation, Consolidation, Grouping, Pivot Table and Pivot Chart Reports.

UNIT - 4

Modern communication system (Concepts only): Communications, FAX, Voice mail, and information services - E Mail, group communication, Teleconferencing, Video conferencing, File exchange, Bandwidth, common network components, Hosts and servers, workstations, protocol converters, Modems, terminal controllers, routers and gateways, Network Topologies, Network types LAN, MAN, WAN and their architecture, Dial up access, High bandwidth personnel connections, Internet, WWW.

REFERENCE BOOKS :

1. Computer Fundamentals by Anita Goel, Published by Dorling Kindersley (India Pvt. Ltd), 2010.
2. Computer Fundamentals by P K Sinha, 6th Edition, Published on 30 Nov 2004.
3. Fundamentals of Computers by V. Rajaraman & Niharika Adabala, 6th Edition, 2015.

BV 155.1- FOUNDATION ARTS

RATIONALE:

Need to understand in depth about pre- historic scenario of India in art, understanding the concept of Renaissance art, understanding different perspectives of drawing and geometrical structures and gestures.

COURSE OUTCOMES:

- To understand Elements and principles of art.
- Brief knowledge about pre- historic scene of India.
- To understand the Renaissance art.
- Understanding different pictography.
- Understanding different geometrical drawings & sketches.
- Getting the knowledge of gesture drawings and different anatomies.

PROGRAM SPECIFIC OUTCOMES :

The student should be able to:-

- Understand Western art in detail.
- Understand different elements of art.
- Understand different pictorial drawings and dimensions.
- Draw and understand geometrical structures.
- Do shading, colouring and gesture drawings.

UNIT- 1

Elements and principles of art, History of Indian Art, A brief knowledge about the pre-historic scene of India. Western Art – cave paintings of ALTAMIRA and LAZCAUX. Egyptian Art – Renaissance to the modern era- Renaissance art, Modern art.

UNIT – 2

Nature & Architecture Study Nature, Building, Historical place – light and shade. Distribution & Understanding the images, Perspective & dimensional studies, Basic understanding of pictorial space, form & planes. Drawing based work.

UNIT – 3

Geometrical Drawings, Drawing from objects, Square, Cubes, cones, Cylindrical, Circle objects and other geometrical shapes, sketches and study. Observed and studied in various rendering media and Techniques Conditions.

UNIT- 4

Figurative & Non – Figurative study drawing from human figure, mainly based on genera form and gesture Animal Figure–Gesture, movement, form & Rhythm. Study based composition from outdoor subjects – Village life, City life. Pencil Shading, water coloring, Pattern making.

REFERENCE BOOKS :

1. Hilti Art Foundation. The Collection: Vol. I: Classical Modernism. 1880-1950 Hardcover.
2. Painting and Sculpture: From Classical Modern Art to Contemporary Art (AT) Publications of the Hilti Art Foundation Vol. 1.

BV 156.1– COMPUTER GRAPHICS

RATIONALE :

Need to understand different tools and different parameters. Working on different shapes and different transformations, layout, work area. Need to understand in depth about Filters, effects etc.

COURSE OUTCOMES:

- To understand different shapes.
- To understand different tools and techniques.
- Understanding resolutions, file types.
- Understanding work area.
- Understanding color correction.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :-

- Understand different tools and features.
- Understand the creation of Layout.
- Create different kinds of designs like Logo, Brochures, Pamphlets, Business cards etc.
- Enhance the design by applying different kinds of Filter effects and colour corrections.

SYLLABUS :

UNIT - 1
Introduction of Computer Graphics, Vector shapes, Bitmap & Vector difference, different color modes, Introduction to Corel draw, Drawing lines, Drawing calligraphic, Copying, converting, and removing outlines, Spraying objects along with line, Drawing shapes, Drawing rectangles and squares, Drawing ellipses, circles, arcs, Drawing polygons and stars, Drawing spirals, transformations, and effects , Positioning objects, Aligning and distributing objects.

UNIT - 2
Creating cartoon character, Using curve objects, Drawing Closed Curves, Drawing with the Artistic Media tool, 3-Point Curve tool, Special Effect of Corel draw, Blending tool, Contouring the Object, Distorting Objects, Envelope tool, Extruding of the Object, Drop Shadow, Applying Transparency Effect, Trim, Welding objects, Intersecting objects.

UNIT - 3
Introduction to Adobe Photoshop, Learning about pixels & resolution, Zoom Tool Interface, Resize Image, Resizing Canvas, File types, document sizes, customize document, Crop Tool, Magnetic Tools, Trimming Image, Background Layer, Creating A New Layer, Re-arranging Layers, Preference setting, Linking Layer Movement, Locking Layer Movement, Layer Transparency, Elliptical Marquee options, Adjustment Layers, Typing styles, Gradient Editor, Gradient Layer.

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, RGB Levels, Hue & Saturation, Blur, Sharpen, Dodge, Burn, Healing Brush, patch tool, Blending Options, radial & shape blur, Brightness/Contrast Creating new pattern, saving for web, creating Magazine cover, greeting card, invitations, logos, brochures, advertisements.

REFERENCE BOOKS :

1. Adobe Photoshop CC Classroom in a Book (Author - Andrew Faulkner)
2. Photoshop CC Bible (Author - Lisa DaNae Dayley)
3. CorelDraw X7: The Official Guide (11th Edition) (Author - Gary David Bouton)
4. Eric Adobe Photoshop CS4 Bible (Paperback) by Stacy Cates, Simon Abrams, Dan Moughamian Publisher: Wiley India Pvt Ltd (July 2009)
5. Phil 300 Photoshop-Workshops-DVD: Das Meisterstück In Sachen Tutorials (German) by Stefan Petri (Editorial) Publisher: 4eck Media Gmbh (05/2008)

BV 157.1– STOP MOTION AND CUTOUT ANIMATION

RATIONALE :

Need to understand storyboards for proper implementation of ideas and to enhance creativity level. To create stop motion and development of story, script and materials required to create stop motion. Understanding frame rates, understanding frame by frame animation and camera setup.

COURSE OUTCOMES :

- To understand the concept of stop motion
- Understanding Frame rate and frame by frame animation
- Storyboard development ideas

PROGRAM SPECIFIC OUTCOMES :

The student should be able to :-

- Understand the concept of Stop Motion animation
- Understand creation of characters, layout, props
- Know the expressions required for the characters
- Work on Stop Motion software
- Camera setup required for animation
- Understand frame by frame
- Create their own stop motion animation in a refined manner

SYLLABUS :

UNIT - 1

Critical Thinking (storyboarding concept through visual and written exploration of ideas, allows them to solve problems, make connections, practice interdisciplinary learning, think deeper about their learning).

UNIT - 2

Collaborative learning (students and teachers work collaboratively to create the animation) Assessment strategies (as a tool to check for students understanding and create a met cognitive path for students)

UNIT - 3

Making learning visible (students tell the story of their learning through the animation process)

UNIT - 4

Arts integration (Integrate drawing and 3-d arts into classroom content as well as digital media arts).

REFERENCE BOOKS :

1. The Animator's Survival Kit by Richard Williams, expanded edition, 2009.
2. Cartoon Animation by Preston Blair, 1994.

BV 158.1 P– COMPUTER FUNDAMENTALS LAB

RATIONALE :

Gaining the knowledge of hardware components and also about hardware configurations, getting the knowledge about MS Word and its features, knowing about MS Excel and its different applications and its different functions. Understanding the concepts of modern communication system.

COURSE OUTCOMES :

- Introduction to computer hardware.
- Understanding different hardware devices and their applications.
- Understanding MS Office and its options, features and parameters.
- Presentation with PowerPoint& understanding its application, working on templates, slideshow, custom animation and transition.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

- Learn about different computer hardware devices and their applications.
- Work on MS Word application and can work on different features of the MS Word document and able to set the document with said configuration.
- Work on different types of presentations using MS PowerPoint with different slideshows, templates as required.
- Work on Modern communication system concepts.
- Understand the specifics of Tele conferencing, Video Conferencing, Modems etc.
- Work on networking through LAN, MAN, WAN etc.

SYLLABUS :

1. Creating Vector Shapes
2. Creating Vector cartoon character.
3. Change the image size, adjust luminosity, contrast and color, edit and change specific parts of the image.
4. Change to B&W image, use a small selection of the most important tools, crop images store your images.
5. Change the image size with minimum loss of image clarity, adjust luminosity and color with minimal tonal damage.
6. Recovering from major under or over exposure errors, easy ways to edit and change specific parts of the image errors (the magic stuff), better B & W conversions.

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7. Logo designing and Photo restoration.

8. Shadow detail with channel masks sharpening images-alternative methods to store organize & backup images.

9. Creating magazine cover designs

10. Creating gif animation in Photoshop.

11. Creating greeting card designs

12. Creating paper advertisement

13. Resolution adjusting for B&W image making, More sophisticated ways to sharpen images;, To store, organize & backup the image library.

14. Creating GIF Animation images.

BV 159.1 P– COMPUTER GRAPHICS LAB

RATIONALE :

Understand graphic design software and different tools, features and different parameters. Working on different shapes and different transformations, layout, work area. Need to understand in depth about Filters, effects etc.

COURSE OUTCOMES:

- To understand different shapes.
- To understand different tools and techniques.
- Understanding resolutions, file types.
- Understanding work area.
- Understanding color correction.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :-

- Understand different tools and features.
- Understand the creation of Layout.
- Create different kinds of designs like Logo, Brochures, Pamphlets, Business cards etc.
- Enhance the design by applying different kinds of Filter effects and colour corrections.

1. Creating Vector Shapes.
2. Creating Vector cartoon character.
3. Change the image size, adjust luminosity, contrast and color, edit and change specific parts of the image.
4. Change to B&W image, use a small selection of the most important tools, crop images store your images.
5. Change the image size with minimum loss of image clarity, adjust luminosity and color with minimal tonal damage.
6. Recovering from major under or over exposure errors, easy ways to edit and change specific parts of the image errors (the magic stuff), better B & W conversions.

BV 160.1 P– STOP MOTION LAB

RATIONALE :

Understand storyboards for stop motion for proper implementation of ideas and to enhance creativity level. To create stop motion and development of story, script and materials required to create stop motion. Understanding frame rates, understanding frame by frame animation and camera setup.

COURSE OUTCOMES :

- To understand the concept of stop motion.
- Understanding Frame rate and frame by frame animation.
- Storyboard development ideas.

PROGRAM SPECIFIC OUTCOMES :

The student should be able to :-

- Understand the concept of Stop Motion animation.
- Understand creation of characters, layout, props.
- Know the expressions required for the characters.
- Work on Stop Motion software.
- Camera setup required for animation.
- Understand frame by frame.
- Create their own stop motion animation in a refined manner.

BV 154.2– HISTORY OF ANIMATION

RATIONALE :

Understanding the early history of animation and various paintings, Murals from different countries, ancient animations, feature film technologies, development of cartoon characters, the rise of different animation studios.

COURSE OUTCOMES :

- To understand past history of animation
- To understand ancient Victorian Parlor toys and other different means of animation techniques.
- Understanding animation of different countries.
- Understanding the rise of different animation studios.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :-

- Describe past history of origin of animation.
- Understand the emergence of animation from different countries.
- Understanding the rise of computer animation.
- Understanding the era of golden age of animation.
- Understanding the shift of animation trend from big screen to small screen.

SYLLABUS :

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).

UNIT - 2

Animation industry in different country, Chinese animation, Iranian Animation, Japanese animation, British animation, French animation.

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.

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.

REFERENCE BOOKS :

1. The world history of animation by Stephen Cavalier, Published in 2011.
2. The Animator's Survival Kit by Richard Williams, expanded edition, 2009.

BV 155.2– 2D CHARACTER AND ENVIORNMENT SKETCHING

RATIONALE :

Designing and creating characters and understanding perspectives and basics of color, understanding different landscape and gesture drawings and anatomy sketching, getting to know about different character perspectives and walk cycle.

COURSE OUTCOMES :

- Understanding character sketching and anatomy study.
- Studying Matte paintings and different shapes and forms.
- Creating landscapes, colouring and creating patterns.
- Creating walk cycle and gesture drawing.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :
- Create different types of character sketches.
- Create different cartoons and human figures.
- Create different types of landscapes as per the proportions.
- Create walk cycle and gesture drawings.

UNIT - 1

Research and inspiration of character sketching, Head study, drawing from life, Color basics, Perspectives.

UNIT - 2

Background designs, Matte paintings, Shapes, Forms, Shadows and lights, Human and cartoon figures.

UNIT - 3

Fun fiction, Coloring, City landscapes, Pattern creation.

UNIT - 4

Applying core skills, Gesture drawings, Contour, Walk cycle, Design and development.

REFERENCE BOOKS :

1. The Animator's Survival Kit by Richard Williams, expanded edition, 2009.
2. How to Make Animated Films by Tony White, Published in 2009.
3. Disney Animation: The Illusion of Life, by Frank Thomas and Ollie Johnston, Published in 1981.

BV 156.2– 3D MODELLING

RATIONALE :

Exploring the 3D software interface, buttons, navigation, displays and getting up close with its properties and parameters. Understanding different tools to create different shapes with proper anatomies. Creating a good visualized detailed environments, objects and characters.

COURSE OUTCOMES :

- To understand the interface and customizing it.
- To understand the tools and different parameters.
- To create different types of 3D related objects with proper anatomies.
- Able to understand how proportions are at work.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :-

- Understand the viewport.
- Understand the usage of tools.
- Create different 3D environments, models, structures, architectures.
- Understand how mesh works.

SYLLABUS :

UNIT - 1

Definition of Modeling, Creation of 3D objects. Exploring the 3D Max Interface, Controlling & Configuring the Viewports, Customizing the Max Interface & Setting Preferences, Working with Files, Importing & Exporting, Selecting Objects & Setting Object Properties, Duplicating Objects, Creating & Editing Standard Primitive & extended Primitives objects, Transforming objects, Pivoting, aligning etc.

UNIT - 2

Understanding 2D Splines & shape, Extrude & Bevel 2D object to 3D, Understanding Loft & terrain, Modeling simple objects with splines, Understanding morph, Modeling with Polygons, using the graphite, working with deforming surfaces & using the mesh modifiers, modeling with patches & NURBS, 3D Modeling from 2D Objects, The Lathe Modifier, The Extrude Modifier, The Sweep Modifier.

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.

UNIT - 4

Modeling in Maya - Maya interface, tools, buttons, navigate between different artwork displays through key commands and shortcuts, creating basic 3D models, using Transform tools to move, rotate, and scale, grouping objects, parent objects and pivot them, selecting components and rotating, 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.

REFERENCE BOOKS –

1. 3D MAX Bible 2015, Publisher: Wiley India Pvt Ltd
2. Autodesk 3ds Max 2014 Essentials: Autodesk Official Press by - Randi L. Derakhshani & Dariush Derakhshani
3. Autodesk Maya And Autodesk 3ds Max Side-By-Side by Les Pardew, Mike Tidwell Publisher: Course Technology, Barrett Fox3Ds Max 6 Animation, Tata Mc Graw-Hill Edition
4. Autodesk 3ds Max 2014 Bible - by Kelly L. Murdock (Author)

BV 157.2– COMIC ART AND DESIGN

RATIONALE :

Introduction to comics and visual story telling techniques, understanding different layouts of individual images also production and distribution, getting knowledge of marketing, also getting into different international comic cultures and creating different project works around it.

COURSE OUTCOMES :
- Getting the knowledge about basics of comics and understanding visual story telling.
- Focussing on different comic cultures.
- Experimenting with different types of tools, stylings and construction of sequences.
- Introducing the main and coming forms of publishing and distribution that is important for comic culture.

PROGRAM SPECIFIC OUTCOMES:

The student will be able to :
- Understand story telling process.
- Understand technical aspects and forms of narration and artistic practise.
- Understand tools, styles and construction of sequences.

SYLLABUS :

UNIT - 1

contains a short introduction to the basics of comics and visual storytelling, starting with technical aspects, forms of narration, and artistic practice. This part of the course offers practical and theoretical issues. Students analyse and reflect on results reached and put them into relation to the course's literature/reading obligations.

Comic-strips and visual material are produced experimenting with tools, styles, and construction of sequences. This part of the course develops practical competences of visual narrating, layout of individual images and picture-sequences, digitalization, production and distribution, marketing. Results are presented in seminars.

UNIT - 2

looks at international comics-cultures, focusing on the traditions, styles and contexts within mainly Western Europe, USA, and Japan and South Korea. It introduces the main and coming forms of publishing and distribution that are important for the different comics-cultures.

UNIT - 3

Is dedicated to one individual project that has to be developed for publication in a previously determined medium. E.g. screen or print. The topic and medium are chosen by the student in dialogue with her/his supervisor. The project-work is done independently, with limited supervision. It can be used for further analysis and development in the final paper.

UNIT - 4

Runs parallel to the entire course and consists of lectures, group-discussions, and written/drawn exercises. Theory is integrated in the practical elements and the students continuously describe their reflections and analyses in oral or/and written form. The whole course completes with a written comics-analysis or the practical development of a comic that takes cultural issues of audiences into consideration. A comics-project in the latter meaning has to include or be supplemented by written reasoning for the choice of styles, layouts, characters, lettering, etc.

REFERENCE BOOKS :

1. Understanding Comics: The Invisible Art by Scott McCloud, Published in 1993.
2. Foundations in Comic Book Art by John Lowe, 2014.

BV 158.2 P - 3D MODELLING LAB

RATIONALE :

Exploring the software interface, buttons, navigation, displays and getting up close with its properties and parameters. Understanding different tools to create different shapes with proper anatomies. Creating a good visualized detailed environments, objects and characters.

COURSE OUTCOMES :

- To understand the interface and customizing it.
- To understand the tools and different parameters.
- To create different types of 3D related objects with proper anatomies.
- Able to understand how proportions are at work.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :-

- Understand the viewport.
- Understand the usage of tools and parameters.
- Create different 3D environments, models, structures, architectures.
- Understand how mesh works.

SYLLABUS :

3D MODELING EXERCISES:

1. Creating House, Chairs, tables
2. Architectural modelling design
3. Creating Mountains – Interior & Exterior Modelling,
4. Modelling a garden – Modelling a Landscape.

5. Modelling aeroplane and helicopter
6. Modelling the Body – Modelling a Female Character
7. Modelling car – Modelling a High Polygonal.
8. Modelling a pot using Boolean
9. Making snake using loft
10. Developing interior placing furniture
11. Making Table Lamp.

BV 159.2P – ANIMATION PRODUCTION LAB

RATIONALE :

Understanding the concept of editing process and able to create refined and trimmed and compact editing footages with desired music, sound effects, Foley effects and voice over and dialogues that are in sync with the video. Getting to know more about editing techniques, Green screen techniques, Frame rates, text effects, transitions and exporting the video in desired file formats as required.

COURSE OUTCOMES :

- Understanding editing concepts and different video editing programs and parameters.
- Understanding different resolutions, presets and frame rates.
- Creating different styles of animated story telling.
- Exporting and rendering in desired file formats.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

- Create short films, documentaries, short videos ads etc. and able to give required sound effects, music and sync audio dialogue with video accordingly.
- Work on Green screen and remove it perfectly and thus able to composite video in a proper way.
- Understand and work on different types of transition effects, LUT's, colour grading to enhance the video to its optimum level.
- Export and render to any video file format with proper frame rate and duration.

SYLLABUS :

LAB EXERCISES:

1. Use of lines and shapes.
2. Colours, shades and textures.
3. Colour mixing theory.
4. Human character designing.
5. Cartoon sketching-male, female and children.
6. Props for the animation.
7. City/village landscapes with perspective.
8. Application of perspectives in buildings.

BV 160.2P – COMIC ART AND DESIGN LAB

RATIONALE :

Introduction to comics and visual story telling techniques, understanding different layouts of individual images also production and distribution, getting knowledge of marketing, also getting into different international comic cultures & creating different project works around it.

COURSE OUTCOMES :

- Getting the knowledge about basics of comics and understanding visual story telling.
- Focusing on different comic cultures.
- Experimenting with different types of tools, stylings and construction of sequences.
- Introducing the main and coming forms of publishing and distribution that is important for comic culture.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

- Understand story telling process.
- Understand technical aspects and forms of narration and artistic practice.
- Understand tools, styles and construction of sequences.

SYLLABUS :

1. Cultural backgrounds of comics in different cultures
2. Storytelling traditions and stereotypes in different cultures
3. Comics dramaturgies
4. Visual storytelling in contemporary media landscapes.
5. Relevant fields of comics-research.
6. Production of a comic, from idea to published product forms of production and publication.

SEMESTER – III

BV 155.3 – PRODUCTION TECHNIQUES

RATIONALE :

To understand the art of design and direction along with important concepts of editing, transitions and different audio & video formats for proper output. Understanding the tools, arranging the clips, keyframes and timeline, getting to know about audio mixer and fine tuning of the project.

COURSE OUTCOMES :

- To understand voice tracking.
- To understand the concept of transitions, layering.
- Understanding different audio/ video formats.
- Understanding the concept of video capture.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :-

- Understand the concept of editing.
- Understand different transitions, wipes and effects required for editing.
- Understand how to develop and trim the story.
- Understand how to organize clips.
- Understand timeline, keyframes.
- Create their own short films, documentaries with proper sync between videos & audios.

SYLLABUS :

UNIT - 1

Importance of design and art direction in films. Voice terack. Casting. Rehearsal. Preparation. Recording. Animation. Story reels. Animatics. Exposure sheets. Titles.

UNIT - 2

Introduction to linear and nonlinear editing. Analog versus Digital - the difference, Transitions-Fades, Cuts, Dissolves, Wipes, Keying & Layering, formats- Avi, MPG-2, Mov, wmv, VCDs and DVDs, Internet formats, VHS.

UNIT - 3

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

UNIT - 4

Elements of edit, The Timeline Buttons and Controls, The Timeline Overview, Editing Clips Into The Canvas & Timeline, Transferring Clips in the Timeline, applying keyframes, 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.

REFERENCE BOOKS :

1. Adele Droblas, Seth Greenberg – "**Adobe Premiere Pro CS3 Bible**".
2. Jacob Rosenberg– "Adobe Premiere Pro 2.0 Studio Techniques".
3. Adobe Creative Team-"Adobe After Effects CS4 Classroom in a Book"

RATIONALE :

Understanding the concept of 2D Animation process, drawing different shapes, understanding different layer properties, symbols, tweening and different file formats.

COURSE OUTCOMES :

- Understanding the process of 2D animation.
- Understanding different tool bars.
- Creating different tweening effect.
- Importing and placing sound within the software.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to:-
- Create 3D graphic animation.
- Understand how to import sound and edit it.
- Work on timeline and understand tools and features of software.
- Work systematically on layers and masking.
- Create different types of tweening effects.
- Apply filter effects, glow etc to enhance animation.
- Render in different file formats.

SYLLABUS :

UNIT - 1

Introduction to 2D animation, animation uses, animation industry, 2D animation production process, story board components, drawings for animation. Live model study, Drawings with shapes.

UNIT - 2

Animatics, Interface, Drawing Toolbar, View Toolbar, Color Toolbar, Option Toolbar, Properties Panel, Modeling Objects and shaping, Timeline status, Layers Playhead, TimeLine header, Creating Layer, Folders & Properties, Layer Mask, Symbols, Graphic, MoveClip, Button, Using Library.

UNIT - 3

Under lining data type, Raster and vector,. 2D graphics creation features. Typography animation.

UNIT - 4

Animation, Tweening Animations, Motion Tween, Shape Tween, Filters Drop Shadow, Blur, Glow, Bevel, Gradient Glow and bevel, Sound, Importing Sound, Placing Sound, Button, Editing, Start and End Points of Sound, Publish setting, swf-html-gif-jpeg-png- Quicktime.

REFERENCE BOOKS :

1. Computer Animation: Algorithm and Techniques by R Parent, Morgan Kaufmann. Morgan Kaufmann Publishers, 2002 by Academic Press ISBN: 1-55860-579-7(Chapter 1).
2. Macr Character Animation Fundamentals: Developing Skills For 2D And 3D Character Animation by Steve Roberts.
3. Mastering Digital 2D and 3D Art by Les Pardew, Don Seegmiller Publisher: Course Technology (Dec 2004).

BV 157.3 – INTRODUCTION TO 3D TEXTURING

RATIONALE :

Understanding the concept of adding skin and color to an object. Get into detailed proximity on UVW and Unwrap UVW maps to texture objects. Working with different material properties to enhance its texture objects. Working with different material properties to enhance its texture, working with various mapping, shaders and materials.

COURSE OUTCOMES :

- Understanding texturing materials.
- Understanding different mapping to enhance effect.
- Understanding different shaders.
- Understanding UV Mapping.
- Understanding dynamic effects

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

- 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.

SYLLABUS :

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, Picking materials from a scene, Selecting objects by material, Previewing materials and rendering maps.

UNIT - 2

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.

UNIT - 3

Working with Shaders & Hair, Using Shading Types, Blinn shader, Phong shader, Anisotropic, Multi-Layer shader, Oren-Nayar-Blinn shader, Metal shader, Strauss shader, Translucent shader, Multi-Layer Materials, Blend, Double Sided, Using Compound Materials, Raytrace Materials.

UNIT - 4

Multi/Sub-Object Top/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, Creating golden objects, creating net texture.

REFERENCE BOOKS :

1. 3D MAX Bible 2015, Publisher: Wiley India Pvt Ltd.
2. Autodesk 3ds Max 2014 Essentials: Autodesk Official Press by - Randi L. Derakhshani & Dariush Derakhshani.

3. Autodesk Maya And Autodesk 3ds Max Side-By-Side by Les Pardew, Mike Tidwell Publisher: Course Technology, Barrett Fox3Ds Max 6 Animation, Tata Mc Graw-Hill Edition.

4. Autodesk 3ds Max 2014 Bible - by Kelly L. Murdock (Author).

BV 158.3P – PRODUCTION TECHNIQUES LAB

RATIONALE :

To understand the art of design and direction along with important concepts of editing, transitions and different audio & video formats for proper output. Understanding the tools, arranging the clips, keyframes and timeline, getting to know about audio mixer and fine tuning of the project.

COURSE OUTCOMES :

- To understand voice tracking.
- To understand the concept of transitions, layering.
- Understanding different audio/ video formats.
- Understanding the concept of video capture.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :-

- Understand the concept of editing.
- Understand different transitions, wipes and effects required for editing.
- Understand how to develop and trim the story.
- Understand how to organize clips.
- Understand timeline, keyframes.
- Create their own short films, documentaries with proper sync between videos & audios.

LAB EXERCISES :

1. Interface of video editing program.
2. Slideshows with transitions and video effects.
3. Working with resolution and presets.
4. Using footages and images.
5. Making a double acting video.
6. Chroma key, Blue screen and green screen videos.
7. News Program editing for television.
8. Debate program editing.
9. Animated titles.
10. Rendering and exporting to film file formats.

BV 159.3P – 2D ANIMATION LAB

RATIONALE :

Understanding the concept of 2D Animation process, drawing different shapes, understanding different layer properties, symbols, tweening and different file formats.

COURSE OUTCOMES :

*   Understanding the process of 2D animation.
☐   Understanding different tool bars.
*   Creating different tweening effect.
*   Importing and placing sound within the software.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to:-
*   Create 3D graphic animation.
*   Understand how to import sound and edit it.
*   Work on timeline and understand tools and features of software.
*   Work systematically on layers and masking.
*   Create different types of tweening effects.
*   Apply filter effects, glow etc to enhance animation.
*   Render in different file formats.

LAB EXERCISES :

1. Create a new blank movie file in Flash MX
2. Tools and steps involved in first simple animation using motion twining - basic shapes – Shape Twining – shape tweening in Flash MX.
3. Importing video files into Flash using Adobe Media Encoder and tracing the video file.
4. Creating the E-card – Animation E-card – set the stage for E-card – use a new kind of symbol called a Movie Clip.
5. Creating mask animation and path animation
6. Creating sunset scenery in flash
7. Flash Lesson – Adding Simple Audio – add a looping audio background
8. Key frames animation
9. Background animation
10. Creating a complete 2D animation with characters and dialogue.

BV 160.3P – MINOR PROJECTS

SEMESTER IV

BV 155.4 – WEB TECHNOLOGY

RATIONALE :

Getting to know about the basic procedures and principles involved in developing a website, rules to be followed for creating a website, need to understand scripting languages, browsers and compatibility, understanding the blogs and its importance and also web content management systems.

COURSE OUTCOMES :

- To learn basic principles of developing a website.
- Getting introduced to web technologies.
- Understanding different domains and hosting.
- Understanding the way to publishing sites and promoting websites.
- Understanding client server scripting language.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :
- Create and design websites.
- Understand the development process and its principles to create a website.
- Understand server scripting languages.
- Create different types of websites themes and do different modifications onto websites.

SYLLABUS :

UNIT - 1

Basic principles involved in developing a web site. Planning process. Five Golden rules of web designing. Design Concept. Home Page Layout. Designing navigation bar.

UNIT - 2

Web Standards. Why to create a web site. Audience requirement. Introduction to web technologies. Careers and job roles. How the websites work. Web servers. Client and server scripting languages. Browsers and compatibility.

UNIT - 3

Types of web sites. Domains and hosting. Static and dynamic sites. Government, personal and commercial sites. Introduction to blogs. Importance of blogs. Search engines.

UNIT - 4

Web standards and W3 recommendations, web Content management system. Word press, Joomla, Drupal etc. Website themes and modifications. Publishing sites and promoting websites.

REFERENCE BOOKS :

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

RATIONALE :

To understand the basic structure of 3D cameras and to understand different light setups to create desired ambience for the concerned projects.

COURSE OUTCOMES :

- Understanding the specifics of the camera.
- Understanding different setups and alignment of cameras.
- Understanding different types of lights.

PROGRAM SPECIFIC OUTCOMES :

Students will be able to –

- Get detailed understanding of 3D cameras.
- Create camera animations.
- Understand different alignments. Parameters and lens setting.
- Understand different types of light setting.
- Create a desired lighting required for the 3D scene e.g. interiors, exteriors.
- Set a desired camera angle for the required scene.

SYLLABUS :

UNIT - 1

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.

UNIT - 2

Camera type and display options, Using the Motion Blur effect, Using the Depth of Field effect, Camera path, target path, Camera path animation.

UNIT - 3

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 & Altitude, Specifying date and time, Specifying location, Volume light parameters.

REFERENCE BOOKS :

1. 3D MAX Bible 2015, Publisher: Wiley India Pvt Ltd.

2. Autodesk 3ds Max 2014 Essentials: Autodesk Official Press by - Randi L. Derakhshani & Dariush Derakhshani.

3. Autodesk Maya And Autodesk 3ds Max Side-By-Side by Les Pardew, Mike Tidwell Publisher: Course Technology, Barrett Fox3Ds Max 6 Animation, Tata Mc Graw-Hill Edition.

4. Autodesk 3ds Max 2014 Bible - by Kelly L. Murdock (Author).

BV 157.4 – MULTIMEDIA TECHNIQUES

RATIONALE :

Understanding the concept of camera tracking, green screen, compositing, particle dynamics and 3D simulations and different techniques of compositing.

COURSE OUTCOMES :

- Understanding VFX workflow.
- Learning camera techniques.
- Betting understanding of compositing procedure.
- Understanding different procedural matting.
- Understanding different types of keying.

PROGRAM SPECIFIC OUTCOMES :

The students will be able to :

- Understand techniques of Match Moving and Tracking.
- Understand Compositing.
- Removal of Green screen and create realistic CGI.
- Understanding different 3D passes.
- Create different effects using particles & dynamics like fire, water, explosion, debris etc.

UNIT - 1

Match moving & camera tracking - Procedural FX workflow- Concepts of set extension & CG integration. Layer-based, node-based & advanced compositing.

UNIT - 2

Typography Design-Lighting and look development. Compositing video with CGI. Null Objects. Particle-Based Crowd Replications. Photoshop for 3D.

UNIT - 3

The color pipeline: from acquisition to delivery. Color space and the use of LUTs. Premultiplication. Luminance keying. Post processing the matte. Understanding the concept of multipass CGI compositing.

UNIT - 4

Blue/green screen keying as procedural matting for VFX work. De-graining techniques. Tracker Marker removal on blue or green screens. Dustbusting. Simulation. Particle dynamics. Matching light.

REFERENCE BOOKS :

1. Principles of Multimedia by Ranjan Parekh, published in 2006.
2. Fundamentals of Multimedia by Ze- Nian Li, published on 2004.

BV 158.4P – WEB TECHNOLOGY LAB

RATIONALE :

Getting to know about the basic procedures and principles involved in developing a website, rules to be followed for creating a website, need to understand scripting languages, browsers and compatibility, understanding the blogs and its importance and also web content management systems.

COURSE OUTCOMES :

- To learn basic principles of developing a website.
- Getting introduced to web technologies.

- Understanding different domains and hosting.
- Understanding the way to publishing sites and promoting websites.
- Understanding client server scripting language.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :
- Create and design websites.
- Understand the development process and its principles to create a website.
- Understand server scripting languages.
- Create different types of websites themes and do different modifications onto websites.

SYLLABUS :

1. Basic structure of HTML file including various head and body tags
2. Simple web page creation with images and text
3. Hyperlinks –HTML link, image links, pdf, email and download links
4. Incorporating video and Flash files into web pages
5. Displaying tabular data in web pages using tables
6. Web page using forms and Frameset tags.
7. Web page layouts – tables and div tags
8. Creating a complete website (minimum 3 pages)
9. Styling with CSS

BV 159.4P – 3D TEXTURING & LIGHTING LAB

RATIONALE :

To understand the basic structure of 3D cameras and to understand different light setups to create desired ambience for the concerned projects.

COURSE OUTCOMES :

- Understanding the specifics of the camera.
- Understanding different setups and alignment of cameras.
- Understanding different types of lights.

PROGRAM SPECIFIC OUTCOMES :

Students will be able to –

- Get detailed understanding of 3D cameras.
- Create camera animations.
- Understand different alignments. Parameters and lens setting.
- Understand different types of light setting.
- Create a desired lighting required for the 3D scene e.g. interiors, exteriors.
- Set a desired camera angle for the required scene.

SYLLABUS :

1. Creating interior Textures for house
2. Creating reflecting objects
3. Creating Glass materials
4. Creating Multi colored object
5. Lighting controls - Intensity, Distribution, Color and Movement
6. Glow effects in 3D
7. Creating realistic golden trophy
8. Creating face textures using UV Map
9. Lights– Sources of Light and Realistic Look.
10. Types of Lights: Ambient Light– Directional,Point
11. Spot Lights: Area light, Volume Light, Color, Intensity and Gobos.
12. Light Decay Rate: Light Linking, Spot light properties, Spotlight Effects.
13. Light decay Regions & Barn Doors–Dmap Resolution, Filter Size, & Bias–Raytraced Shadows.
14. Light Effects –Light Fog, Environment Fog, Simple Fog, Physical Fog, and Volume Fog–Glow and Halo.

BV 160.4P – MINOR PROJECTS

BV 153.5 – INTERACTIVE ANIMATION

RATIONALE :

Understanding the interactive animation concept, planning and creating of websites, understand the interface of Flash software, getting detailed knowledge about action scripts/ HTML.

COURSE OUTCOMES :

- Understanding Flash animation and its applications.
- Navigating through different buttons.
- Understanding action scripts.
- Getting into different sounds, tracks and sliders.

PROGRAM SPECIFIC OUTCOMES :

- Understanding Flash software and its different applications.
- Create Flash animation cartoons.
- Write action script/ HTML.

SYLLABUS :

UNIT - 1

Difference between Flash animation and interactive animation, asset management in library, Learn to export and deploy Flash content on the Web, describe the steps of web site planning and implementation, Describe the difference between user-defined and timeline-defined actions, Apply simple action scripting to execute navigational components in a Flash movie, publish and post a Flash movie online.

UNIT - 2

Organizing a complex object into layers, Duplicating Movie Clips, animating a complex Movie Clip, Controlling objects with buttons, Understanding frame labels, Using buttons to navigate labeled frames, Nesting code within Movie Clips, Adding drag interactivity to the object, use Buttons and Action Script to enable basic user interaction.

UNIT - 3

Using transparency in a video & Embedding video in web pages and other applications, Creating an advanced animation with video, Copying the video to create a reflection, Reflecting the video, Enhancing a video reflection with a mask, Building an MP3 Player, Loading sounds from external files, Controlling sound playback with Play and Pause buttons, Changing tracks, Wiring the progress bar & Building the progress bar slider, Making Flash movies accessible.

Understanding Dynamic text fields, applying HTML with Action Script, Animating the scrolling text with the buttons, Easing the text using the buttons, Understanding Flash Mobile, Exploring Device Central, Creating and testing Flash Lite applications.

REFERENCE BOOKS :

1. HTML & CSS Design and Build Websites by John Duckett, Published by John Wiley & Sons, Inc. 2011.
2. Adobe Flash Animation: Creative Story Telling for Web & TV by Phillip Carrera, 2011.

BV 154.5 – POST PRODUCTION

RATIONALE :

Going through Post Production process and techniques different required. Understanding the concept of VFX, Color Grading, Color correction, Pitch correction etc.

COURSE OUTCOMES :

- To understand Post Production process.
- Applying script onto the screen.
- Understanding film making techniques.
- Understanding sound, color grading techniques, pitch correction etc. to give more uniqueness to the project.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

☐ Understand Post Production process.

- Understand scripting.
- Create and visualize their own film using film making techniques.
- Apply different sound effects, color grading as and when it is required.

UNIT - 1

Animation production process. Script to screen, process of an animation. Pre-production, production and post-production, Live action in film making.

UNIT - 2

Traditional post production techniques. Adding visual effects. Adding CGI, transfer of color motion picture film to video or DPX. Color grading with telecine.

UNIT - 3

Introduction to digital Inter mediate. Meaning. Color grading. History of DI. Telecine tools.

UNIT - 4

Digital cinema packages. Color suite. Music, pitch correction, equalization.

REFERENCE BOOKS :

1. The Complete Film Production Handbook by Eve Light Honthaner, Published in 1993.

BV 155.5 – ADVANCED CHARACTER DESIGN

RATIONALE :

Creation of different characters used for animation and doing a detailed study about it. Identifying different mannerism of character, understanding the need of UW maps, Unwrapping, texturing and lighting, creating realistic background.

COURSE OUTCOMES :

- To understand different types of characters used for animation.
- Identifying textures and UW maps and Unwrapping.
- To understand lighting.
- Learning basics of perspective, environment modelling.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

- Understand different types of characters needed for animation and gaming.
- Create their own characters with proper anatomies.
- Create desired textures using UW maps and Unwrapping.
- To create visualized environment with proper lighting.

SYLLABUS :

UNIT - 1

Introduce different 'styles of characters used for animation and gaming. Create own character, Detailed Study on Character Design, Clay Modeling methodology.

UNIT - 2

Basics of Armature. 3D Model of a proposed Character, experiment special features and mannerisms to character, Identify the texture for developed characters, Deals with some procedural Textures.

UNIT - 3

Learning Blender 3D UVW Maps and Unwrapping A Mesh, lighting to character, Compositing and Enhancement Phase. Learn basic of "Perspective", Environment Modeling, develop an atmosphere.

UNIT - 4

3D UVW Maps and Unwrapping A Mesh More experiments with texturing and shading of realistic back grounds for animation. Practice rendering, compositing.

REFERENCE BOOKS :

1. 3D MAX Bible 2015, Publisher: Wiley India Pvt Ltd.
2. Autodesk 3ds Max 2014 Essentials: Autodesk Official Press by - Randi L. Derakhshani & Dariush Derakhshani.
3. Autodesk Maya And Autodesk 3ds Max Side-By-Side by Les Pardew, Mike Tidwell Publisher: Course Technology, Barrett Fox3Ds Max 6 Animation, Tata Mc Graw-Hill Edition.
4. Autodesk 3ds Max 2014 Bible - by Kelly L. Murdock (Author).

RATIONALE :

Getting in depth knowledge about Rigging techniques, animation keys, understanding wraps, modifiers, constraints, learning about Biped, working with postures and poses and understanding skinning process.

COURSE OUTCOMES :

- To understand the concept of Rigging (Placement of bones).
- Understanding different types of Wraps, Modifiers, Constraints.
- Understanding animation keys.
- Understanding Ik solves.
- Understanding bone systems.
- Understanding skinning process.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

- Understand and create Object and character animation.
- Understand different controllers, wraps and modifiers.
- Work with poses and postures.
- Work with bone parameters and IK Solvers.
- Do skinning process with much ease.

SYLLABUS :

UNIT - 1

Introduction to Object Animation, The Rendering Menu, Understanding the Max Renderers, Creating Atmospheric Effects, Adding effects to a scene, Batch Rendering options, Video Post toolbar, Adding an image input event, Adding scene events, Adding image filter events, Adding an image output event.

UNIT - 2

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.

Working with Space warps & Reactor, Creating a Space Warp, Binding a Space Warp to an object. Space Warp Types, Forces, Deflectors, Geometric/Deformable Space Warps, Modifier-Based Space Warps, Using reactor, wind, Using the Preview window, Creating animation keys, Morpher modifier, Working with the constraints.

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, Building a Bones System, Assigning an IK Solver, Setting bone parameters, IK Limb solver, Understanding the Skinning Process, Binding to a skeleton.

REFERENCE BOOKS :

1. 3D MAX Bible 2015, Publisher: Wiley India Pvt Ltd.
2. Autodesk 3ds Max 2014 Essentials: Autodesk Official Press by - Randi L. Derakhshani & Dariush Derakhshani.
3. Autodesk Maya And Autodesk 3ds Max Side-By-Side by Les Pardew, Mike Tidwell Publisher: Course Technology, Barrett Fox3Ds Max 6 Animation, Tata Mc Graw-Hill Edition.
4. Autodesk 3ds Max 2014 Bible - by Kelly L. Murdock (Author).

BV 157.5 – VISUAL EFFECTS

RATIONALE :

Understanding Photographic principles, understanding VFX techniques, usage of cameras, getting to know about lights, expressions, Motion tracking, Green screen, Rotoscopy techniques.

COURSE OUTCOMES :

- Getting to know about VFX technique.
- Usage of cameras, editing concepts.
- Understanding lights and cameras, exporting composition.
- Understand the concept of Motion Tracking.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

- Understand camera techniques and concepts of editing.
- Create keyframe animations.
- Render different file formats.
- Do motion tracking of footages.
- Create compositing effects like green screen removal, Rotoscopy, Masking.

SYLLABUS :

UNIT - 1

Introduction to vfx - Photographic principles - Introduction to the Interface. Basic Animation. Basic Rendering. Using cameras in editing and applying VFX, demonstrate basic media management techniques.

UNIT - 2

Rear Projection-Stop Motion Animation-Matte Paintings. Anchor point- Key frames- Motion Sketch, explosions, water, Fire.

UNIT - 3

Titling styles, Lights and Cameras, Expressions, Painting, applying animation presets, blending modes, 3d layers, mattes, rendering techniques, exporting composition to other file formats.

UNIT - 4

Motion tracking - 2D and 3d camera tracking- rotomation - wire removal techniques- color corrections.

REFERENCE BOOKS :

1. Adobe after effects cc for motion graphics designing by Mark Myers, 2019.
2. Adobe After Effects Classroom in a Book , by Lisa Fridsma, Brie Gyncild, 2020

RATIONALE :

Developing 3D characters with proper body proportions and animating it, creating movements of characters, walk cycle and creating dynamic effects like wind, displace animation.

COURSE OUTCOMES :

- Creating character animation.
- Understanding and working on facial expressions.
- Understanding text animation.
- Creating dynamic effects.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :
- Create character animation with synchronised body movements.
- Create detailed facial expressions.
- Create walk cycle and jump & run animation.
- Create different dynamic effects like wind, explosion, debris etc.

SYLLABUS :

LAB EXCERSISES:

1. Creating human character and hand moment
2. creating rain fall
3. Creating Fan Animation
4. Creating Airplane & Helicopter Animation
5. Creating facial expression animation
6. Creating walk cycle
7. Creating Character jumping & running animation
8. Creating Exterior scenery animation
9. Creating wind animation
10. Creating 3D text animation
11. Creating displace animation
12. Creating bomb blasting scene

BV 159.5P – VIDEO COMPOSITING LAB

RATIONALE :

Understanding the concept of VFX and Special effects, going through detailed compositing process as required by the industry, developing visual effects pipeline.

COURSE OUTCOMES :

- Creating visual effects and special effects as required by the industry.
- Understanding various image processing techniques including Chroma keying.
- Understanding compositing process & getting to know different techniques involved in it.
- Understanding Motion Tracking techniques.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

- Create different kinds of special effects and visual effects and work on Compositing techniques like Green Screen, rotoscoping, Matte Painting.
- Composite footages like color correction, color grading, adding various effects.
- Create Motion tracking effect.

SYLLABUS :

- Understand the difference between a visual effect and a special effect.
- Determine when to choose whether to create a visual effect or a special effect and determine when the two techniques can work together.
- Pull mattes using various image processing techniques including chroma-keying
- Understand RGB and RGBA.
- Describe and use the compositing process and identify major applications used in industry.
- Develop a visual effects pipeline for integration in the filmmaking process.
- Demonstrate the use of Layer based compositing techniques.
- Understand the difference between a visual effect and a special effect.
- Track motion data using various techniques including 2D pixel tracking, planar tracking, and camera tracking.
- Develop a visual effects pipeline for integration in the filmmaking process.
- Understand basic image processing techniques.

SEMESTER VI

BV 154.6 – ADVANCED 3D GRAPHICS

RATIONALE :

Understanding digital sculpting in order to create realistic mesh as per required, knowing the concept of UV textures.

COURSE OUTCOMES :

- Understanding workspace, buttons, palettes of digital sculpting software like ZBrush.
- Understanding Topology.
- Understanding different UV textures, Polypaint materials.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

- Create realistic digital sculpting using ZBrush.
- Understand the workspace, buttons and palettes and use it more efficiently.
- Create desired UV textures to give more subtle look to 3D characters or objects.

SYLLABUS :

UNIT - 1

Introduction to ZBrush, Introduction to Digital sculpting, workspace, hotkeys, Custom buttons / palettes, Sculpting with images.

UNIT - 2

Modeling vs sculpting Base meshes Dynamesh, ZSpheres, ZSketch, Insert brushes, Kitbashing, Custom brushes, Dynamesh sketch, Insert brushes, Kitbashing, Custom brushes, Dynamesh sketch.

UNIT - 3

Refine and polish, Polishing brushes, Topology and cleanup, Projection and maps, Detailing and FX, Nanomesh, Fibermesh, Model preparation.

UNIT - 4

Subtools Poly groups UVs Textures/polypaint Materials, Standard Materials Matcaps, Scene' preparation, Lighiting Light caps.

REFERENCE BOOKS :

1.ZBrush Character Creation: Advanced Digital Sculpting by Scott Spencer, Published 2008.
2. Beginner's Guide to ZBrush, 2017 by Pixologic ZBrush.

BV 155.6 – DYNAMICS & EFFECTS

RATIONALE :

Understanding particles and particle systems, understanding different parameters to create dynamic effects, animating light and cameras, understanding key modes, frame rate etc.

COURSE OUTCOMES :

- Creating dynamic particle effects using particle simulations, particle systems.
- Understanding time control.
- Understanding frame rate/ Key modes.
- Usage of Array particle systems.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

- Create dynamic particle effects using particle simulations, particle systems.
- To Understand time control.
- To Understand frame rate/ Key modes.
- Know the usage of Array particle systems.

SYLLABUS :

UNIT - 1

Working with Particles, Creating Particles and Particle Flow, Understanding the Various Particle Systems, Using the Spray and Snow Particle Systems.

UNIT - 2

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.

UNIT - 4

Using the Motion Panel, Animating Objects, Animating cameras, Animating lights, Animating materials.

REFERENCE BOOKS :

1. 3D MAX Bible 2015, Publisher: Wiley India Pvt Ltd.
2. Autodesk 3ds Max 2014 Essentials: Autodesk Official Press by - Randi L. Derakhshani & Dariush Derakhshani.
3. Autodesk Maya And Autodesk 3ds Max Side-By-Side by Les Pardew, Mike Tidwell Publisher: Course Technology, Barrett Fox3Ds Max 6 Animation, Tata Mc Graw-Hill Edition.
4. Autodesk 3ds Max 2014 Bible - by Kelly L. Murdock (Author).

BV 156.6P – DYNAMICS LAB

RATIONALE :

Working on emitters, particles and particle systems, different types of constraints, force fields, active passive bodies, Fluid simulation, Create ocean, Create smoke, nCloth simulations, understanding different parameters to create dynamic effects.

COURSE OUTCOMES :

- Creating dynamic particle effects using particle simulations, particle systems.
- Understanding time control.
- Understanding frame rate/ Key modes.
- Usage of Array particle systems.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to :

- Create dynamic particle effects using particle simulations, particle systems.
- To Understand time control.

- To Understand frame rate/ Key modes.
- Know the usage of Array particle systems.

LAB EXCERSISES :

1. Creating Fire effect
2. Creating Cracker effect
3. Creating glow effect
4. Creating ray effects
5. Creating 3D Text effects

BV 157.6P – SCRIPT WRITING LAB

RATIONALE :

Creating basic elements of stories and different plot structures, understanding the theme, emotions of the characters and also principles relating to backstory, narratives and dialogues.

COURSE OUTCOMES :

- Creating basic elements of story and analysing different plot structure.
- Understanding the theme and emotions of the character.
- Understanding plot, progressiveness, complications involved in it, climax etc.
- Understanding screen writing structure, narratives and dialogues.

PROGRAM SPECIFIC OUTCOMES :

- Create a proper storyline by adding basic elements of story, plot and anti plot structure.
- Understand the theme required and basic mood and emotions of the character.
- Create a story which involves turning points, setups, climax. etc.

SYLLABUS :

- Discuss basic elements of story, Archplot, Multiplot, Miniplot, Nonplot, Antiplot structure.
- Discuss Theme, Meaning, Emotion and Character, 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.
- Principles of Exposition, Backstory, Flashbacks, Screenwriting Problems, narrative and Dialogue.

BV 158.6P – STORYBOARDING LAB

RATIONALE :

Creating a series of drawings for storyboard from the relevant script and understanding basic drawing techniques, understanding common Pre- Production workflow and its structure.

COURSE OUTCOMES :

- Creating a series of animated storyboards from the script.
- Applying basic drawing techniques and creating the storyboard as required by the script.
- Understanding Pre- Production workflow.

PROGRAM SPECIFIC OUTCOMES :

The student will be able to:

- Create a series of legible storyboard as required by the script.
- Create Animatics.
- Understand Pre- Production process.

SYLLABUS :

- Produce a series of cohesive storyboards from a script.
- Recognize and define common storyboard terminology.
- Apply basic drawing techniques to create legible storyboards.
- Create and output a simple Animatic from scratch.
- Identify and state common pre production workflow.

BV 159.6 – MINOR PROJECTS (ANIMATION FINAL PROJECT)

BV 160.6 – MAIN PROJECT