



Learn Lead Serve

Curriculum and Syllabus AY 2023-27
Faculty of Arts, Communication and Indic Studies
Programme: Animation

Program Educational Objectives:

PEO1: Graduates will function in their profession with social awareness and responsibility

PEO2: Graduates will interact with their peers in other disciplines in their workplace and society and contribute to the economic growth of the country.

PEO3: Graduates will be successful in pursuing higher studies in their chosen field.

Vision of FACIS

****To be recognized globally for imparting value-based education, nurturing management leaders, enabling entrepreneurial skills, and interdisciplinary research for the society at large.****

Mission of FACIS

M1: Equip students with knowledge of various functional areas in Management through Corporate World Interface.

M2: Develop students to manage and lead in complex business environments and acquire skills for entrepreneurial initiatives.

M3: Collaborate with industry for curriculum development and pedagogy.

M4: Develop faculty by equipping them with teaching management techniques and interdisciplinary research.

M5: Develop business leaders with an ethical mindset capable of creating value for stakeholders and society.

Program Outcomes:

PO1: Apply knowledge of Animation techniques to create compelling works of Art.

PO2: Foster analytical and critical thinking abilities to understand Animation and VFX as an art form.

PO3: To develop Leadership skills and establish oneself as a competent entrepreneur in the Animation industry.

PO4: To understand and appreciate cultural diversity and reflect them in their work of art.

PO5: Understand the effect of audiovisuals on individuals and society and steer the collective social behavior towards peace and harmony.

PO6: Ability to understand complex artistic and technical challenges involved in media production.

PO7: To develop an interest in and recognize the need for independent and lifelong learning.

Program Specific Outcomes:

PSO 1: Create competence in the fields of Computer Graphics assets creation, Visual Effects, Gaming, and Graphic designing.

PSO 2: Understand the ongoing changing trends and keep them updated with the latest technology.

PSO 3: Use critical thinking skills and problem-solving strategies for the overall development of professional growth in the fields like Animation, VFX, gaming, and graphics.

PSO 4: Apply technical knowledge and methodologies from animation software's in order to conduct research and demonstrate the appropriate skill to seek solutions to problems that emerge in various fields of 3d animation & VFX simulations

PSO 5: Develop Entrepreneurial capabilities considering the animation industry works mainly on freelancing and individual creativity.

Modifications based on BOS Recommendations

1. **ANP604: Case Study** replaced by **BFA601: Adv. Storyboarding**.
2. **BFA702: Portfolio Development** moved to the end of semester 7.

FIVE	1	CC8	ANP501	Video Editing II	2	0	8	6	40	60	100
	2	CC10	ANP502	3DS MAX I	2	0	8	6	40	60	100
	3	SEC2	ANP503	Filmmaking I	0	0	8	4	40	60	100
	4	GES5	ANT504	Constitution & Media Laws	4	0	0	4	40	60	100
	Total							20			600
SIX	1	CC9	ANP601	Digital Compositing II	2	0	8	6	40	60	100
	2	CC11	ANP602	3DS MAX II	2	0	8	6	40	60	100
	3	CC12	ANP603	VFX II	2	0	8	6	40	60	100
	4	GEC5	BFA601	Adv. Storyboarding	0	0	8	4	40	60	100
	Total							20			400
SEVEN	1	GEC3	BFA701	UX/UI Design	0	0	8	4	40	60	100
	2	SEC3	ANP701	Filmmaking II	0	0	8	4	40	60	100
	3	SEC4	ANT702	Capstone Project	0	0	12	6	40	60	100
	4	DSE5	BFA702	Portfolio Development	2	0	4	4	40	60	100
	Total							18			400
EIGHT	INTERNSHIP						22			400	

Existing Syllabus

Semester	Sl. No	Course code	Course Code	Name of the Course					Assessment Pattern		
					L	T	P	C	IA	ETE	Total
ONE	1	CC1	ANP101	3D Modeling & Texturing I	2	0	8	6	40	60	100
	2	AECC2	ANT102	English Communication	4	0	0	4	40	60	100
	3	GSE1	ANP103	Foundation Art I	2	0	4	4	40	60	100
	4	GES1	ANT104	History of Animation & VFX	4	0	0	4	40	60	100
	5	SEC	ANP105	Happiness Connect	0	0	4	2	20	30	50
	6	SEC	ANP106	Computer Fundamentals	1	0	2	2	20	30	50
					Total				22		
TWO	1	CC2	ANP201	3D Rigging & Animation I	2	0	8	6	40	60	100
	2	AECC1	ANT202	Environmental Science	4	0	0	4	40	60	100
	3	DSE2	ANP203	Foundation Art II	2	0	4	4	40	60	100
	4	GES2	ANP204	Graphic Design	2	0	4	4	40	60	100
	5	DSE3	ANP205	Project I)	0	0	4	4	40	60	100
				Total				22			500
THREE	1	CC3	ANP301	3D Modeling & Texturing II	2	0	8	6	40	60	100
	2	CC5	ANP302	Video Editing I	2	0	8	6	40	60	100
	3	SEC1	ANP303	Photography	2	0	4	4	40	60	100
	4	SEC5	ANT304	Film Production Pipeline	2	0	0	2	40	60	100
					Total				18		
FOUR	1	CC4	ANP401	3D Rigging & Animation II	2	0	8	6	40	60	100
	2	CC6	ANP402	Digital Compositing I	2	0	8	6	40	60	100
	3	CC7	ANP403	VFX I	2	0	8	6	40	60	100
	4	DSE7	ANP404	Project II	0	0	8	4	40	60	100
					Total				22		
FIVE	1	CC8	ANP501	Video Editing II	2	0	8	6	40	60	100

	2	CC10	ANP502	3DS MAX I	2	0	8	6	40	60	100
	3	SEC2	ANP503	Filmmaking I	0	0	8	4	40	60	100
	4	GEC5	ANT504	Constitution & Media Laws	4	0	0	4	40	60	100
				Total				20			600
SIX	1	CC9	ANP601	Digital Compositing II	2	0	8	6	40	60	100
	2	CC11	ANP602	3DS MAX II	2	0	8	6	40	60	100
	3	CC12	ANP603	VFX II	2	0	8	6	40	60	100
	4	GEC5	ANP604	Portfolio Development	0	0	4	2	40	60	100
					Total				20		
SEVEN	1	GEC3	ANP701	UX/UI Design	2	0	4	4	40	60	100
	2	SEC3	ANP702	Filmmaking II	0	0	8	4	40	60	100
	3	SEC4	ANT703	Case Study	4	0	0	4	40	60	100
	4	DSE5	ANP701	Capstone Project	0	0	12	6	40	60	100
					Total				18		
EIGHT	INTERNSHIP							22			400

Name of The Course	3D Modeling & Texturing I			
Course Code	ANP101			
Prerequisite	Basic Computer Knowledge			
	L	T	P	C
	2	0	8	6

Course Objective

To familiarize the students with the techniques for creating 3D assets using a computer and use these techniques to create necessary 3D models in a production environment.

Course Outcomes

CO1	Students will be able to illustrate working of 3D software and their pipelines.
CO2	Students will be able to examine the features of the 3D software interface.
CO3	Students will be able to compare various 3D methodologies.
CO4	Students will be able to determine relevant 3D methodologies with respect to different 3D projects.
CO5	Students will be able to determine critical thinking skills elemental to the problem solving of complex 3D visualization scenarios.

UNIT 1	Navigating the Viewport, Pie Menus, 3D Cursor, Properties panel, Scenes Collections, Workspaces, and Preferences. AddOns
UNIT 2	Adding Objects, Edit Mode, Multi-object Editing, Applying Transforms, Snapping, Pivot Manipulation. Types of Modeling methods: Polygon, Curve, Modeling with modifiers, Sculpting.
UNIT 3	Polygon Modeling Basics. Extrude, Bevel, Inset, Loop-cut, Multi-Cut, Fill & Create Faces. Modeling Simple objects from a cube. Modeling Low Poly Characters
UNIT 4	UV Basics. The UV panel. UV Unwrapping & Projection. Creating Textures in Photoshop. Creating Basic materials for texturing

Pedagogy:

The subject will receive hands-on training on 3D modeling techniques and use them to create production-quality 3D assets.

Suggested Reading:

1. The Complete Guide to Blender Graphics, A K Peters Ltd; 7th edition
2. Beginner's Guide to Creating Characters in Blender, 3DTotal Publishing
3. Blender 3D By Example, Packt Publishing; Illustrated edition.

Name of The Course	English Communication			
Course Code	ANT102			
Prerequisite	Basic Grammar of English			
	L	T	P	C
	4	0	0	4

Course Objectives

This is a functional course designed to support the course takers in achieving their ESL communication requirements in the contexts where they need to use the language. The course focuses on developing the skills of listening, speaking, reading and writing along with the application of contemporary grammar and usage. The inputs of the course will be in the form of appropriate listening and reading texts, and specific output oriented activities.

Learning outcomes

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

- (i) listen, understand, analyse and respond to the neutral variety of English used in different contexts and for different purposes
- (ii) use English fluently to express their needs, to seek and provide information, and for other communicative functions
- (iii) read and respond to standard texts through comprehension and analysis
- (iv) write a variety of texts with appropriate argumentation and cohesion
- (v) use grammar appropriately to suit to the purposes of speaking and writing
- (vi) use current usage in producing acceptable expressions in communication

Unit 1 Grammar

- Understanding the nature and functions of tense forms,
- Understanding declaratives, interrogatives and exclamatory sentences, imperatives
- Using the different parts of speech appropriately in different contexts
- Common Errors in Grammar and Usage

Unit 2 Communication, Comprehension, Presentation/Vocabulary Enhancement

- Listening to understand main/ important points, details, and digressions
- Idiom, phrases and usages

Unit 3 Speaking

- Introducing oneself and others; requesting others to introduce themselves
- Seeking and giving information
- Describing/ introducing a process

- Expressing personal opinion
- Agreeing/ disagreeing in a cordial manner
- Describing a performance/ event/situation/text
- Group discussion/ personal interview

Unit 4 Comprehension and Analysis

- Critical analysis of unknown passages and essays

Unit 5 Writing

- Writing paragraphs in a structured format using cohesive devices
- Using punctuation appropriately
- Writing in Different Contexts - formal /informal letters to organizers and corporate houses, performance notes, meeting agenda, proposals for funds and reviews.
- Essay writing

Suggested Reading

1. Raman, Meenakshi, and Sharma, Sangeeta. Technical Communication: Principles and Practice. India, Oxford University Press, 2015.
2. Sen, Leena. Communication Skills. India, PHI Learning, 2007.
3. Rentz, Kathryn, et al. Lesikar's Business Communication: Connecting in a Digital World. United States, McGraw-Hill/Irwin, 2011.
4. Ferrari, Bernard T. Power Listening: Mastering the Most Critical Business Skill of All. United States, Penguin Publishing Group, 2012.
5. Williams, Phil. Advanced Writing Skills for Students of English. United Kingdom, English Lessons Brighton., 2018.
6. Das et. al., An Introduction to Professional English and Soft Skills (With cd). India, Cambridge University Press.
7. Naylor, Helen, and Murphy, Raymond. Essential English Grammar - Supplementary Exercises Indian Edition. United States, Cambridge University Press, 2001.
8. Joseph, K., V., Textbook of Grammar & Usage., McGraw-Hill Education (India) Pvt. Limited.
9. Yadurajan, K.S., Modern English Grammar: Structure, Meanings, and Usage. India, OUP India, 2014.
10. Gangal, J. K. A Practical Course for Developing Writing Skills in English. India, PHI Learning, 2011.
11. *Vistas and Visions*- Ed. Kalyani Samantray, Himansu S. Mohapatra and Jatindra K Nayak.

Bookwish publication 2015.

Name of The Course	Foundation ART I			
Course Code	ANP103			
Prerequisite	None			
	L	T	P	C
	2	0	4	4

Course Objective

The Foundation Program, for first-year students, provides core studies for life-long learning and professional practices in the visual arts by teaching fundamental skills that enable students to become adept, well- informed animators. (The liberal arts curriculum informs students' ability to construct meaning using the formal elements of art and design.)

Course Outcomes

CO1	Students will be able to Recall the basics of drawing and material handling.
CO2	Students will be able to Illustrate the importance of tonal value
CO3	Students will be able to Demonstrate the usage of positive and negative space in a design composition.
CO4	Students will be able to identify, analyze color theory and color harmony in drawing and sketching.
CO5	Students will be able to review different types of art forms.

UNIT 1	Elements & Principles of Art, Basic Shape Drawing: Cubes, Cones, Cylinders, Drawing in 3D. Sketching Still Life, Shadow Study. Drawing Buildings and Cityscapes.
UNIT 2	Human anatomy: Structure and Muscles. Figure Drawing with Basic Shapes, Caricatures, Gestures, Freestyle & Calligraphics Drawing
UNIT 3	Perceiving Shape, Form & Space, Difference between Shapes & Forms, Creating Shapes & Forms in Space, 3D Sketches, Positive & Negative Space, Designing Murals.

UNIT 4	Vanishing point and Horizon line, Single point, two point and 3 point perspectives. Drawing characters in 3D space.
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Pedagogy:

The subject will receive hands-on training on drawing techniques. Real objects and landscapes will be used to study perception of geometry and light.

Suggested Reading

1. The Artist's Handbook of Materials and Techniques
2. Perspective Made Easy
3. Drawing Mentor: Drawing Materials, Lines and Shapes, Perspective and 3D Shapes.

Name of The Course	History of Animation & VFX			
Course Code	ANT104			
Prerequisite	Familiarity with Animation Films			
	L	T	P	C
	4	0	0	4

Course Objective

To familiarize the students with the origin and evolution of Animation as a new form of visual art and build the foundation for appreciation of Animation and VFX in various fields.

Course Outcomes

CO1	Students will be able to understand the nature, scope and objective of Animation and visual effects in various fields such as Education, Medical, Engineering and as such.
CO2	Students will be able to describe the evolution of animation and its history.
CO3	Students will be able to compare and contrast various traditional animation techniques.
CO4	Students will be able to determine various animation techniques with basic principles of animation. .
CO5	Students will be able to appreciate various forms of animation and provide critical analysis and review of an artist's work.

UNIT 1	History of Animation: Early Forms of Animation: Phenakistoscope, Thaumatrope, Zoetrope, Praxinoscope, Cel, Théâtre Optique. Evolution of the Animation process. Traditional vs Digital Animation
UNIT 2	Animation Types: : Traditional animation, Computer based 2D and 3D animation, Typography animation, Stop-motion/Clay animation, Flipbook Animation, Sand Animation, Paint-on-Glass animation, Puppet Animation. Animation Tools: Materials used in different types of animations. Animation Softwares: 2D and 3D Animation Softwares and their features. Rotoscope, Technicolor, Stereo-Optical Process, Multiplane Camera, Xerography
UNIT 3	Forces, Momentum & Mass, Friction, Center of Mass. Principles of animation: Blocking & Staging, Squash & Stretch, Drag & Follow Through,

	Timing, Line of Action, Silhouette. Timing: Importance of Timing, Animating Cycles.
UNIT 4	<ul style="list-style-type: none"> ● USA: The Flintstones, Toy Story, Beauty And the beast, Sherk ● Japan: Astro Boy, Kimba the White Lion. ● Italy: Calimero, La Linea. ● India: Chota Bhim, My Friend Ganesha

Pedagogy:

The subject will be taught by using Audio Visual and PPT presentations and online tools to provide a strong understanding of Animation techniques and principles. Class discussions will take place to analyze and appreciate animation as an art form.

Suggested Reading:

1. Cartoon Animation with Preston Blair". Walter Foster Publishing
2. "Pixar Storytelling: Rules for Effective Storytelling". Dean Movshovitz (4 October 2015)
3. The World History of Animation. University of California Press; First edition.

Name of The Course	Computer Fundamentals			
Course Code	ANT104			
Prerequisite	None			
	L	T	P	C
	1	0	2	2

Course Outcomes:

Following the completion of this course, students shall be able to

- Understand the application of computers in our day today life.
- represent the data and organize them.
- Understand about operating systems and the importance of file management.

Course Content:

Unit-1: Basics of computer and its applications

Components of a computer system: CPU, RAM, HDD, I/O Devices, PSU

Operating system: Interface, Navigation & File management.

Browsers. Desktop and Mobile Apps.

Digital Safety Awareness: Antivirus softwares, Staying safe online. Digital Privacy.

Unit-2: Softwares & Web based services:

Microsoft Word, Excel & Powerpoint.

Web based services: Google Services: Docs, Slide, Sheet, Sites.

Using OBS: Interface, Settings.

Unit-3: Multimedia Fundamentals:

Media Types & Formats: Image, Video & Audio.

Editing Image: Using Canva to create Digital Art work.

Editing Video: Using Shotcut to edit videos.

Audio editing: Using Audacity to edit audio.

Unit – 4: Portfolio management:

Social Media Management: Facebook Account & Pages.

Using Instagram for business.

Creating a personal Art website.

Creating & Managing a “youtube” channel. Revenue generation.

Live streaming Techniques.

TEXT BOOKS

1. **Basics of Computers**
 - **ASIN : B075QD242L**
 - **Publisher : Chetan Publication**
 - **Language : English**
 - **ISBN-13 : 978-9386953131**

2. **Ron Mansfield : Working in Microsoft Office, McGraw Hill, 2008**

SEMESTER II

Name of The Course	3D Rigging & Animation I			
Course Code	ANP201			
Prerequisite	Basic Computer Knowledge			
	L	T	P	C
	2	0	8	6

Course Objective

The course is aimed,

1. To study the organic and inorganic rigging of humans and machines.
2. To understand advanced techniques for organic rigs such as blend shape and facial expression setups.
3. To apply advanced techniques for complicated mechanical rigging setups by implementing dynamics in rigging

Course Outcomes

After completion of the course students will be able to

CO1	recall 3D animation techniques & concepts.
CO2	illustrate tools used for 3d rigging and animation.
CO3	apply animation principles to 3d objects or characters.
CO4	apply skinning and wiring techniques to rigs.
CO5	modify and correct existing skinning issues using available tools.

UNIT1	Introduction to rigging tools in Blender. Parenting and Hierarchy. Bones. Bone Properties, Structure.
UNIT2	Skinning biped character, Posing and fixing weight issues, Introduction to Auto-rig Adon. Creating a complete biped rig. IK & FK
UNIT3	Key frames. Interpolation Styles. Editing Keyframes. Keying Sets. Curve Editor, Dope-sheet. Animation Nodes. Pose Library, Selection Sets
UNIT4	Biped character walk cycle. Working with Actions. Motion Paths. Biped Action Animation reflecting Principles of Animation.

Pedagogy:

The subject will be taught using hands-on training and live demonstration. Students shall be provided with video tutorials to practice at their own pace.

Suggested Reading:

1. Blender Quick Start Guide: 3D Modeling, Animation, and Render
2. Blender 3D By Example: A project-based guide to learning the latest Blender 3D, Packt Publishing Limited
3. Learning Blender: A Hands-On Guide to creating 3D Animated Characters, Addison-Wesley Professional; 1st edition.

Course Code	ANT202	L	T	P	Credits
Course Title	Environmental Studies	4	0	0	4
Course Evaluation	Internal Assessment: 40 End Term: 60				

Course Objectives:

- An interdisciplinary approach to complex environmental problems using basic tools of the natural and social sciences including geosystems, biology, chemistry, economics, political science, and international processes
- An experience-based understanding of the human and natural environment of the world including water and energy needs, air quality, marine, and coastal issues

Course Outcomes:

After completion of this course successfully the students will be able to:

CO1	Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems
CO2	Understand the transnational character of environmental problems and ways of addressing them, including interactions across local to global scales.
CO3	Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world.
CO4	Understand key concepts from economic, political, and social analysis as they pertain to the design and evaluation of environmental policies and institutions.

Syllabus

Unit- I	Name of topic: Environment	Lecture Hours- 12 hours
Environment – Multidisciplinary nature of Environmental Science; Definition and the components – the physical components, the socio-economic and cultural component, Sustainable development; Natural resources – definition and types, renewable and non-renewable resources, resource use and depletion; The atmosphere – structure and composition, physicochemical role of the atmosphere, radiative balance and earth's temperature regime		
Unit- II	Name of the Topic(s): Natural Resources	Lecture Hours- 11 hours

Rocks and minerals, the rock cycle, biogeochemical cycles, soil- structure and types, land resources, and landforms; Water resources, water bodies, and water use, issues with water and conservation; Ecosystems – concepts and structure, diversity and stability, concepts of biomes, biodiversity		
Unit- III	Name of the Topic(s): Urban Environment	Lecture Hours- 9 hours
The urban environment and issues – internal migration, waste generation, and management, vehicular traffic, air and water pollution, urban heat island, future of cities, urban green space and aesthetics; the concept of smart cities, sustainable cities		
Unit- IV	Name of the Topic(s): Environmental Concerns	Lecture Hours: 9 hours
Environmental issues – local, regional, and global; Concepts of pollution of air, water, and land, urbanization and solid wastes, biodiversity loss, land degradation and desertification, biodiversity loss, ozone layer depletion, climate change		

Suggested Readings (Books, web resources etc.):

Textbooks

William P. 2003. Cunningham, Mary Ann Cunningham, Barbara Woodworth Saigo, Environmental Science: A global concern, McGraw Hill.

Cunningham, W. and Cunningham, M. 2014. Principles of Environmental Science: Seventh Edition, McGraw Hill.

Rogers P.P., Jalal, K.F., Boyd, J.A. 2008. An introduction to sustainable development, Earthscan.

Reference books:

Roosa, S.A. 2008. Sustainable Development Handbook, CRC Press.

Atkinson, G., Dietz, S., Neumayer, E., Agarwala, M. 2014. Handbook of Sustainable Development, Edward Elger.

Robbins, P., Hintz, J., Moore, S.A. 2014. Environment and Society: A critical introduction, Wiley Blackwel.

Pedagogy:

Subject is taught by using PPTs, and board (in offline mode). Group discussion is held and there is a separate interaction session.

Name of The Course	Foundation Art II			
Course Code	ANP 203			
Prerequisite	Fundamental & Principal of Fine Arts			
	L	T	P	C
	2	0	4	4

Course Objective:

A broad description of the socio cultural environment which produced different types of art-An understanding of basic art forms to develop self- expression.

The objective of teaching appreciation and fundamentals of visual art and art history is to strengthen his/her basic fundamentals about art and society and to further acquaint the students with visual cultures from the earliest time to the present. The course is designed with the conviction that the learners can understand its relation to his/her own time and the technology at his command through an awareness of the relationship to their artistic predecessors.

CO1	Create and implement the concepts and basic principles of Creative Drawing & Still Life.
CO2	Implement the sound techniques of Creative Drawing & Still Life and practical concepts and understanding in their practical work.
CO3	Execute some of the common & unique values/knowledge of creative drawings explained in the paper simultaneously to meet professional requirements.

UNIT1	To study nature, perspective, texture, tone, light, and shade of three-dimensional objects through the use of different media like pencil, crayons, pen and ink, color etc. To understand and use geometrical instruments. Simple exercise in angles and geometrical figures i.e., triangle, quadrilaterals, parallelograms, squares, rectangles, rhombus, polygons, circles etc.
UNIT2	Still Life: Drawing and Painting of three-dimensional objects of various shapes, colors and character along with different types of draperies.
UNIT3	Study in Pencils of simple shapes like cube, sphere, cone and various objects. Basic understanding of sketching Techniques. Outdoor sketching and the observation of man, animal and plant life. (100 Sketches)- Study of basic shape

	and form in clay- Study of Parts and Limbs of human body in clay- Study of manmade objects in clay.
UNIT4	Landscape/ Nature Study (outdoor) Observation, finding the right view to study, addition and elimination, simplification, eye level and perspective, balance and rhythmic presentation with a unique aesthetic value.

Pedagogy:

The subject will be taught by using various art materials (Acrylic color, Water color, Pencil, Paper, Canvas, and Charcoal) and PPT presentations and online tools to provide a strong understanding of Visual arts techniques and principles. Class discussions will take place to analyze and appreciate animation as an art form.

Suggested Readings:

Text:

- An Introduction to Drawing by James Horton in association with the Royal Academy of Arts.

References:

- Grassroots of Art by Herbert Read
- How to draw and paint by Hazel Harrison, from Art School
- Human Figure by Walter Foster
- Anatomy by Walter Foster
- Heads by Walter Foster
- Figure Drawing by Patricia Monahan with Albany Wiseman
- Human Anatomy by James Horton
- Big book of Drawing and painting by Francisco Asensio Cerver

Name of The Course	Graphics Design			
Course Code	ANP204			
Prerequisite	Basic Computer Knowledge			
	L	T	P	C
	2	0	4	4

Course Objective

This course is aimed at learning the basics and Fundamentals of Multimedia, it's components and tools. This will also help students to understand how Multimedia can be incorporate

Course Outcomes

CO1	Students will be able to recall theoretical knowledge of print and digital media.
CO2	Students will be able to illustrate the usage of various tools available in most graphic software.
CO3	Students will be able to fix and enhance issues in digital images.
CO4	Students will be able to color correct digital images and properly archive them.
CO5	Students will be able to design visually appealing image composites.

UNIT 1	Image Formats. Pixels, Bit Depth, Resolutions & Aspect Ratios. Types of codecs & their usage. Image Channels.
UNIT 2	Photoshop Interface and Navigation. Opening, Importing and Exporting Images. Color Modes. Color Space. Resizing documents. Straightening & Cropping Images. Adjusting Canvas Size. Content aware Crop. Layers & Blend modes.
UNIT 3	Brush options. Masking Layers. Selection Tools. Refining Selections. Quick Mask. Selection based on Color and Focus.
UNIT 4	Retouching Tools. Smart Objects. Transformations & Perspective Correction. Adjustment layers. Histogram. Filters.

Pedagogy:

The subject will receive hands-on training on Digital image editing techniques, using a computer, and apply them to manipulate digital images.

Suggested Reading:

1. Adobe Photoshop Classroom in a Book, Adobe Press; 1st edition
2. Adobe Photoshop: A Complete Course and Compendium of Feature, Rocky Nook; Illustrated edition
3. Beginner's Guide to Digital Painting in Photoshop, 3DTotal Publishing; 2nd edition.

Name of The Course	Project I			
Course Code	ANP205			
Prerequisite	Approval of Supervisor			
	L	T	P	C
	0	0	12	6

Course Objective

The objective of a VFX Animation Project II course is to provide students with an opportunity to further develop their skills and knowledge in advanced VFX and animation techniques. The course aims to challenge students to create complex and sophisticated animation and VFX projects while building upon the foundational concepts and skills learned in previous courses.

Course Outcomes

On successful completion of this course, students will be able to

CO1	develop advanced animation skills, including character animation, motion capture, facial animation, and lip-syncing
CO2	use advanced visual effects techniques such as complex particle simulations, fluid simulations, dynamics, and advanced compositing
CO3	develop effective collaboration and teamwork skills
CO4	create project documentation, including project briefs, concept art, storyboards, and production schedules. They will also understand the importance of effectively communicating their creative process and decision-making in their project documentation.
CO5	create projects that meet or exceed the quality standards of the animation and VFX industry, showcasing their readiness for professional opportunities.

UNIT 1	Character Animation: This unit concentrates on character animation principles and techniques. Students learn about the principles of movement, acting, and timing to bring characters to life. They practice keyframing, motion capture, and rigging techniques to create expressive and believable character animations.
UNIT 2	Lighting and Rendering: In this unit, students learn about lighting and rendering techniques to enhance the visual quality of their VFX and animation projects. They explore topics such as global illumination, shadowing, shading, and rendering settings. They gain an understanding of how lighting and rendering contribute to the overall look and feel of their projects.
UNIT 3	Post-production and Finalizing: This unit covers the post-production phase of VFX and animation projects. Students learn about editing, sound design, color grading, and finalizing their projects for delivery. They gain skills in using editing software, audio editing tools, and post-production techniques to create a polished and finished product.
UNIT 4	Project Management and Collaboration: Throughout the course, students learn about project management methodologies, teamwork, and collaboration in the context of VFX and animation projects. They develop skills in planning, organizing, and coordinating project tasks, and work collaboratively in teams to complete larger-scale projects.

Suggested Reading:

1. "Creating a Successful Portfolio" by Elizabeth Wilhide.
2. "The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures" edited by Jeffrey A. Okun and Susan Zwerman.
3. "The VFX Artist's Digital Toolbox: The Practical Guide to Creating Visual Effects in the Digital Environment" by Oliver Newbery

SEMESTER III

Name of The Course	3D Modeling & Texturing II			
Course Code	ANP301			
Prerequisite	Basic 3D modeling and texturing knowledge			
	L	T	P	C
	2	0	8	6

Course Objective

To identify characteristics of rendering 3D objects for optimal system processing and analysis. Create a 3D environment featuring lighting and textures. Create advanced 3D assets. Evaluate digital 3D projects, identify items for improvement, and implement changes.

Course Outcomes

CO1	Students will be able to understand the 3D software using polygons by Combining, separating, splitting and Sculpting surface meshes.
CO2	Students will be able to create organic 3d models.
CO3	Students will be able to design a wide range of characters and creatures for 3D animation on paper and implement those designs as 3D models
CO4	Students will be able to interactively sculpt and add hyper realistic surface detail to organic polygonal models.
CO5	Students will be able to paint textures in Substance Painter and Bake them for use in Maya.

UNIT I	Intro to Maya Interface, Transform, Parenting & Grouping, Hypergraph, Outliner, Image planes, Camera. Poly Modeling Tools -Polygon Components, Extrude, Extrude along Curve Bevel, Edge Loop, Cut, Bridge, Mirror Cut, Boolean, Quad Draw, MirrorGeo
UNIT II	Intro to NURBS Modeling - Creating Curves, Creating Surfaces, Nurbs parameters, Trims, Combining Curves & Surfaces, Booleans, Texturing, Stitching Patches, Converting to Poly

UNITIII	Material Basics, Creating and Applying Maps, Maya Hypershade, UV Workflows, UV Layouts, Types of UV Mapping, Multiple Projection, Editing UVs, UV Sets.
UNITIV	Intro to Substance Painter: Creating projects and Importing Mesh, Understanding texture sets & Settings, Shader Setup, Importing content, Creating Base Material, Adding Details, Applying Smart materials, Applying Decals & Grunge, Exporting to Maya.

Pedagogy:

The course will be taught by providing hands-on training using computers. Video recordings of the same will be provided for self paced practice.

Suggested Reading:

1. An In-depth Guide to 3D Fundamentals, Morgan Kaufmann; 1st edition
2. First Lessons in Autodesk Maya
3. Stop Staring: Facial Modeling and Animation Done Right, Sybex; 3rd edition
4. Anatomy for 3D Artists: The Essential Guide for CG Professionals, 3DTotal Publishing
5. Beginning PBR Texturing: Learn Physically Based Rendering with Allegorithmic's Substance Painter.

Name of The Course	Video Editing I			
Course Code	ANP302			
Prerequisite	Basic Computer Knowledge			
	L	T	P	C
	2	0	8	6

Course Objective

This course explores the post-production process for non-linear editing of digital video for use in video production and multimedia applications. It focuses on industry standard editing software to develop the foundational process of editing, including continuity and montage principles.

Course Outcomes

CO1	Students will be able to define various formats of digital video
CO2	Students will be able to understand the various editing features of an NLE.
CO3	Students will be able to apply the editing techniques to create video narratives
CO4	Students will be able to analyze and appreciate the editing styles of various editors.
CO5	Students will be able to enhance visuals by adding/modifying Contrast and Color.

UNIT1	Video Formats, Resolution, Color Spaces, Frame Rates, Introduction to Resolve CUT Page. Creating Smart Bins, Clip Attributes, Dual Sync Sound, Playing & Marking Clips. Creating Timelines, Timeline Navigation.
UNIT2	Resolve EDIT Page, Insert, Overwrite and Three point Edits. Linking and Unlinking, Razor Edit, Copy & Paste, Moving & Swapping Clips, Edit Index
UNIT3	Trimming - Tops & Tails, Roll & Extend Edits, Slip & Slide, Dynamic Trim. Audio - Adjusting Clip Volume, Intro to Fairlight page, Adding Audio Effects, Reducing Noise.
UNIT4	Adding Transitions & Effects. Creating Fusion Comps. Fusion Basic Compositing. Creating & Animating Text In Fusion. Rendering.

Pedagogy:

The subject will be taught using hands-on training and live demonstration. Students shall be provided with video tutorials to practice at their own pace.

Suggested Reading:

1. The Beginner's Guide to DaVinci Resolve 16, Publisher : Blackmagic Design
2. The Definitive Guide to DaVinci Resolve 15, Publisher : Blackmagic Design
3. The Video Editing Handbook, ASIN : B074 GR N9P

Name of The Course	Digital Photography			
Course Code	ANP303			
Prerequisite	None			
	L	T	P	C
	0	0	8	4

Course Objective

To familiarize the students with the Art and techniques of digital photography and use it to create compelling still photographs.

Course Outcomes

CO1	Students will be able to operate DSLR & Mirrorless Cameras.
CO2	Students will be able to compose balanced & visually appealing images
CO3	Students will be able to analyze different lighting conditions and set up camera parameters accordingly.
CO4	Students will be able to set up light for indoor photography.
CO5	Students will be able to develop their own artistic skills to create contemporary digital photographs

UNIT 1	The camera: Camera types & Parts. Menu items and Shooting Modes: Auto vs Scene vs Priority. Exposure : ISO, Shutter Speed & Aperture, White Balance.
UNIT 2	Single point, 2 point and 3 point Lighting. Portraiture genres and lighting techniques. Studio vs Natural lighting. Black & White Photography. Night Photography. Product Photography.

UNIT 3	Rules of Thirds, Golden Ratio, Staging & Composition, Direction of Action, Lighting & Depth. Script Breakdown & Storyboard creation using photographs.
UNIT 4	360 HDRI Creation, Photogrammetry, Taking photographs for creating Texture Maps.

Pedagogy:

The students will receive hands-on training in Digital Photography techniques, using DSLR cameras, and applying them to create digital images. Case study of famous photographers will be done along with ground discussions.

Suggested Readings:

1. Digital Photography Basics, Nicole Toizer
2. Light Science & Magic: An Introduction to Photographic Lighting, Routledge; 5th edition
3. Understanding Exposure, Fourth Edition: How to Shoot Great Photographs with Any Camera, Amphoto Books; Revised edition.

Name of The Course	Film Production Pipeline			
Course Code	ANT304			
Prerequisite	Basics of computer graphics			
	L	T	P	C
	2	0	0	2

Course Objective:

This course exposes students to workflows and methodologies, animation & VFX industry standards, and the basic tools for creating expressive digital art work. By completing the course, students will become familiar with industry-standards and thereby develop the ability to identify best practices in a variety of production scenarios. As an animation portal, students will leave the class well equipped for intermediate and advanced topic courses in animation, VFX, and video game design.

Course out comes:

After successful completion of the course students will be able to

1. Understand how animated films are made and thereby demonstrate the ability to create their own character driven animations and visual effects.
2. exhibit knowledge of production techniques and processes.
3. effectively utilize software in the creation of computer animation.
4. demonstrate awareness of various computer animation industry standards.
5. critically assess production practices; and prepare to pursue intermediate and advanced level classes in topics such as technical character animation and advanced compositing.

UNIT 1	Operating systems: Mac, Linux & Windows. File formats : Image formats, video formats, 3D file formats. Multi - layer images. Image Compression. Color spaces & LUTs.
UNIT 2	Film production pipeline. Pre production, Production & Post production stage. Types of CG Artists. Task specific DCC tools. Shot Management.
UNIT 3	2D Production pipeline. 3D production pipeline. VFX pipeline. Live-action compositing pipeline.

Reference Books:

1. ISBN-10: 0415812291 Production Pipeline Fundamentals for Film and Games.

SEMESTER IV

Name of The Course	3D Rigging & Animation II			
Course Code	ANP401			
Prerequisite	Basic 3D rigging & animation knowledge			
	L	T	P	C
	2	0	8	6

Course Objective

This course covers the theory and practice of advanced rigging principles which apply to animations in industry pipelines for films and computer games. Topics include story development, facial and body dynamics, and motion capture. Students create animations and perform a literature review and peer critique.

Course Outcomes

CO1	Students will be able to demonstrate the rigging features in Maya.
CO2	Students will be able to develop custom rigging tools for specific tasks
CO3	Students will be able to apply advanced rigging, animation, gesture, emotional, and facial techniques within a digital character.
CO4	Students will be able to critique, evaluate, and recommend solutions for effective and rigging and animation
CO5	Students will be able to develop production and portfolio quality simulations that deliver advanced aesthetics and demonstrate mastery of 3D production workflow.

UNIT I	Geometry Setup for Rigging, Joint Creation & Orientation, Rotation Order, Biped Character Rigging. FK & IK, Skinning & Weight Painting.
UNIT II	Deformer Set, Curve Wrap, Cluster, Lattice, Point on Curve, Sculpt, Soft Modification, Wire, Wrap, Wrinkle, Shrinkwrap, Tension, Texture, Nonlinear Deformers - Bend, Flare, Sine, Squash, Twist, Wave

UNITIII	Parent, Point, Orient, Scale, Aim, Closest Point, Point on Poly, Geometry, Normal, Tangent, Remove target. Character Sets Driven Keys: Using set driven keys to link attributes, Driven Keys Relationships, Viewing & Editing Driven Key Relations in Graph Editor.
UNITIV	Animation Basics, Keyframe Animation, Graph Editor, Dope Sheet, Interpolation, Path Animation, Animation Layers, Animation File Formats.

Pedagogy:

The course will be taught by providing hands-on training on softwares using computers. Video lessons will be provided for self paced practice.

Suggested Reading:

1. Maya 3d Animation for Everyone, Charles River Media
2. Mastering Autodesk Maya 2016: Autodesk Official Press
3. Maya Character Animation

Name of The Course	Digital Compositing I			
Course Code	ANP402			
Prerequisite	Basic Video Editing Techniques			
	L	T	P	C
	2	0	8	6

Course Objective

This course introduces the processes and techniques of digital compositing, which one can then apply in the creation of original composites, such as integrating various image sources into one seamless output. This learning forms the foundation for further studies in visual effects and CG animation.

Course Outcomes

CO1	Students will be able to identify and discuss techniques used in the compositing practice.
CO2	Students will be able to demonstrate fundamental techniques required to create composites.
CO3	Students will be able to apply compositing techniques and aesthetic considerations to create original composites
CO4	Students will be able to discuss and present work in a variety of image composite stages with the instructor in a clear and cohesive manner.
CO5	Students will be able to critique digital compositing techniques and solutions employed by peers in a constructive manner

UNIT I	Fusion Interface. Loading and Saving Media. Creating Fusion Comp in Resolve. Fusion Nodes - Background, Transform Nodes, Composite Nodes, TimeSpeed, Time Stretcher.
UNIT II	Creating Basic Composites in Fusion. Dealing with Images with Alpha. Node Graph best Practices. The Inspector Panel. The Text Node. Creating Roto shapes. Adding and Deleting Control Points. Adjusting Roto Shapes. Animating Roto Shapes. Movement analysis for creating efficient Roto

UNITIII	Animation Basics. Animating Text Properties. The Keyframes Window. Manipulating keyframes. Fusion Color Tools, Color Correcting Footages, Color Matching Composites.
UNITIV	Keying Basics, Intro to Keying Nodes, Preparing plates for keying, Keying semi transparent objects, Keying Hair, Preserving details.

Pedagogy:

The course will be taught by providing hands-on training using computers. Video recordings of the same will be provided for self paced study.

Suggested Reading:

1. Ron Brinkmann, The Art and Science of Digital Compositing, Morgan Kaufmann
2. Steve Wright, Compositing Visual Effects: Essentials for the Aspiring Artist, Focal Press
3. Blain Brown, Cinematography: Theory and Practice: Image Making for Cinematographers, Directors, and Videographers, Focal Press
4. Steve Wright, Digital Compositing for Film and Video, Focal Press
5. Jeremy Hanke, Greenscreen Made Easy: Keying and Compositing Techniques for Indie Filmmakers, Michael Wiese Productions.

Name of The Course	VFX I			
Course Code	ANP403			
Prerequisite	Basic character rigging knowledge			
	L	T	P	C
	0	0	6	6

Course Objective

To familiarize the effects of the character body like Hair, fur, cloth and render them.

Course Outcomes

CO1	Students will be able to describe the various Grooming tools in Maya. Such as Hair, fur, etc.
CO2	Students will be able to use xGen for grooming hair, controlling its density using its modifiers. Procedural grooming.
CO3	Students will be able to use Interactive grooming methods to create hair and fur.
CO4	Students will be able to create realistic costumes for characters and animate them.
CO5	Students will be able to render character hair, simulation cloths & Maya fur

UNIT 1	Getting Started with XGen, Creating Hair & using interactive Grooming, Controlling Density, Grooming Modifiers
UNIT 2	Introducing to xGen Interacting Grooming, maya fur, Sculpt Layers, Masks, Clump Modifiers, Collision, Caching, Rendering Hair, XGen Geometry Instance
UNIT 3	nCloth Overview & Concepts, Creating nCloth, nCloth Attributes, Editing nCloth, Creating & Editing nCloth Constraints, Presets, Creating nCloth Simulation for fast-moving objects,

UNIT 4	Intro to Particle Node, Fields & Forces, Passive Colliders, Emitters, Caching Particles, Point Particle, Ball Particle, Cloud Particle, Particle Event Collider. Creating & Rendering Effects with Particle.
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Suggested Reading:

1. "Maya Visual Effects: The Innovator's Guide" by Eric Keller
2. "Mastering Autodesk Maya 2022" by Todd Palamar
3. Maya Official Documentation and Tutorials.

Name of The Course	Project II			
Course Code	ANP404			
Prerequisite	Approval of Supervisor			
	L	T	P	C
	0	0	12	6

Course Objective

The objective of a VFX Animation Project II course is to provide students with an opportunity to further develop their skills and knowledge in advanced VFX and animation techniques. The course aims to challenge students to create complex and sophisticated animation and VFX projects while building upon the foundational concepts and skills learned in previous courses.

Course Outcomes

On successful completion of this course, students will be able to

CO1	develop advanced animation skills, including character animation, motion capture, facial animation, and lip-syncing
CO2	use advanced visual effects techniques such as complex particle simulations, fluid simulations, dynamics, and advanced compositing
CO3	develop effective collaboration and teamwork skills
CO4	create project documentation, including project briefs, concept art, storyboards, and production schedules. They will also understand the importance of effectively communicating their creative process and decision-making in their project documentation.
CO5	create projects that meet or exceed the quality standards of the animation and VFX industry, showcasing their readiness for professional opportunities.

UNIT 1	Character Animation: This unit concentrates on character animation principles and techniques. Students learn about the principles of
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	<p>movement, acting, and timing to bring characters to life. They practice keyframing, motion capture, and rigging techniques to create expressive and believable character animations.</p>
UNIT 2	<p>Lighting and Rendering: In this unit, students learn about lighting and rendering techniques to enhance the visual quality of their VFX and animation projects. They explore topics such as global illumination, shadowing, shading, and rendering settings. They gain an understanding of how lighting and rendering contribute to the overall look and feel of their projects.</p>
UNIT 3	<p>Post-production and Finalizing: This unit covers the post-production phase of VFX and animation projects. Students learn about editing, sound design, color grading, and finalizing their projects for delivery. They gain skills in using editing software, audio editing tools, and post-production techniques to create a polished and finished product.</p>
UNIT 4	<p>Project Management and Collaboration: Throughout the course, students learn about project management methodologies, teamwork, and collaboration in the context of VFX and animation projects. They develop skills in planning, organizing, and coordinating project tasks, and work collaboratively in teams to complete larger-scale projects.</p>

Suggested Reading:

1. "Creating a Successful Portfolio" by Elizabeth Wilhide.
2. "The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures" edited by Jeffrey A. Okun and Susan Zwerman.
3. "The VFX Artist's Digital Toolbox: The Practical Guide to Creating Visual Effects in the Digital Environment" by Oliver Newbery

SEMESTER V

Name of The Course	Video Editing II			
Course Code	ANP501			
Prerequisite	Basic Video Editing knowledge			
	L	T	P	C
	2	0	8	6

Course Objective

The objective of this course is to provide advanced knowledge of applying color treatment to visuals. Through demonstrations and hands-on experience, students learn advanced editing techniques with an in-depth examination of Davinci Resolve. Strong emphasis is placed on post-production techniques that improve the sound and image quality of the videos.

Course Outcomes

CO1	Students will be able to demonstrate the use of color tools in Resolve..
CO2	Students will be able to analyze color correction requirements for visuals.
CO3	Students will be able to apply color correction and color grading techniques to enhance videos.
CO4	Students will be able to critique, evaluate, and recommend solutions for better visual appearance of videos.
CO5	Students will be able to develop production and portfolio quality videos with added motion graphics..

UNIT I	Color Theory for Video Editors, LUTs, Grading vs Correction, Highlights, Midtones & Shadows, Primary vs Secondary Colors, Contrast, Hue & Luma, Keying, Understanding and Reading Scopes - Wave form, RGB Parade, Histogram & Vector Scope.
UNIT II	Intro to Nodes in Resolve, Outside node, Parallel vs Layer Node, Split Combiner, Nesting & Sharing Nodes, Grouping Shots and Node Levels. Primary Vs Log Color wheels, Hue & Tint Controls

UNIT III	Qualifiers, Tracking, Animating Effects, Shot Matching, Stabilization, Resizing and Noise Reduction.
UNIT IV	Animation Basics, Keyframe Animation, Graph Editor, Dope Sheet, Interpolation, Path Animation, Animation Layers, Animation File Formats

Pedagogy:

The course will be taught by providing hands-on training on softwares using computers. Video lessons will be provided for self paced practice.

Suggested Reading:

1. Color Grading 101: Getting Started Color Grading for Editors, Routledge; 1st edition
2. Color Correction with DaVinci Resolve 16, Blackmagic Design
3. Color Correction Handbook: Professional Techniques for Video and Cinema, Peachpit Press; 2nd edition.

Name of The Course	3DS MAX I			
Course Code	ANP502			
Prerequisite	Basics of 3D Modeling			
	L	T	P	C
	2	0	8	6

Course Objective

This course focuses on attaining a strong understanding of modeling, materials, lighting, texturing, camera animation, rendering etc. Handling advanced tools to create stunning 3d models for architectural interior designing. Creating realistic walkthrough animations in 3ds Max.

Learning Outcomes:

CO1	Students will be able to outline the various modeling tools available in 3DS MAX.
CO2	They will be able to illustrate the modeling techniques using modifiers in Max.
CO3	They will be able to compare poly-modeling and modifier based modeling to determine the best suited approach in a given case.
CO4	They will be able to create Rigged Characters using CAT tools in MAX.

UNIT 1	Interface Overview, Project Management, Navigation, Selection, Translation, Object Properties, State Sets, Containers, Groups & Assemblies, Scene Converter.
UNIT 2	Creating & Modifying Objects, Shapes, Compound Objects, Bone System, Ring Array System, Point Cloud, The Graphite Modeling tools, Patch Objects, NURBS Modeling, Tools for Low Poly Modeling. Creating & Assigning Materials, Types of Materials, Maps & SHaders
UNIT 3	Modifiers: Camera Map, Displace, MapScaler, Patch Deform, Point Cache, Subdivide, SurfaceMapper. Affect Region, Bend, Bevel, Chamfer, CrossSection, Data Channel, Edit MESH, Edit Poly, Normal, FFD, Extrude, Lattice, Lathe, XForm,

	Material Modifier, Melt, MeshSmooth, OpenSubD, Mirror, Morph, Noise, Projection, Push, Quadify, CLoth, ProOptimizer, Skin, Sweep, Wave.
UNIT 4	Animation Concepts, Timeline Controls, Animation Controllers & Constraints, Wire Parameter, Hierarchies & Kinematics, Track View, Motion Mixer. CAT rigging tool.

Assignments:

1. Model & Texture Low Poly Game Assets.
2. Animate objects using Modifiers in 3DS MAX.
3. Create Character Animation using CAT tools in MAX.

Pedagogy:

The Subject will be taught by using Video visuals, PPT presentations, Applications, and online tools to provide a strong understanding of Autodesk 3DS Max. Class discussions will take place to analyze and appreciate animation as an art form.

Suggested Readings:

1. "3ds Max Modeling for Games: Insider's Guide to Game Character, Vehicle, and Environment Modeling" by Andrew Gahan
2. "Mastering Autodesk 3ds Max" by Jeffrey M. Harper
3. "3ds Max Projects: A Practical Guide to Learning 3D Modeling, Rendering, and Animation" by Steve Nelle

Name of The Course	Filmmaking I			
Course Code	ANP503			
Prerequisite	Basic Computer knowledge			
	L	T	P	C
	0	0	8	4

Course Objective

The objective of this course is to focus on the fundamental skills needed for the pre-production, production and post-production of a film, and the theory and practice that underpins the skill sets of professional filmmakers and writers.

Course Outcomes

CO1	Students will be able to analyze the historical and theoretical foundations of filmmaking.
CO2	Students will be able to create film work that manifests the filmmaker's unique voice.
CO3	Students will be able to apply current best practices in editing language, visual effects and cinematography.
CO4	Students will be able to effectively manage the resources and logistics required to produce a film.
CO5	Students will be able to analyze the relationship between film and other art forms and intellectual disciplines.

UNIT I	The VFX Pipeline. Managing VFX production. Budgeting. Preparing a chroma shoot. Tracker shape, color & positioning. Survey shots. Creating HDRI360 for relighting CGI in post. On set VFX Supervision responsibilities
UNIT II	Planning and Creating PreViz for a VFX Shot sequence. Shooting Plates. Building assets for integration with live footage. Creating VFX Elements. Digital Sets & Art Direction.

UNIT III	Shooting Special Effects Elements and Compositing. In-camera Effects. Editing a VFX Sequence with sound effects
UNIT IV	Case study on the application of VFX in various films: The Mummy, Terminator, Neza, Avatar, Jurassic Park, The jungle book

Pedagogy:

The course will be taught by providing hands-on training using cinematography equipment and computer-based software. Handouts will be provided containing lighting layout diagrams and previz.

Suggested Reading:

1. The Filmmaker's Guide to Visual Effects, Routledge; 1st edition
2. The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures, Routledge; 3rd edition
3. Masters of FX: Behind the Scenes with Geniuses of Visual and Special Effects, Routledge; 1st edition.

Name of The Course	Constitution & Media Laws			
Course Code	ANT504			
Prerequisite	none			
	L	T	P	C
	4	0	0	4

Learning Outcomes:

On successful completion of this course, students will be able to

1. Recognize best contemporary ethical and professional practices in the digital space, as dictated by legal standards.
2. Define basic legal terminology
3. Explain the workings of the civil and criminal justice system.
4. Recognize the limits of legal rights & avoid claims of defamation and invasion of privacy.
5. Properly use copyrighted works and trademarks.

UNIT 1	Media Roles, Responsibilities and Privileges - Fundamental Rights, Directive Principles of State Policy; Media Freedom in a Democracy
UNIT 2	Parliamentary Privileges and Contempt of Court; Official Secrets Act, Sedition laws, Defamation; Working Journalists Act, Copyright Act, Right to Information
UNIT 3	Press Council of India, Prasar Bharati Act, Cable TV Network (Regulation) Act, Advertising code, Cinematograph Act 1952 and Film Censorship. Cyber Law: IT Act of 2000; Amendment of IT Act in 2008; Measures against digital piracy; Social Media and OTT self-regulation
UNIT 4	Code of Ethics, Media Bias, Censorship, Privacy issues, Obscenity, Violence, Hate speech, Fake news and post-truth, Trial by media, Women and Children in media, Pressures on Media Freedom (Political, Commercial, Legal)

Suggested Reading:

1. "Freedom of the Press in India: Constitutional Provisions and Their Application" by M.P. Jain.
2. "Media Law in India" by Madhavi Goradia Divan and R.N. Jayaprakash.
3. "Indian Media in a Globalized World" by Vibodh Parthasarathi.

SEMESTER VI

Name of The Course	Digital Compositing II			
Course Code	ANP601			
Prerequisite	Basic Video Editing			
	L	T	P	C
	2	0	8	6

Course Objective

This course emphasizes developing advanced compositing skills with a focus on various pipeline workflows and shot finishing. Students will practice advanced compositing techniques using plates from actual film projects. Students will also learn stereo compositing techniques and workflows.

Course Outcomes

CO1	Students will be able to seamlessly blend CGI with live-action footage.
CO2	Students will be able to integrate 3D in a node-based compositing environment.
CO3	Students will be able to Create visual effects particles Dynamics in compositing application.
CO4	Students will be able to determine whether to use CGI or real stock footage for realistic composition.
CO5	Students will be able to Create a real world matte paint using projection.

UNIT 1	Intro to Rigid Body Dynamics. Bullet Solver. Creating Rigid Sets, Soft bodies, Bullet Constraints, Ragdoll, nDynamics Simulation Framework
UNIT 2	Intro to nParticle Node, Fields & Forces, Passive Colliders, Emitters, Caching nParticles, Point Particle, Ball Particle, Cloud Particle, Particle Event Collider. Creating & Rendering Effects with nParticle.

UNIT 3	Maya Fluid Effects: Types of Fluid Effects, Fluid Container, Creating Emitter. Setting Container Properties: Density, Velocity, Temperature, Incandescent, Opacity Graph, Lighting, Creating Fluid Driven Particles Rendering Fluid Effects : Setting Render Layer for Beauty Pass & Shadow Pass.
UNIT 4	Bifrost Fluids: Overview & Concepts, Fluid simulation using Bifrost, Bifrost Emitters, Colliders, Motion Fields, Kill Fields, Kill Planes, Kill Volume & Clipping input Mesh , Boundary Controls & Paint Attributes. Rendering Bifrost Simulation.

Pedagogy:

The Subject will be taught by using Video visuals, PPT presentations, Applications, and online tools to provide a strong understanding of Advance compositing (node-based). Class discussions will take place to analyze and appreciate animation as an art form.

Suggested Readings:

1. The Foundry Technology ". By – Peter belley
2. "Nuke 101 Professional compositing and Visual effects ". 2nd Edition - By – Ron Ganbar
3. " The Backyard Foundry" by – B.terry Aspin.

Name of The Course	Rigging & Animation in 3DS MAX			
Course Code	ANP602			
Prerequisite	Basics of Rigging & Animation			
	L	T	P	C
	2	0	8	6

Course Objectives:

The objective of a 3ds Max rigging and animation course is to equip students with the skills and knowledge necessary to create sophisticated rigs and animations using Autodesk 3ds Max software. The course aims to provide a comprehensive understanding of rigging principles, animation techniques, and the integration of these skills in the production pipeline.

After completion of the course students will be able to

CO1	develop a solid understanding of rigging principles and techniques.
CO2	create realistic and expressive character performances, understanding principles such as timing, weight, and anticipation.
CO3	integrate motion capture data into their animations.
CO4	apply animation principles, such as squash and stretch, arcs, overlap, and secondary motion.
CO5	understand how rigging and animation fit into the broader production pipeline

UNIT 1	Animation Concepts. Keying Methods, Copying Keys, Controlling Time, Frame Rates and Playback Speed. Keyframe interpolation, Time Configuration.
UNIT 2	Working with the Graph Editor, Dope Sheet, Understanding Controllers, Assigning & Modifying Controllers. Float, Position, Rotation, Trans, Color, Morph Controllers. Animation Controllers: Audio, Barycentric, Bezier, Block, Expression, Layer, linear, List, LookAt, Master Point, Noise Waveform.
UNIT 3	Animation Constraints: Attachment, Link, LookAt, Orientation, Path, Position, Surface. Parameter Wiring, Hierarchies. IK & FK Setup. Trackview, Motion Mixer. Saving & Loading Animation.
UNIT 4	Intro to rigging with CAT, Animating with CAT, Working with MoCap Data, Character Studio: The Biped rig, Using Animation Workbench. Using Populate.

Suggested Reading:

1. "Rigging for Games: A Primer for Technical Artists Using Maxn" by Eva S. Holmquist.
2. "3ds Max Projects: A Detailed Guide to Modeling, Texturing, Rigging, Animation, and Lighting" by Matt Chandler.
3. "3ds Max Animation with Biped" by Michele Bousquet.

Name of The Course	VFX II			
Course Code	ANP603			
Prerequisite	Working knowledge of Maya			
	L	T	P	C
	2	0	8	6

Course Objectives:

This course is aimed towards providing students with the knowledge and skills required to create visual effects for film, television, video games, and other media. The course aims to introduce students to the fundamental principles and concepts of visual effects, including key terminology, techniques, and industry-standard practices.

Course Outcomes:

After completion of this course students will be able to

CO1	apply the Dynamics features in Maya.
CO2	apply Pyro simulation features for creating Fire effects.
CO3	create liquid simulations using the Bifrost system of Maya
CO4	create Hair and Fur simulations for characters
CO5	Use nCloth to create soft body and cloth simulation for various effect needs.

UNIT 1	Intro to Rigid Body Dynamics. Bullet Solver. Creating Rigid Sets, Soft bodies, Bullet Constraints, Ragdoll, nDynamics Simulation Framework
UNIT 2	Intro to nParticle Node, Fields & Forces, Passive Colliders, Emitters, Caching nParticles, Point Particle, Ball Particle, Cloud Particle, Particle Event Collider. Creating & Rendering Effects with nParticle.
UNIT 3	Maya Fluid Effects: Types of Fluid Effects, Fluid Container, Creating Emitter. Setting Container Properties: Density, Velocity, Temperature, Incandescent, Opacity Graph, Lighting, Creating Fluid Driven Particles Rendering Fluid Effects : Setting Render Layer for Beauty Pass & Shadow Pass.
UNIT 4	Bifrost Fluids: Overview & Concepts, Fluid simulation using Bifrost, Bifrost Emitters, Colliders, Motion Fields, Kill Fields, Kill Planes, Kill Volume & Clipping input Mesh , Boundary Controls & Paint Attributes. Rendering Bifrost Simulation

Suggested Reading:

1. Mastering Autodesk Maya 2022" by Todd Palamar.
2. CG 101: A Computer Graphics Industry Reference" by Terrence Masson.
3. "Maya Visual Effects: The Innovator's Guide" by Eric Keller

Name of The Course	Adv. Storyboarding			
Course Code	ANP604			
Prerequisite	Drawing fundamentals			
	L	T	P	C
	0	0	8	4

Course Objective

The Storyboarding course is designed to equip participants with the fundamental skills and knowledge needed to create effective storyboards for various visual media, such as films, animations, advertisements, and video games. Through a combination of theoretical lessons and hands-on exercises, this course aims to provide a comprehensive understanding of storyboarding techniques and their application in different storytelling contexts.

Course Outcomes

On successful completion of this course, students will be able to

CO1	Understand the role of storyboarding in visual storytelling and its impact on the overall creative process.
CO2	Develop the skills to craft compelling narratives and develop engaging characters through storyboarding.
CO3	able to translate abstract concepts and ideas into visual representations through storyboarding.
CO4	Apply Industry Best Practices: Gain insight into industry standards and best practices for storyboarding across different mediums. Understand the workflow and pipeline of professional storyboarding, including revisions, feedback, and adapting to changing requirements.
CO5	Develop a body of work that demonstrates proficiency in storytelling, visual communication, and technical execution, which can be showcased to potential employers or clients.

UNIT 1	<p>Introduction to screenwriting as a form of storytelling. Understanding the role of a screenwriter in the filmmaking process. Introduction to the three-act structure and its significance in screenwriting. Understanding the setup, confrontation, and resolution phases. Analyzing examples of films that effectively use the three-act structure. Exploring the importance of well-developed characters in screenplays. Understanding character arcs, motivations, and conflicts.</p>
UNIT 2	<p>Overview: dynamic compositions Visual language review Script breakdowns; blocking shots Composing with characters Shot continuity</p>
UNIT 3	<p>Dramatic blocking Dramatic camera angles; dramatic reveals Action shots Cutting for action, screen position cutting Start poses; hook-up poses Comic reveals & rhythm Subtleties in action; motivated cuts</p>
UNIT 4	<p>Simplified approach to BGs Character performance Acting with entire figure Character construction guides; expression & attitude guides Size comparison guide; character turnarounds, show bibles Dialogue, working from characters</p>

Suggested Reading:

1. "The Storyboard Artist: A Guide to Freelancing in Film, TV, and Advertising" by Giuseppe Cristiano.
2. "Storyboarding Essentials: SCAD Creative Essentials" by David Harland Rousseau.
3. "The Visual Story: Creating the Visual Structure of Film, TV and Digital Media" by Bruce Block.
4. "Framed Ink: Drawing and Composition for Visual Storytellers" by Marcos Mateu-Mestre.

SEMESTER VIII

Name of The Course	New Technology: UX/UI Design			
Course Code	ANP701			
Prerequisite	Basic design techniques			
	L	T	P	C
	2	0	4	4

Course Objective:

This hands-on course examines how content is organized and structured to create an experience for a user, and what role the designer plays in creating and shaping user experience. This course acts as a roadmap for developing robust UI/UX design: from ideation and site mapping, to the creation of paper and digital prototypes.

Course outcomes:

On successful completion of this course, students will be able to

CO1	Describe and apply current best practices and conventions in UX design.
CO2	Employ the fundamental principles of how UX design functions to shape an audience's experience of a given body of content.
CO3	Design and create responsive website prototypes.
CO4	Employ the fundamental principles of how UX design functions to shape an audience's experience of a given body of content.
CO5	Create easily accessible application interface for users of all ages.

UNIT 1	Visual Elements of User Interface Design. A brief history. Principles of accessibility and heuristics. UX research. Detecting and defining the problem. Persona creation. Journey mapping and Ideation techniques. Information architecture & UI Design.
UNIT 2	Types of prototypes and prototyping tools. User testing best practices. Introduction to adobe XD: Interface & Navigation. Creating art boards. Design functions. Responsive Resize and Content Aware Layout. Repeat Grid. Components. Basic Prototype Interactions. Importing Assets from Other Applications. Viewing Designs on Adobe XD Mobile App
UNIT 3	Auto-Animate. Drag Gesture, Overlays, and Other Animated Transitions. Voice Prototyping. Keys and Gamepad. Component states.
UNIT 4	Share Mode and Share Links. Linked Assets and CC Libraries. Coediting and Version History. Exporting assets. Recording prototype. Plugins. Extensions. UI Kits.

Assignments:

1. Prepare a case study on UX/UI Design.
2. Design a responsive website prototype.
3. Design a mobile app prototype.

Suggested Reading:

1. "The Design of Everyday Things" by Don Norman
2. "Designing Interactions" by Bill Moggridge
3. "The Elements of User Experience: User-Centered Design for the Web and Beyond" by Jesse James Garrett.

Name of The Course	Advanced Filmmaking			
Course Code	ANP702			
Prerequisite	Filmmaking fundamentals			
	L	T	P	C
	0	0	8	4

Course Objectives:

The advanced filmmaking course is designed to build upon the foundational knowledge and skills acquired in basic filmmaking courses. It aims to provide students with an in-depth understanding of the art and craft of filmmaking, enabling them to explore advanced techniques and concepts. The specific objectives of an advanced filmmaking course may vary depending on the institution and course curriculum.

Course Outcomes

On successful completion of this course, students will be able to

CO1	Understand cinematography principles and techniques. This includes advanced camera operation, lighting setups, shot composition, camera movement, and visual storytelling through cinematography.
CO2	effectively communicate their creative vision.
CO3	Display proficiency in advanced editing techniques, including non-linear editing software, complex editing workflows, pacing, rhythm, continuity, visual effects integration, color grading, and sound design.
CO4	includes advanced recording techniques, sound editing, mixing, Foley artistry, dialogue editing, and creating immersive soundscapes to visual media.
CO5	analyze and critique films from various genres, periods, and cultures. They will gain a deeper understanding of film theory, aesthetics, genre conventions, and the cultural and historical contexts of filmmaking

UNIT 1	Principles of effective advertisement. Market study. Case Study: Pepsi, Samsung, Dominos. Brainstorming -thinking out of the box. Propositions & USP. Creative Brief writing. Storyboards and Script.
UNIT 2	Product Photography: Intro to product photography. Equipment, styling & lighting techniques. Packshot Product photography. Cosmetic Products : Perfume bottle, Soap. Food Photography & Styling.
UNIT 3	Cinematographic techniques for product advertisement. Ad Film editing techniques. Creative color grading & look development. Public awareness content design.
UNIT 4	Design principles. Layout & Typography. Motion graphics:- Social media Ad creation. Mobile App & website Mockup design. 3D Product modeling & Rendering.

Suggested Reading:

1. "In the Blink of an Eye: A Perspective on Film Editing" by Walter Murch
2. "Directing: Film Techniques and Aesthetics" by Michael Rabiger
3. "The Filmmaker's Handbook: A Comprehensive Guide for the Digital Age" by Steven Ascher and Edward Pincus

Name of The Course	Capstone Project			
Course Code	ANP703			
Prerequisite	Approval of Mentor			
	L	T	P	C
	0	0	12	6

Course Objective

This course will help students prepare a professional portfolio and demo reel. Students will learn to critique their own work, while learning about professional presentation practices. A final portfolio presentation to industry will provide the opportunity for a professional critique of each student's portfolio before graduation. Students will plan and organize a grad show to showcase their talents to prospective industry recruiters and executives

Course Outcomes

On successful completion of this course, students will be able to

CO1	identify the elements of a good visual effects portfolio and demo-reel;
CO2	critique visual effects demo-reels to determine industry quality standards;
CO3	design and edit a presentation quality demo-reel;
CO4	manage a production timeline and schedule.
CO5	produce and present an industry relevant demo-reel demonstrating acquired knowledge.

GUIDELINES TO EXAMINERS REGARDING PROJECT VIVA-VOCE

External and internal Examiners shall together conduct project viva-voce objectively. To begin with, the finer details about various points contained in the scheme of valuation may be conclusively agreed upon through mutual consultation. During project evaluation, a student shall present his/her work through live demonstration of the software application developed as a part of the project. However, if live demonstration is not possible due to the reason that some companies do not divulge source files on account of ownership rights or copyrights, students may be allowed to make PPT presentations of their authentic works. In such cases, candidates shall produce necessary declarations issued by the companies to this effect. However, students shall be enabled to present their work in entirety. The primary objective of project evaluation shall be to assess the extent of effort that was put in to meet the objectives of the project and also to gauge the understanding gained by the students in course of their project works.

While evaluating Project Reports, examiners shall scrutinize whether Animation and Filmmaking principles have been consistently followed in the project work and the same are documented well in the Reports. However, the relative and overall emphasis of these principles to a particular problem domain chosen may be taken into account so that project evaluations remain fair and objective.

PROJECT ASSESSMENT SCHEME

#	Particulars	Marks	
1.	Internal Assessment Tests: 60 Marks		
	<ul style="list-style-type: none"> ● Two Internal Assessment (IA) Tests shall have to be conducted. ● Each test shall be for a maximum 30 marks. ● The sum of two IA test marks is the final mark. 	60	
Viva- Voce Examination & Demo Reel Presentation: 60 Marks			
	2.1	Live Demonstration (Captured videos may be used to walk through complete scenarios) - consistency and completeness	10
	2.2	Explanation about each work presented	10

2.	2.3	Explanation on the use of software tools	10
	2.4	Question and Answer related to the specialization taken up. (Oral only or Oral and written)	10
	2.5	Project should be a 2D or 3D animation short film.	30

Report Evaluation: 60 Marks				
3.	3.1	Innovativeness and utility of the project for Industry/Academic		10
	3.2	Related studies about the project (Adequacy)		10
	3.3	Project plan & implementation – target achieved / output delivered (effectiveness)		
	3.3.1	Analysis		10
	3.3.2	Design		10
	3.3.3	Project Implementation.		10
	3.3.4	Output		10
	3.4	Other mandatory documents & information (certificates, contents, tables, figures, bibliography etc.)		10
			Total Marks	200

Name of The Course	Portfolio Development			
Course Code	ANP704			
Prerequisite	Approval of Supervisor			
	L	T	P	C
	0	0	8	4

Course Objective

The objective of a portfolio development course is to help individuals create a professional and compelling portfolio that showcases their skills, achievements, and creative work. The course aims to assist students in identifying their career goals and target audience for their portfolio. It helps them understand the purpose of their portfolio and tailor it accordingly. The course focuses on helping students highlight their skills, experiences, and achievements through their portfolio. It guides them in selecting the most relevant and impactful pieces of work to include. Students learn to curate their work effectively and make strategic choices about what to include and exclude in their portfolio. They develop an understanding of the importance of quality over quantity and how to present their best work.

Course Outcomes

On successful completion of this course, students will be able to

CO1	create a well-organized and visually appealing portfolio that showcases their skills, creativity, and technical abilities in animation and VFX.
CO2	develop the ability to identify their best work and select portfolio pieces that demonstrate their proficiency in key areas of animation and VFX.
CO3	present their portfolio in a clear and professional manner. They will understand the importance of a cohesive layout, consistent branding, and concise descriptions to enhance the overall presentation of their work.
CO4	developed the ability to critically evaluate their own work and identify areas for improvement
CO5	develop a deeper understanding of professional practices and industry trends in animation and VFX.

UNIT 1	Introduction to Portfolio Development: This unit provides an overview of portfolio development principles and strategies specific to the animation and visual effects industry. Students learn about the importance of a well-crafted portfolio and how it can effectively showcase their skills and creativity..
UNIT 2	Self-Assessment and Goal Setting: In this unit, students engage in self-assessment activities to identify their strengths, weaknesses, and career goals. They learn how to align their portfolio with their career aspirations and set specific objectives for their portfolio development process.
UNIT 3	Portfolio Content Selection: This unit focuses on selecting and curating portfolio content. Students learn how to identify and choose their best work, considering factors such as technical proficiency, creativity, and relevance to their target audience. They also explore different types of content, such as animations, VFX sequences, character designs, and storyboards.
UNIT 4	Portfolio Presentation and Layout Design: Students learn principles of visual design and layout specifically tailored for portfolios. They explore topics such as typography, color theory, composition, and branding. They apply these principles to create a cohesive and visually engaging portfolio presentation. Professionalism and Networking.

Suggested Reading:

1. "Creating a Successful Portfolio" by Elizabeth Wilhide.
2. "The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures" edited by Jeffrey A. Okun and Susan Zwerman.
3. "The VFX Artist's Digital Toolbox: The Practical Guide to Creating Visual Effects in the Digital Environment" by Oliver Newbery

SEMESTER VIII

ANP801: INTERNSHIP

OBJECTIVE OF INTERNSHIP:

Internship is always more valuable compared to a college project as it enables the interns to understand how companies work, build new contacts, develop a network and most importantly work on real-life projects executed within the company. An internship is a great opportunity to learn in an industrial environment without being an employee of the company. The intended objectives of internship training are as follows.

- Will expose students to the industrial environment, which cannot be simulated in the classroom and hence help create competent professionals for the industry.
- Provide possible opportunities to learn, understand and sharpen the real time technical / managerial skills required at the job.
- Exposure to the current developments relevant to the subject area of training.
- Create conditions conducive to the quest for knowledge and its applicability on the job.
- Expose the students to future employers
- Understand the social, economic and administrative considerations that influence the working environment of industrial organizations.
- Understand the psychology of the workers and their habits, attitudes and approach to problem solving

INTERNSHIP GUIDELINES:

1. Request Letter/ Email from the office of Training & Placement cell of the college should go to the industry to allot various slots of one full semester duration as internship periods for the students. Student(s) request letter/Resume/interest areas may be submitted to industries for their willingness for providing the training.

2. Industry will confirm the training slots and the number of seats allocated for internships via Confirmation Letter/Email. In case the student(s) arrange the training themselves the confirmation letter will be submitted by the students in the office of Training & Placement Cell.
3. Student(s) will join the concerned Industry/Organization for Internship on the date as communicated in the final offer letter/Email Confirmation.
4. Student(s) will undergo industrial training at the concerned Industry / Organization. During the internship, a Faculty Mentor will evaluate(s) the performance of student(s) once/twice either by visiting the Industry/Organization or through obtaining periodic reports from student(s). Evaluation Report of the students is to be submitted to his/her Faculty Mentor with the consent of Industry persons/Trainers. (Sample Attached)
5. Student(s) will submit a training report to the industry/organization at the end of internship.
6. Industry/Organization will issue Internship Certificate to the student(s).
7. Student(s) will be evaluated as per evaluation criteria as defined by the university.

GUIDELINES FOR THE STUDENTS

STUDENT'S DIARY/DAILY LOG

Students are required to maintain a daily training diary containing the day to day account of the observations, impressions, information gathered and suggestions given, if any. The daily diary may be asked to be produced before the Industry Supervisor or

Faculty Mentor of the student at any point of time. Failing to produce the same, Intern may be debarred for the remaining period of his/her internship. Thus, all interns must strictly maintain his/her diary. Daily Diary needs to be submitted to the Faculty Mentor at the end of the Internship.

Student's Diary and Internship Report should be submitted by the students along with attendance record and an evaluation sheet duly signed and stamped by the industry to the Faculty Mentor immediately after the completion of the training. It may be evaluated on the basis of the following criteria:

- Regularity in maintenance of the diary/log.
- Adequacy & quality of information recorded.
- Drawings, sketches and data recorded.
- Thought process and recording techniques used.
- Organization of the information.

INTERNSHIP REPORT

After completion of Internship, the student should prepare a comprehensive report to indicate what he has observed and learnt in the training period. The student may contact Industrial Supervisor/ Faculty Mentor/TPO for assigning special topics and problems and should prepare the final report on the assigned topics. Daily diary will also help to a great extent in writing the industrial report since much of the information has already been incorporated by the student into the daily diary. The training report should be signed by the Internship Supervisor. The Internship report will be evaluated by the Industry Supervisor on the basis of following criteria:

1. Originality.
2. Adequacy and purposeful write-up.
3. Organization, format, drawings, sketches, style, language etc. iv. Variety and relevance of learning experience.
4. Practical applications, relationships with basic theory and concepts taught in the course.

EVALUATION PROCESS

The industrial training of the students will be evaluated in three stages:

- I. Evaluation by Industry.
- II. Evaluation by faculty supervisor on the basis of site visit(s) or periodic communication.
- III. Evaluation through seminar presentation/viva-voce at the Institute (This evaluation can be reflected through marks assigned by Faculty Mentor).

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