ATLAS SKILLTECH UNIVERSITY

School of Film & Animation

Courses Offered
Core Courses, Elective Courses and Ability Enhancement Courses

Bachelor of Vocation (3D Animation)
3 Year Full Time Program

(Academic Year 2021-2024)

Preamble

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency, and excellence to the Higher Education System in India. These measures include innovations and improvements in curriculum, teaching-learning processes, examination, and evaluation systems, as well as governance. To ensure the maintenance of minimum standards and quality across Higher Educational Institutions (HEIs) in India, the UGC has formulated regulations and guidelines. These academic reforms have significantly improved the higher education system, although there remains diversity in examination, evaluation, and grading systems among universities.

Criterion I of the UGC pertains to the practices of an institution in initiating a wide range of programme options and courses that are in tune with emerging national and global trends and relevant to local needs. The School of Design, School of Management, and School of Technology at Atlas SkillTech University adhere to these guidelines by offering innovative and industry-relevant courses. Apart from issues of diversity and academic flexibility, aspects such as career orientation, multi-skill development, feedback systems, and involvement of stakeholders in curriculum updating are also considered in the syllabus development process.

In accordance with these principles, this course syllabus is designed to meet the objectives and mission of Atlas SkillTech University, ensuring a high-quality educational experience in the School of Design, School of Management, and School of Technology. The syllabus integrates theoretical knowledge with practical applications, incorporating contemporary trends and technologies to prepare students for successful careers in their respective fields. It reflects the university's commitment to excellence in education and its dedication to producing well-rounded, skilled graduates.

Curriculum Structure and Framework

The following types of courses/activities constitute the programmes of study. Each of them will require a specific number of hours of teaching/guidance and laboratory/studio/workshop activities, field-based learning/projects, internships, and community engagement and service

- **Lecture courses**: Courses involving lectures relating to a field or discipline by an expert or qualified personnel in a field of learning, work/vocation, or professional practice.
- **Tutorial courses**: Courses involving problem-solving and discussions relating to a field or discipline under the guidance of qualified personnel in a field of learning, work/vocation, or professional practice.

• **Practicum or Laboratory work**: A course requiring students to participate in a project or practical or lab activity that applies previously learned/studied principles/theory related to the chosen field of learning, work/vocation, or professional practice under the supervision of an expert or qualified individual in the field of learning, work/vocation or professional practice.

Course Definition

1. Core Course:

A course, which should compulsorily be studied by a candidate as a core requirement is termed as a core course. The structure of course is defined under following points

All the UG programs shall be of either six semesters or eight semesters duration unless specified otherwise.
An academic year consists of two semesters: Odd Semester and Even Semester.
A semester normally extends over a period of 15 weeks (5 day week) with 75 working days.

Every course offered may have three components: Lecture (L), Tutorial (T) and Practicals (P)Tutorial session consists of participatory discussion / self-study/ desk work/ brief seminar presentations by students and such other novel methods.
The credit pattern for a course (L:T:P) shall be decided by the respective Board of Studies (BoS).

Credit means the unit by which the course work is measured. One hour of Lecture or Tutorial per week for 1 weeks amounts to 1 credit.
Two hour session of Practicals per week for 15 weeks amounts to 1 credit per semester. The total duration of a semester is 20 weeks inclusive of semester-end examination.
A course will be evaluated for 100 marks. For any other approved course, the evaluation method shall be decided by the respective BoS.

2. Elective Course:

Elective Course is a course which can be chosen from a pool of courses. It may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the student's proficiency/skill enhancement.

Program Outcomes (PO)

PO1- To respond to complexity using effective higher order thinking skills to arrive at decisive courses of action

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PO2- To adapt to diverse scenarios by collaborating and directing the creative process to arrive at globally relevant design outcomes.

PO3- To evaluate and apply emerging technologies and deploy relevant digital skills contextually

PO4- To analyse systems, evaluate and construct new knowledge while demonstrating the capability of executing design-led innovation.

PO5- To demonstrate persuasive communication skills to drive outcomes in varied contexts

PO6 - To apply creative and critical approaches in mutually supportive ways to enable T shaped thinking.

PO7 - To demonstrate strong leadership skills by articulating a vision and inspiring team work.

PO8 - To develop a self-initiated learning approach to generate unified solutions through experimentation with growth mindset

Program Specific Outcomes (PSO's)

PSO1- Students will be able to apply the design principles and elements as per the need of narrative structure to craft engaging visual experiences.

PSO2- Students will be able to demonstrate keen understanding of storytelling techniques and its role in current and emerging media.

PSO3- Students will be able to Identify and integrate effective techniques, tools and technology to seamlessly build on production pipelines.

Bachelor of Vocation (3D Animation): Three-Year (6-Semester)

Course Code	Course	Course Type	Periods			Evaluation Scheme				Credits
			L	T	P	MT	ET	A	Total	
Semester 1										
ANM 101	Drawing Foundation	Core	1	2	2	50	40	10	100	5
FLM 101	Film Studies 1	Core	1	2	2	50	40	10	100	3
FLM 103	Cinematography 1	Core	1	2	1	50	40	10	100	3
FLM 105	Sound and Music in Films 1	Core	1	1	1	50	40	10	100	2
FLM 107	Video Editing 1	Core	1	2	1	50	40	10	100	3
FLM 109	Visual Story 1	Core	1	2	1	50	40	10	100	4
ANM 103	3D Animation 1	Core	1	2	2	50	40	10	100	5
ANM 105	Sculpting (Clay Modelling)	Core	1	2	1	50	40	10	100	3
FLM 117	Documentation, Presentation and Communication Skills 1	Core	1	1	0	50	40	10	100	2
	TOTAL									30
Semester 2										
ANM 102	Color Theory - Design	Core	1	1	1	50	40	10	100	3
ANM 104	Life Drawing 1	Core	1	2	1	50	40	10	100	3
ANM 106	3D Animation 2	Core	1	2	1	50	40	10	100	4
ANM 108	Modelling 1	Core	1	2	1	50	40	10	100	4
ANM 110	Surfacing 1	Core	1	2	2	50	40	10	100	4
ANM IT 02	Internship Preparation - Resume Writing	Core	1	1		50	40	10	100	2

FLM 102	Film studies 2	Elective	1	2	1	50	40	10	100	6
FLM 104	Sound and Music in Films 2	Elective	1	1	1	50	40	10	100	
FLM 106	Visual Story 2	Elective	1	1	1	50	40	10	100	
AE	ATLAS Elective	Elective	2	2		50	40	10	100	4
	TOTAL									30
Semester 3										
FLM 201	Sound and Music in Films 3 (Sound Design)	Elective	1	1	1	50	40	10	100	2
FLM 106	Visual Story 2	Elective	1	1	1	50	40	10	100	
ANM 203	3D Animation 3	Core	1	2	2	50	40	10	100	4
ANM 205	Surfacing 2	Core	1	2	2	50	40	10	100	4
ANM 207	Modelling 2	Core	1	2	2	50	40	10	100	4
ANM 209	Life Drawing 2	Core	1	2	1	50	40	10	100	3
ANM 211	Motion Graphics	Core	1	2	1	50	40	10	100	3
ANM 213	3D Lighting 1	Core	1	2	1	50	40	10	100	3
ANM 215	VFX and Compositing 1	Core	1	2	1	50	40	10	100	3
ANM IT 03	Summer Internship - Animation Studio 1	Core			**2**	50	40	10	100	2
AE	Atlas Elective	Elective	**1**	**1**	**0**	50	40	10	100	2
	TOTAL									30
Semester 4										
ANM 202	3D Modeling & Digital Sculpting	Core	1	2	1	50	40	10	100	4
ANM 204	3D Character Animation	Core	1	2	1	50	40	10	100	4
ANM 206	VFX & Compositing 2	Core	1	2	1	50	40	10	100	4

ANM 208	Real Time Engine - Unity	Core	1	2	1	50	40	10	100	4
ANM 210	Rigging	Core	1	2	1	50	40	10	100	4
ANM 212	Production Development and Project Management	Core	1	1	1	50	40	10	100	3
FLM 214	Graduation Project Development 1 (AE Project)	Core	1	1	1	50	40	10	100	2
AE	Atlas Elective	Elective	1	1	0	50	40	10	100	2
	TOTAL									27
Semester 5										
ANM IT 04	Summer Internship - Animation Studio 2	Core			5	50	40	10	100	5
ANM 303	Graduation Project - Development 2 (AE Project Shoot)	Core	1	1		50	40	10	100	2
ANM 305	Graduation Project - (Story & idea Development)	Core	2	1	4	50	40	10	100	7
ANM 307	Graduation Project - (Idea Development & finalisation)	Core	2	1	5	50	40	10	100	8
ANM 309	Graduation Project - (Project Development & Asset Creation)	Core	2	1	4	50	40	10	100	7
ANM 311	Graduation Project - (Look Development 1)	Core	1	1	1	50	40	10	100	2
ANM 313	Graduation Project - (Look Development 2)	Core	1	1	1	50	40	10	100	2

ANM 315	Graduation Project - (Project finalisation & presentation)	Core	1	1	1	50	40	10	100	2
	TOTAL									35
Semester 6										
ANM 302	Graduation Project - Internal Mentorship 1	Core	1	1	2	50	40	10	100	4
ANM 304	Graduation Project - Internal Mentorship 2	Core	1	1	2	50	40	10	100	4
ANM 306	Graduation Project - External Mentorship (Animation Studio)	Core	1	2	2	50	40	10	100	5
ANM 308	Graduation Project - Final Display	Core	1	2	9	50	40	10	100	12
	TOTAL									**25**

Bachelor of Vocation (3D Animation) 1st Year
Semester 1
Drawing Foundation (ANM 101)

L	T	P
1	2	2

Course Name: Drawing Foundation

Course Contact Hours: 3

Course Credit Hours: 5

Course Code: ANM 101

Course Objectives:

1. In the Drawing Foundation, the main objective for the students is to learn the conveyance/communication of ideas and information through hand drawn visuals. This will require them to:
2. Master skills and tools that will help the students articulate their ideas and draw any object from their imagination
3. Understand the requirements like design styles, composition, relationship of elements to other element and its environment etc., to have the most impactful representation of their ideas
4. Learn to translate abstract thoughts into a visual scheme that best suits the requirement of a project

Course Description:

Creative work requires not only the ability to imagine but the ability to put across one's imagined ideas to the world; and in order to do that, a creative must either use orated or written communication, or must learn to express ideas visually.

The language of visuals, like any other language, consists of its own vocabulary (the elements of drawing) and grammar (the principles of drawing and composition), and is considered successful when one can communicate clearly, precisely as well as impressively.

The Drawing Foundation inputs are meant to introduce this language to the students of both programs to equip them with necessary tools to become better and fluent at visual conveying of ideas by means of hand drawn imagery.

Course Contents:

Module 1: Introduction to Sketching

- Course Introduction, Warm-up Exercises, Research Book Creation

Module 2: Foundations of Sketching

- Basics of Perspective and Volume

Module 3: Still Life and Anatomical Studies

- Still Life Drawing Techniques
- Various Stages of Sketching
- Anatomical Studies (Objects)

Module 4: Anatomical Studies and Abstraction

- Anatomical Studies (Human Forms)
- Abstraction and Sculpture Study (Culture Study)

Module 5: Visual Languages and Rendition Styles

- Deriving Visual Languages
- Understanding Different Rendition Styles
- Additional Basic Essentials for Sketching (Theory of Proportions, Sketch Boards)

Module 6: Concept Art and Storyboarding

- Concept Art Course Challenge
- Introduction to Storyboarding

Module 7: Final Review and Exhibition

- Make-up Week, Final Touches
- Final Review, Exhibition of Student Work

Course Outcomes (COs): After completing the course, the student shall be able to:

1. Understanding the basics of perspective and volume
2. The ability to derive a visual language from abstraction
3. Basic anatomical knowledge of human form and various objects to be able to articulate their ideas with ease
4. Understanding the basics of theory of proportions, story-telling and urban ecology
5. The ability to showcase their ideas in a storyboard format

Recommended References

- Classic Human Anatomy in Motion The Artist's Guide to the Dynamics of Figure Drawing by Valerie L. Winslow
- Figure Drawing for Concept Artists by Kan Muftic
- Drawing Human Anatomy by Giovanni Civardi
- Series of Comics
    - Manga comics

- Marvel, DC comics and films

Bachelor of Vocation (3D Animation) 1st Year
Semester 1
Film Studies 1 (FLM 101)

L	T	P
1	2	2

Course Name: Film Studies 1

Course Contact Hours: 3

Course Credit Hours: 5

Course Code: FLM 101

Course Objectives:

1. The genealogy of the image and how the cinematograph creates a consciousness through manifestations of reality moving from phenomenon A to B.

2. The *why* of film making combined with the *how*. In other words, why film technique is used in a particular way. What is the method of achieving philosophical representations, significations or merely suggestions through film technique?

3. This approach to film is known as film design i.e. the relationship between theory and practice. For example, how the confusion between matter in the frame and the 'unknown' object is realised in classical Russian constructivist (montage) cinema. In this way one approaches a philosophical concept and a cinematographic form that realizes the philosophical concept.

4. The designing of the film will link the philosophical concepts taught and their realizations through film practice.

Course Description:

Any student setting afoot in the field of Cinema must not only acquire the 'craft' of filmmaking, but also, first, become well-versed with how the form of the craft itself has evolved since its inception in the late 19th century. Together with this, it is also important to know about the various forms of the craft that co-exist currently. Diachronic and Synchronic studies thus become integral to the creation of a robust theoretical foundation in Filmmaking.

It is also important that students don't limit their understanding of filmmaking to just the craft of video creation. It is important that they appreciate the philosophical breadth of ideas that underpin this medium, making it an enormously intellectual craft.

Course Contents:

Module 1: Introduction to Cinema Studies

- What kind of films do students watch?
- Why do we study cinema?
- Difference between film and cinema

Module 2: Elements of Film Form

- Space in Cinema
- Time in Cinema
- Time in Cinema #2
- Movement in Cinema
- What is a movement-image?
- Movement-image and its three varieties

Module 3: Film Editing and Montage

- Movement image to Frame to Cut
- Shot and Movement
- Elements of Montage

Module 4: Elements of Mise-en-Scène

- Psychoanalysis and Cinema
- Perception-Image, Affection Image
- Affection to Action
- The Action-Image: From Situation To Action
- Crisis in Action image

Module 5: Japanese Cinema

- Overview of Japanese Cinema, its history and key directors
- Discussion and analysis of specific Japanese films

Course Outcomes (COs): After completing the course, the student shall be able to:

1. Ability to absorb philosophical approach (practice) of cinema to come up with own approach to film in their film construction whether it be shooting, editing or writing.

2. Students will be able to identify action, affection and perception-images fundamentally understanding the impermanent nature of the Self in cinema (through movement-images)

3. Understanding the difference between movement image and time image and the ability to produce them in their short films and eventually feature films.

4. Construction of scripts in which free movement-images and time-images in order to create a cinematographic construct that is not literary or for that matter, not influenced by any other (art) practice other than the cinematograph itself.

Recommended Resources:

1. Film Art: An Introduction by David Bordwell and Kristin Thompson
2. Understanding Movies by Louis Giannetti
3. Film Theory and Criticism: Introductory Readings edited by Leo Braudy and Marshall Cohen

Bachelor of Vocation (3D Animation) 1st Year
Semester 1
Cinematography 1 (FLM 103)

L	T	P
1	1	2

Course Name: Cinematography 1 Course Contact Hours: 3

Course Credit Hours: 4 Course Code: FLM 103

Course Objectives:

Cinematography requires a strong base of Photography and so the core objective of this foundational module is

1. to strengthen the basic fundamentals of Photography that starts with familiarization with Camera Components and culminates with acquiring ease and effectiveness in Visual communication through construction of Photo Stories.

2. The curriculum focuses more on how students can become a better observer, visualizer and a storyteller through the medium of Photography

Course Description:

This course is a comprehensive 15-week program that focuses on developing students' skills in creatively exploring and manipulating space to design functional interiors. This course will delve into the principles of form, proportion, scale, and spatial composition while encouraging students to think critically and push the boundaries of traditional design approaches. Through hands-on projects, lectures, and discussions participants will gain a deep understanding of form as a dynamic and transformative element in interior design.

Course Contents:

Module 1: Introduction and Equipment

- Orientation & Introduction to Module
- Study of Cameras, Lenses and their Significance

Module 2: Essential Components and Review

- Study of essential components in Photography
- Checkpoint for review

Module 3: Composition, Lighting, and Portraiture

- Role of different Compositions in Photography
- Role of Lighting
- Portraiture

Module 4: Image Processing and Advanced Techniques

- Image Processing (Adobe Photoshop on Camera RAW)
- Abstract Photography
- Photo-Story
- Narrative Photography

Course Outcomes (COs): After completing the course, the student shall be able to:

1. Students will able to use a suitable device (DSLR camera) to construct a presentable project
2. Students will able to identify and apply the principles of composition, lighting & image polishing in their work
3. Student will able to expand their visualization through photography medium to narrate stories that hold a key learning before taking an advanced step in the field of motion picture.

References

Recommended Resources

1. Notepad
2. Strong Internet connection
3. Camera Device (phone or DSLR)
4. Hard drive for organizing class learning
5. Torch / Portable LED light (for Portraiture week)
6. Adobe Photoshop CC (for Image Processing - 1 and Abstract Photography weeks)
7. Dark room (if possible, for Portraiture week)

Bachelor of Vocation (3D Animation) 1st Year
Semester 1
Sound and Music in Films 1 (FLM 105)

L	T	P
1	1	1

Course Name: Sound and Music in Films 1

Course Contact Hours: 2

Course Credit Hours: 3

Course Code: FLM 105

Course Objectives:

- To understand the basics of Film Scoring and Sound Design
- To think out of the box when it comes to Film Score or Sound Design

Course Description:

Movies or Motion pictures started off as a visual medium consisting of pictures that showcased the movement of subjects on a screen in real time. Gradually, the medium acquired the means to not just capture movement but also embed the sound associated with a subject or a scene. Thus, it evolved into an audio-visual medium.

The role of sound and music in making motion pictures believable as well as evocative cannot be undermined. And therefore, it is pertinent for a student of cinema to understand the whys and how's of creating a soundscape for video projects—whether by borrowing and blending elements from pre-existing collections (libraries) or by crafting original sound/music clips on devices known as Digital Audio Workstations or DAW.

Course Contents:

Module 1: Foundations of Music Theory

- Introduction to Basic Music Theory
- Rhythm & Beats
- Keys, Chords & Arpeggios
- Chord Progressions, Basslines & Rhythm

Module 2: Music Production with DAWs and VSTs

- Use of DAW's and VST'S Overview
- Drum Programming and Editing
- Music Basics & MIDI Effects
- Virtual Instruments

- Working with Audio

Module 3: Advanced Music Production Techniques

- Flex Time & Flex Pitch
- Sampling
- Creating Parts & Structure
- Automation’s
- Tempo Modulations

Module 4: Sound Design, Mixing, and Background Scoring

- Basic of Sound Design
- Basic of Synth Sound Design
- Introduction to Mixing
- EQ, Compression, and Mixing Techniques
- Introduction to Background Scoring
- Advanced Mixing for Background Scoring
- Advanced Sound Design / Foley
- Introduction to Surround Sound

Course Outcomes (COs): After completing the course, the student shall be able to:

- Have a basic knowledge of Film Score and Sound Design
- Create a basic idea of Film Score and Sound Design for their Movie / Video / Movie /Scene

References

Recommended Resources

1. "Music Theory for Computer Musicians" by Michael Hewitt
2. "The Mixing Engineer's Handbook" by Bobby Owsinski
3. "Electronic Music Composition for Beginners" by Kate Stone

Bachelor of Vocation (3D Animation) 1st Year
Semester 1
Video Editing 1 (FLM 107)

L	T	P
1	2	1

Course Name: Video Editing 1

Course Contact Hours: 3

Course Credit Hours: 4

Course Code: FLM 107

Course Objectives:

- This course will teach students how to use a nonlinear editing software
- It will teach students core technical concepts which will help them edit
- It will teach students to think like editors and deliver edited sequences
- It will introduce the basic principles of editing to students
- It will help students understand how to organize footage on a nonlinear editing software (DaVinci Resolve)
- It will help students navigate the interface of a software
- It will cover concepts like continuity, frame rate, aspect ratio, codec, container, etc. and how that's integral to editing footage
- It will help students assemble a decent first and second cut on DaVinci Resolve
- It will help students understand the importance of workflow
- It will show students how editing dialogue can be integral to storytelling
- It will get students to understand the rules followed in editing action sequences and teaser trailers

Course Description:

Editing is the coming together of various parts of the puzzle to form the whole picture. This course introduces students to the concept and practice of editing, within the large umbrella of postproduction.
Here, students will learn the basics of what goes into a good edit, what are the various parts involved in delivering a decent final product and the technical know-how involved in the same. Students will be taught how to think like editors as they pick up the skills to organize footage, inspect it and interpret it, before cutting. They will also be shown clips from film and television, to demonstrate how editing is used to shape stories.
They will learn different tools and techniques used on a nonlinear editing software, in order to deliver cuts of various kinds, sharpening their tools in their storytelling toolkit. They will get hands-on experience of the software used in editing, learn how to organize and assemble footage and learn to form good first cuts and second cuts, keeping storytelling in mind.

Course Contents:

Module 1: Introduction to Editing and Post-Production

- Basics of editing and post-production
- History of editing and editing tools/techniques
- Various non-linear editing software packages and their applications

Module 2: Principles and Techniques of Editing

- Principles of editing
- Objectives of editing
- Types of cuts and montages
- Various types of editing techniques
- Cutting on action and mood to achieve seamless transitions

Module 3: NLE Software and Basic Editing Skills

- Basic intro to the interface of a NLE/editing software
- System preferences, importing footage, making bins/folders
- How to make a simple edit and build a scene?
- How to export for various exhibition platforms

Module 4: Advanced Editing Techniques and Project Work

- Polishing the edit - Rhythm and Pacing
- Finishing edits with text, sound, and music
- Understanding the anatomy of different scenes
- Viewing and understanding the rushes for a scene
- Project work and feedback sessions for editing exercises

Course Outcomes (COs): After completing the course, the student shall be able to:

- Students will understand what postproduction involves, and the role that editing plays within that process.
- They will be able to navigate the interface of a nonlinear editing software (DaVinci Resolve).
- They will understand how concepts like continuity, frame rate, aspect ratio and other concepts mentioned in Course Objectives, contribute to editing footage and telling an audio-visual story.
- They will learn to think like editors, as they organise footage, understand workflow and deliver a decent first/second cut of footage given.

- They will be able to understand different techniques used and will be able to edit dialogues, actions sequences and teaser trailers.

References
Recommended Resources

1. "In the Blink of an Eye: A Perspective on Film Editing" by Walter Murch
2. "The Technique of Film Editing" by Karel Reisz and Gavin Millar
3. "Film Editing: Great Cuts Every Filmmaker and Movie Lover Must Know" by Gael Chandler
4. "The Conversations: Walter Murch and the Art of Editing Film" by Michael Ondaatje

Bachelor of Vocation (3D Animation) 1st Year
Semester 1
Visual Story 1 (FLM 109)

L	T	P
1	2	1

Course Name: Visual Story 1

Course Contact Hours: 4

Course Credit Hours: 4

Course Code: FLM 109

Course Objectives:

1. To introduce storytelling as an accessible craft which can be learnt and honed in spite of any limitations of one's hold over the English language
2. To offer a formal and extended engagement with the craft of storytelling
3. To understand and appreciate audience anticipation, expectation and experience
4. To introduce students to the elements of drama and the dramatic structure
5. To introduce the craft of developing cinematic treatments and screenplay writing
6. To introduce the formal ways of pitching a story idea/ concept

Course Description:

The art of storytelling is integral to most creative professions today, but more so to filmmaking where it forms the very backbone of the medium. Stories are easy to form, and we all make and tell stories on a daily basis. Good stories, however, provide greater sensorial vividness to its audience to facilitate deeper engagement. But, how does one embed sensorial engagement within stories? This course will offer ways of exploring sensorial engagement within written and visual stories and forming an easy but deep connect with the audience.

Course Contents:

Module 1: Foundations of Visual Storytelling

- Warm-up: Using adjectives and adverbs to describe experiences, people, places, props, events, and visual media
- Introducing key concepts: Narrative, Plot, Story
- Class activity: Forming story skeletons before fleshing out stories
- Narratives and narrators

Module 2: Elements of Drama and Structure

- Introducing the elements of drama
- Exploring the 3-Act dramatic structure and its key components
- Differentiating between inciting moment, rising action, and climax
- Analyzing a classic short story and adapting it for an Indian context

Module 3: Screenwriting Fundamentals

- Introduction to the elements of a screenplay
- Exploring screenwriting software applications, such as Celtx
- Developing exercises using Celtx

Module 4: Pitching Visual Stories

- Introduction to the elements of a pitch (logline, synopsis, plot, treatment)
- Developing and writing treatments for visual stories

Course Outcomes (COs): After completing the course, the student shall have:

- Confidence in incorporating sensorial vividness
- Confidence in developing and sharing original stories
- Methodical development of a story from its inception as an idea
- Use of the elements of drama and dramatic structure
- Ability to formally and systematically pitch stories
- Ability to develop scripts and treatments for story ideas

References

Recommended Resources:

Books:

1. "The Visual Story" by Bruce Block
2. "Reflections: Twenty-One Cinematographers at Work"
3. "Cinematic Storytelling" by Jennifer Van Sijll
4. "The 5 C's of Cinematography" by Joseph V. Mascelli

Bachelor of Vocation (3D Animation) 1st Year
Semester 1
3D Animation 1 (ANM 103)

L	T	P
1	2	2

Course Name: 3D Animation 1 Course Contact Hours: 3

Course Credit Hours: 5 Course Code: ANM 103

Course Objectives:

1. To provide students with a clear understanding of creating motion over time using traditional animation techniques
2. To develop students' ability to apply the tools and techniques of traditional animation
3. To allow students to understand the relationship between traditional and 3D animation
4. To explore the concepts of 2D animation and how they relate to 3D animated sequences

Course Description:

Course Introduction**:** "**Animation is not** the art of **drawings** that move but the art of **movements that are drawn**." - Norman McLaren

In this module, students will explore the 12 principles of animation and their application in the craft of animation. The purpose is to create believable movement that grants life to inanimate objects on-screen. The delivery of these principles will be through a mixture of 2d animation, stop motion, and CG animation created in Maya.

3D Animation students will learn how to create the illusion of motion by modifying values over time, including how to effectively represent forces including weight and gravity. Function Curves ("fcurves") are introduced and their relationship to the creation of 3D Animation is explained. Students are encouraged to visualize and understand the motion both as it appears in the 3d window and as a shape of the Function Curve. From this course student will gain a solid understanding and experience of the core mechanics and principles for creating 3D computer animation. This will provide the necessary foundation to learn character and acting in future terms.
Assignments mirror Classical Animation, including the "bouncing ball", "tail ball, and the "character jump".

Course Contents:

Module 1: Introduction to Stop Motion Animation

- Intent and Content Overview
- Timing, Spacing, and Eases using coins and strings to create bouncing balls and pendulums
- Practical Exercise: Stop motion animation with bouncing balls and pendulums

Module 2: Advanced Techniques in Stop Motion Animation

- Timing, Spacing, and Eases, arcs using coins and strings to create bouncing balls and pendulums
- Anticipation, Squash/stretch, and Exaggeration on bouncing objects
- Practical Exercise: Applying advanced techniques in stop motion animation

Module 3: Introduction to 3D Animation: Pendulum

- Introduction to 3D animation principles
- Creating poses by Manipulating and Keying the Rig controls
- Practical Exercise: Animating a pendulum in 3D using Maya

Module 4: Advanced 3D Animation Techniques: Pendulum and Bouncing Ball

- Continuing with 3D Animation: Pendulum
    - Moving, Copying, and Pasting Keys in the Timeline
    - Using the Graph Editor to adjust and edit animation
    - Exporting a Playblast from Maya
- Introduction to 3D Animation: Bouncing Ball
- Practical Exercise: Animating a bouncing ball in 3D

Module 5: Understanding Weight in 3D Animation

- Explaining how heavy and light balls behave differently when they hit the ground
- Creating movement that displays distinct and believable weight for the two balls
- Practical Exercise: Animating heavy and light balls in 3D

Module 6: Secondary Action and Emotional Expression in Animation

- Introduction to Secondary Action principles
- Animating a tail ball with Drag, Overlap, Follow Through
- Animating a simple lamp expressing different emotions (Anger, Joy, Sadness, Fear, Confidence)
- Practical Exercise: Animating a lamp hop with emotional expression

Course Outcomes (COs): After completing the course, the student shall be able to:

1. Make use of the foundational understanding of animation principles (Such as arcs, slow-in /out, timing, spacing, etc.) and how to achieve the desired effect in 3D software
2. Use reference material and analyze its importance in animation
3. Apply the process of blocking, splining, and then finalizing an animated shot
4. Set keys in Maya and edit them in the timeline and Graph Editor
5. Demonstrate how to change the weight and timing of objects using f-curves
6. Demonstrate an understanding of how to express weight in animation.

Recommended References

- Animator's Survival Kit by Richard Williams
- Illusion of Life by Frank Thomas and Ollie Johnston
- Directing the story by Francis Glebas
- Cartoon Animation Textbook by Preston Blair

Bachelor of Vocation (3D Animation) 1st Year
Semester 1
Sculpting (Clay Modeling) (ANM 105)

L	T	P
1	2	1

Course Name: Sculpting (Clay Modeling) Course Contact Hours: 3

Course Credit Hours: 3 Course Code: ANM 105

Course Objectives:

1. Students will be introduced to what is a character, who is a character, why we need to design a character
2. They will learn about simple and complex characters by different character designers
3. They will learn about simple shapes used for character designs
4. They will learn about gestures
5. They will draw objects and animals by looking at pics.
6. They will learn about proportions and how to exaggerate them to design a character
7. They will design characters and their model sheets
8. They will sculpt the characters in plasticine by looking at the model sheets (after lockdown)

Course Description:

The course is aimed to introduce students to character design. They will learn to draw simple characters and translate them in 3D by sculpting them in plasticine. Sculpting part will be addressed after the lockdown gets over.

Course Contents:

Module 1: Introduction to Object and Animal Studies

- Understanding the importance of studying objects and animals in character design
- Basics of observational drawing: Focus on studies of objects and animals
- Practical Exercise: Drawing hands and feet from observation

Module 2: Anatomy Study and Character Design

- Anatomy study sketches: Understanding the skeletal structure and musculature of animals and humans
- Applying anatomy knowledge to character design: Creating initial character designs of objects and animals
- Practical Exercise: Developing character designs based on anatomy study sketches

Module 3: Advanced Character Design and Model Sheet Development

- Refining character designs: Adding personality, traits, and details to object and animal characters
- Creating model sheets: Developing detailed reference sheets for character designs, including multiple views and expressions
- Practical Exercise: Creating model sheets for selected character designs

Module 4: Introduction to Sculpting and Model Making

- Basics of sculpting: Introduction to plasticine sculpture techniques
- Applying character designs to sculpting: Translating 2D character designs into 3D sculptures
- Practical Exercise: Sculpting 1-2 characters in plasticine based on developed character designs

Module 5: Refinement and Detailing in Sculpture

- Refining sculpted characters: Adding details, textures, and finishing touches to plasticine sculptures
- Understanding the importance of proportion, balance, and expression in sculpture
- Practical Exercise: Fine-tuning and detailing plasticine sculptures to enhance realism and character appeal

Module 6: Presentation and Critique

- Preparing for presentation: Photographing and documenting sculpted characters for presentation
- Critique session: Peer and instructor feedback on character designs and sculpting techniques
- Conclusion: Reflection on the learning journey and next steps in character design and sculpting practice

Each module will combine theoretical instruction with hands-on practical exercises to ensure students gain a comprehensive understanding of character design principles and develop proficiency in sculpting techniques.

Course Outcomes (COs): After completing the course, the student shall be able to:

1. Students should start visualizing characters with any animate or inanimate subjects
2. Students shouldn’t be scared or hesitant in drawing simple characters
3. Students should understand their designs in 3D

Recommended References

- Sculpture: Principles and Practice by Louis Slobodkin
- Anatomy for Sculptors: Understanding the Human Figure by Uldis Zarins and Sandis Kondrats
- The Sculptor's Bible: The All-media Reference to Surface Effects and How to Achieve Them by Simon Jennings
- Sculpting in Clay by Peter Rubino

Bachelor of Vocation (3D Animation) 1st Year
Semester 1
Documentation, Presentation and Communication Skills 1 (FLM 117)

L	T	P
1	1	

Course Name: Documentation, Presentation and Communication Skills

Course Contact Hours: 2

Course Credit Hours: 2

Course Code: FLM 117

Course Objectives:

1. The inculcate the ability to organize information neatly and in a visually pleasing manner and supplement it with a seamless narrative
2. To instill courage to face and engage live audiences

Course Description:

Why a course exclusively on theory? In many professional schools, theory often gets collapsed into a "history/theory" amalgamation, one that fails to take into account the way by which theory informs not just a historical analysis of built and unbuilt forms, but also the technology and design of architecture. Theory must be provocative; and must integrate with, and illuminate, practice. Being conversant in design theory is a critical skill that manifests in all aspects of the discipline—from conception to experimentation to execution.

While the discourse on architecture is vast and more refined, literature on interior design as an independent discipline is still in its nascent stage and in need of theoretical framing. The intent of this course is to treat architectural and interior theory together as a discipline unto itself, without attempting to partition the two as distinct disciplines; taking pains to ensure that students understand why and how theory matters to the study of architecture, interior design, and general questions of spatial construction

Course Contents:

1. Introduction to Documentation, Communication, and Presentation Skills in Filmmaking
    - Understanding the importance of effective documentation, communication, and presentation in filmmaking
    - Overview of the course structure and goals
2. Documentation for Filmmaking
    - Types of documents used in filmmaking (treatments, scripts, storyboards, shot lists, etc.)
    - Formatting and style guidelines for different documents

- Software tools for documentation (CeltX, Final Draft, etc.)

3. Communication Skills for Filmmakers
    - Verbal communication techniques (pitching, giving feedback, directing actors, etc.)
    - Written communication skills (emails, memos, press releases, etc.)
    - Non-verbal communication (body language, facial expressions, etc.)
4. Presentation Skills for Filmmakers
    - Planning and structuring a presentation
    - Using visual aids effectively (slides, videos, etc.)
    - Overcoming stage fright and engaging the audience
5. Collaboration and Teamwork in Filmmaking
    - Building and managing a creative team
    - Conflict resolution techniques
    - Effective meeting strategies
6. Advanced Communication and Presentation Techniques
    - Public speaking for filmmakers
    - Negotiation skills for film projects
    - Building a personal brand as a filmmaker

Course Outcomes (COs): After completing the course, the student shall be able to:

1. Sift data and identify what is important to include in a presentation and what can be left out
2. Use written words, images and spoken word in semblance to create a clear and seamless narrative
3. To address stage fright

References

Recommended Resources:

1. Communicating Pictures: A Course in Image and Video Coding" by Athanassios Skodras, Charilaos Christopoulos, and Touradj Ebrahimi
2. "Presentation Zen: Simple Ideas on Presentation Design and Delivery" by Garr Reynolds

Bachelor of Vocation (3D Animation) 1st Year
Semester 2
Color Theory - Design (ANM 102)

L	T	P
1	1	1

Course Name: Color Theory - Design

Course Contact Hours: 3

Course Credit Hours: 3

Course Code: ANM 102

Course Objectives:

1. Understanding Color Interaction by Investigating color interaction and its role in pictorial composition, exploring color mixing, relationships, and visual impact
2. **Exploring Color Phenomena:** Study color as a phenomenon of light, pigment, and as an expressive and symbolic element, enhancing comprehension of color qualities and experiences
3. **Developing Color Sensitivity:** Demonstrate skills in designing with color, focusing on hue, value, intensity, proportion, and placement in compositions
4. **Applying Color Theory:** Apply color theory principles to create aesthetically pleasing color schemes, considering color harmonies, contrasts, and context in visual communication design
5. **Enhancing Critical Thinking:** Foster critical thinking skills by investigating the perceptual, psychological, and organizational properties of color, encouraging research and analysis in color theory
6. **Cultural and Historical Context:** Explore cultural associations with colors, understand historical art figures' use of color, and make intentional choices in color selection to evoke specific emotions and effects in artwork and design

Course Description:

Color Theory course offers a comprehensive exploration of the fundamental principles and practical applications of color in art and design. Through a structured curriculum, students delve into the properties of color, theories of color interaction, and the psychological and symbolic significance of color. They engage in hands-on activities like color mixing exercises, creating harmonious color schemes, and analyzing the cultural and historical contexts of color usage. By understanding color as a visual language, students develop critical thinking skills to effectively communicate and express ideas through color in various design contexts.

Course Contents:

Color Properties and Theories:

Understanding the properties of color such as hue, value, and intensity.
Exploring color schemes, harmonies, and relationships.
Investigating the science and structures of color, including additive and subtractive principles

Psychological and Symbolic Aspects of Color:

Analyzing the psychological and symbolic uses of color.
Exploring the expressive and communicative capacities of color.
Recognizing and applying color interactions in visual communication design

Color Mixing and Application:

Mixing paints to create specific hues, values, and intensities.
Applying color mixing techniques to successful compositions.
Utilizing color schemes and systems effectively in design projects

Cultural and Historical Context:

Understanding the cultural associations and historical significance of colors.
Making intentional color choices to evoke specific emotions and effects in artwork and design

Course Outcomes (COs): After completing the course, the student shall be able to:

1. Demonstrate a comprehensive understanding of color properties, including hue, value, and intensity, and their interactions.
2. Apply color theory principles to create visually appealing and conceptually meaningful color schemes for various design projects.
3. Effectively utilize the color wheel and color mixing techniques to achieve desired hues, values, and harmonies in their artwork.
4. Develop critical thinking skills to evaluate and critique the use of color in artworks, considering historical and contemporary contexts.
5. Enhance their visual literacy and sensitivity, enabling them to perceive, interpret, and communicate through the language of color.
6. Demonstrate the ability to research, analyze, and present on the use of color by influential artists and designers, drawing insights for their own creative practice.

Recommended Resources:

Books:

1. Albers, J. (1963). Interaction of Color.
2. Itten, J. (1961). The Elements of Color: A Treatise on the Color System of Johannes Itten Based on His Book the Art of Color.
3. St Clair, K. (2016). The Secret Lives of Colour.
4. Vanderpoel, E. N. (1903). Color Problems: A Practical Manual for the Lay Student of Color.
5. Adams, S. The Designer's Dictionary of Color.

Bachelor of Vocation (3D Animation) 1st Year
Semester 2
Life Drawing 1 (ANM 104)

L	T	P
1	2	1

Course Name: Life Drawing 1 Course Contact Hours: 3

Course Credit Hours: 4 Course Code: ANM 104

Course Objectives

1. Develop skills in rendering the human figure accurately, capturing proportions, anatomy, and volume.
2. Explore a variety of drawing techniques and media to depict the figure, including gesture, contour, and tonal rendering.
3. Cultivate the ability to convey gesture, movement, and expressive qualities in figure drawings.
4. Demonstrate knowledge of the skeletal and muscular structure of the human body.
5. Enhance visual perception and sensitivity in observing and interpreting the human form.
6. Experiment with simplification, exaggeration, and distortion to interpret the expressive qualities of the figure.

Course Description

The Life Drawing course offers a comprehensive exploration of drawing the human figure. Through a structured curriculum, students will develop fundamental skills in rendering the figure accurately and capturing proportions, anatomy, and volume. They will experiment with a variety of drawing techniques and media, including gesture, contour, and tonal rendering, to depict the figure in various poses and convey a sense of movement and expression.
The course emphasizes the development of visual perception and sensitivity in observing and interpreting the human form. Students will also gain an understanding of the skeletal and muscular structure of the body, applying this knowledge to their figure drawings. Additionally, they will explore the use of linear perspective and foreshortening to create the illusion of depth and volume. Through a blend of practical exercises, demonstrations, and critiques, students will learn to present their completed figure drawings in a professional manner.

Course Outcomes

By the end of this course, students will be able to:

1. Demonstrate fluency with a variety of drawing techniques and media in depicting the human figure.
2. Accurately translate observed three-dimensional forms into two-dimensional figure drawings.
3. Effectively apply the principles of linear perspective and foreshortening in figure drawings.
4. Convey gesture, movement, and expressive qualities in their figure drawings.
5. Exhibit an understanding of the skeletal and muscular structure of the human body.
6. Utilize simplification, exaggeration, and distortion to interpret the expressive qualities of the figure.
7. Develop critical thinking skills to assess the strengths and weaknesses of their own figure drawings and those of their peers.
8. Present their completed figure drawings in a professional manner.

Course Content

The Life Drawing 101 course is divided into the following sections:

Course Content

The Life Drawing course is divided into the following sections:

1. Fundamentals of Figure Drawing:
   - Exploring the proportions and anatomy of the human figure
   - Developing skills in rendering accurate representations of the figure
   - Practicing various drawing techniques, such as gesture, contour, and tonal rendering

2. Exploring Expressive Figure Drawing:
   - Conveying gesture, movement, and emotion in figure drawings
   - Experimenting with simplification, exaggeration, and distortion
   - Applying the principles of linear perspective and foreshortening

3. Integrating Anatomical Knowledge:
   - Understanding the skeletal and muscular structure of the human body
   - Applying this knowledge to create more anatomically accurate figure drawings
   - Developing visual perception and sensitivity in observing the figure

Recommended References:

1. Lazzari, M., Schlesier, D., & Schlesier, D. (2019). Drawing: A Sketch and Textbook (2nd ed.). Oxford University Press.

2. Bridgman, G. B. (2009). Bridgman's Life Drawing. Sterling.
3. Goldstein, N. (1999). Figure Drawing. Prentice Hall.
4. Rubens, D. K. (2009). The Human Figure. Penguin.
5. Vanderpoel, E. N. (2010). Color Problems: A Practical Manual for the Lay Student of Color. Dover Publications.

Bachelor of Vocation (3D Animation) 1st Year
Semester 2
3D Animation 2 (ANM 106)

L	T	P
1	2	1

Course Name: 3D Animation 2

Course Contact Hours: 3

Course Credit Hours: 4

Course Code: ANM 106

Course Description:
"3D Animation 2" course designed to further students' knowledge and skills in 3D animation techniques and principles. Building upon the foundational concepts introduced in "3D Animation 1," this course focuses on advanced topics such as character animation, rigging, and advanced rendering techniques. Through a combination of lectures, demonstrations, and hands-on projects, students will explore the creative and technical aspects of 3D animation, gaining practical experience in creating dynamic and expressive animated sequences.

Course Objectives:

1. To deepen students' understanding of advanced principles and techniques in 3D animation.
2. To develop students' proficiency in character animation, rigging, and advanced rendering techniques.
3. To foster creative experimentation and innovation in 3D animation projects.
4. To cultivate critical thinking skills and the ability to analyze and critique 3D animated sequences.

Course Outcomes:

1. Demonstrate proficiency in using industry-standard 3D animation software to create animated sequences.
2. Apply advanced animation principles such as timing, spacing, and squash/stretch to create dynamic and expressive character animations.
3. Develop proficiency in rigging characters and props for animation, including creating custom rigs and controls.
4. Utilize advanced rendering techniques to achieve realistic lighting, shading, and texturing in 3D animated scenes.
5. Collaborate effectively with peers on 3D animation projects, providing constructive feedback and support.

6. Communicate animation concepts and decisions clearly and persuasively to collaborators and stakeholders.
7. Explore career pathways in 3D animation and understand the professional standards and practices within the industry.
8. Reflect critically on their own animated sequences and identify areas for continued growth and development as animators.

Course Content:

1. Advanced Animation Principles
    - Timing, spacing, and anticipation in character animation
    - Squash/stretch and secondary motion techniques
2. Character Rigging and Control
    - Building custom rigs for characters and props
    - Creating controls and constraints for character animation
3. Advanced Rendering Techniques
    - Lighting and shading for realistic 3D animation
    - Texture mapping and UV unwrapping techniques
4. Advanced Animation Projects
    - Character animation projects incorporating advanced animation principles and techniques
    - Collaborative animation projects integrating rigging, rendering, and post-production effects

Recommended Reading References:

1. "The Animator's Survival Kit" by Richard Williams
2. "Character Animation Crash Course!" by Eric Goldberg
3. "Digital Lighting & Rendering" by Jeremy Birn
4. "The Art of 3D Computer Animation and Effects" by Isaac Kerlow
5. "Stop Staring: Facial Modeling and Animation Done Right" by Jason Osipa
6. "Animating Real-Time Game Characters" by Paul Steed
7. "The Illusion of Life: Disney Animation" by Frank Thomas and Ollie Johnston
8. "Inspired 3D Short Film Production" by Jeremy Cantor and Pepe Valencia

Bachelor of Vocation (3D Animation) 1st Year
Semester 2
Modelling 1 (ANM 108)

L	T	P
1	2	1

Course Name: Modelling 1 Course Contact Hours: 4

Course Credit Hours: 4 Course Code: ANM 108

Course Description:
"Modeling 1" course designed to introduce students to the fundamental principles and techniques of 3D modeling for digital animation and visualization. Through a combination of lectures, demonstrations, and hands-on exercises, students will learn the foundational skills necessary to create 3D models of various objects, characters, and environments using industry-standard software tools. The course covers topics such as polygonal modeling, surface manipulation, and texture mapping, providing students with a solid understanding of the modeling process and its application in animation, gaming, and visual effects industries.

Course Objectives:

1. To introduce students to the principles and techniques of 3D modeling for digital animation and visualization.
2. To develop students' proficiency in creating 3D models of objects, characters, and environments using industry-standard software tools.
3. To foster creative experimentation and innovation in 3D modeling projects, allowing students to explore different styles and aesthetics.
4. To cultivate critical thinking skills and the ability to analyze and critique 3D models in terms of form, function, and visual appeal.

Course Outcomes:

1. Demonstrate proficiency in using industry-standard 3D modeling software to create a variety of objects, characters, and environments.
2. Apply fundamental modeling techniques such as polygonal modeling, extrusion, and subdivision surface modeling to create detailed and realistic 3D models.
3. Understand the principles of surface manipulation and texture mapping to enhance the visual quality of 3D models.
4. Utilize reference materials and observational skills to accurately recreate real-world objects and environments in 3D.

5. Collaborate effectively with peers on 3D modeling projects, providing constructive feedback and support.
6. Communicate modeling concepts and decisions clearly and persuasively to collaborators and stakeholders.
7. Explore career pathways in 3D modeling and understand the professional standards and practices within the industry.
8. Reflect critically on their own modeling projects and identify areas for continued growth and development as modelers.

Course Content:

1. Introduction to 3D Modeling
    - Overview of 3D modeling software tools and interface
    - Introduction to basic modeling techniques and terminology
2. Polygonal Modeling
    - Creating and manipulating polygonal meshes
    - Modeling basic shapes and forms using polygonal modeling techniques
3. Surface Manipulation and Texturing
    - Applying textures and materials to 3D models
    - Techniques for surface manipulation and refinement
4. Advanced Modeling Techniques
    - Subdivision surface modeling for creating smooth and detailed surfaces
    - Modeling organic shapes and characters using advanced techniques

Recommended Reading References:

1. "Digital Modeling" by William Vaughan
2. "Polygonal Modeling: Basic and Advanced Techniques" by Mario Russo
3. "3D Modeling in Blender" by Jonathan Williamson
4. "ZBrush Character Creation: Advanced Digital Sculpting" by Scott Spencer
5. "Maya Character Modeling and Animation: Principles and Practices" by Tereza Flaxman
6. "The Art of 3D Computer Animation and Effects" by Isaac Kerlow
7. "Introduction to 3D Game Programming with DirectX 12" by Frank D. Luna
8. "Mastering Autodesk Maya" by Todd Palamar

Bachelor of Vocation (3D Animation) 1st Year
Semester 2
Surfacing 1 (ANM 110)

L	T	P
1	2	2

Course Name: Surfacing 1 Course Contact Hours: 4

Course Credit Hours: 5 Course Code: ANM 110

Course Description:
"Surfacing 1" is an undergraduate course designed to introduce students to the principles and techniques of surfacing for digital animation and visualization. Through lectures, demonstrations, and hands-on projects, students will learn how to create realistic surface materials and textures for 3D models using industry-standard software tools. The course covers topics such as shader creation, texture mapping, and material properties, providing students with a solid foundation in surfacing techniques applicable to various industries, including animation, gaming, and visual effects.

Course Objectives:

1. To introduce students to the principles and techniques of surfacing for digital animation and visualization.
2. To develop students' proficiency in creating realistic surface materials and textures for 3D models using industry-standard software tools.
3. To foster creative experimentation and innovation in surfacing projects, allowing students to explore different material types and visual effects.
4. To cultivate critical thinking skills and the ability to analyze and critique surface materials and textures in terms of realism, aesthetics, and functionality.

Course Outcomes:

1. Demonstrate proficiency in using industry-standard surfacing software tools to create a variety of surface materials and textures for 3D models.
2. Apply fundamental surfacing techniques such as shader creation, texture mapping, and UV unwrapping to enhance the visual quality of 3D models.
3. Understand the properties of different surface materials and textures and their impact on the overall look and feel of a 3D scene.

4. Utilize reference materials and observational skills to accurately recreate real-world surface materials and textures in 3D.
5. Collaborate effectively with peers on surfacing projects, providing constructive feedback and support.
6. Communicate surfacing concepts and decisions clearly and persuasively to collaborators and stakeholders.
7. Explore career pathways in surfacing and understand the professional standards and practices within the industry.
8. Reflect critically on their own surfacing projects and identify areas for continued growth and development as surfacing artists.

Course Content:

1. Introduction to Surfacing
    - Overview of surfacing principles and terminology
    - Introduction to basic surfacing techniques and software tools
2. Shader Creation and Texture Mapping
    - Creating custom shaders and material presets
    - Mapping textures onto 3D models using UV mapping techniques
3. Material Properties and Visual Effects
    - Understanding the properties of different surface materials (e.g., metal, glass, fabric)
    - Creating visual effects such as bump mapping, displacement mapping, and specular highlights
4. Advanced Surfacing Techniques
    - Creating complex surface materials using procedural textures and layering techniques
    - Exploring specialized surfacing tools and plugins for advanced effects

Recommended Reading References:

1. "Texturing and Modeling: A Procedural Approach" by David S. Ebert et al.
2. "Digital Texturing and Painting" by Owen Demers
3. "The Art of Texturing and Rendering in Video Games" by Nicholas B. Lim
4. "ShaderX7: Advanced Rendering Techniques" edited by Wolfgang Engel
5. "Texturing: Concepts and Techniques" by James T. Kajiya
6. "Realistic Architectural Visualization with 3ds Max and mental ray" by Roger Cusson et al.
7. "Introduction to Shader Programming" by Wolfgang Engel
8. "GPU Pro 7: Advanced Rendering Techniques" edited by Wolfgang Engel

Bachelor of Vocation (3D Animation) 1st Year
Semester 2
Internship Preparation - Resume Writing (ANM IT 02)

L	T	P
1	1	

Course Name: Internship Preparation - Resume Writing Course Code: ANM IT 02
Course Credit Hour: 2 Total Contact Hour: 2

Course Objective:

- To inculcate in Students, the etiquette of email communication
- To enable them to write clear and precise Resumes and CVs
- To enable them to introspect enough to know their skills and weaknesses
- To enable students to identify the right opportunity and profile of work for first internship
- To enable them to face interviews

Course Description:

This is a practical course designed to prepare students for the internship application process within the film and animation industry. The course will cover various aspects of internship preparation, including resume and CV writing, cover letter composition, email etiquette, and personal branding. Students will learn how to effectively present themselves to potential employers and showcase their skills and experience.

Course Content:

1. Introduction to Internship Requirements and Process
    a. Understanding the internship requirements set by the institute
    b. Overview of the internship application process from start to finish
2. Professional Communication Skills
    a. Email etiquette and practicing email writing for different professional scenarios
    b. Difference between resumes and CVs; sample study and review
3. Application Package Review
    a. Reviewing and improving resumes, CVs, and cover letters
    b. Crafting effective cover letters, enquiry letters, acknowledgement, acceptance, and regret letters
4. Personal Branding and Narrative

    a. Exploring personal strengths and qualities
    b. Creating a personal narrative and practicing with a video bio
5. Final Presentation Preparation
    a. Rehearsing and preparing for final presentations showcasing internship readiness
    b. Feedback and refinement of presentation skills

Course Learning Outcomes (COs): After completing the course, the student shall be able to

1. Complete Application package for summer internship 1
2. Improvement in tone and clarity of written communication

Recommended Resources

1. "How to Write a Resume: A Step-by-Step Guide" by Resume Companion
2. "The Elements of Résumé Style: Essential Rules and Eye-Opening Advice for Writing Résumés and Cover Letters that Work" by Scott Bennett

Bachelor of Vocation (3D Animation) 1st Year
Semester 2
Film studies 2 (FLM 102)

L	T	P
1	2	1

Course Name: Film studies 2

Course Contact Hours: 3

Course Credit Hours: 4

Course Code: FLM 102

Course Objectives:

1. To introduce students to key concepts and theories in film studies, including the time-image, montage, and mise en scene.
2. To explore major film movements such as Italian Neo-Realism, French New Wave, and contemporary cinema in India.
3. To analyze the works of influential filmmakers like Robert Bresson, Abbas Kiarostami, and Wong Kar Wai in relation to film theory and philosophy.
4. To develop critical thinking and analytical skills through the study of film texts.

Course Description:

This course offers a comprehensive exploration of film theory, history, and philosophy, focusing on key concepts such as the time-image, montage, and mise en scene. Through the study of major film movements like Italian Neo-Realism, French New Wave, and contemporary Indian cinema, students will analyze the works of influential filmmakers and explore the philosophical implications of cinema. The course aims to develop students' critical thinking and analytical skills, preparing them for further study or careers in the field of film studies.

Course Contents:

Module 1: Introduction to Time-Image
- Understanding the concept of time-image in cinema
- Exploring its significance in film theory and philosophy
- Analyzing examples of time-image in films

Module 2: Italian Neo-Realism
- History and characteristics of Neo-Realism
- Key filmmakers and films associated with the movement
- Impact and legacy of Neo-Realism on world cinema

Module 3: French New Wave
- Origins and key figures of the French New Wave

- Stylistic innovations and narrative techniques of the movement
- Influence of the French New Wave on contemporary cinema

Module 4: Montage and mise En Scene in Film

- Definition and differences between montage and mise en scene
- Case study: Robert Bresson and his approach where method equals content
- Case study: Abbas Kiarostami and his approach where process (material) equals content
- Case study: Jean-Luc Godard and his innovative use of montage and mise en scene
- Comparing and contrasting the approaches of Bresson, Kiarostami, and Godard

Module 6: Time-Image as Philosophical Practice

- Exploring the philosophical implications of time-image in cinema
- Examining how cinema represents the Self
- Analyzing films that exemplify time-image as a philosophical practice

Module 7: The Body, Voice, and Brain in Antonioni's Films

- Analyzing Antonioni's use of the body, voice, and brain in his films
- Understanding the concept of multiplicity in cinema and its relation to the Self

Module 8: The Self in Cinema

- Further exploration of the representation of the Self in cinema
- Comparing different approaches to depicting the Self in films

Module 9: The Body and Voice: A Return to Theatre

- Case study: Films by Straub and Huillet and their relationship to theatre
- Analyzing how Straub and Huillet use the body and voice in their films

Module 10: Time-Image and Cinema in India

- Examining the concept of time-image in Indian cinema
- Case study: Films by Mani Kaul and their use of time-image

Module 11: Contemporary Cinema Case Studies

- Case study: Films by Wong Kar Wai and their stylistic features
- Case study: Films by Bela Tarr and their unique approach to filmmaking

Module 12: Contemporary Cinema in India

- Exploring the trends and developments in contemporary Indian cinema
- Analyzing films that represent the diversity of Indian cinema

Module 13: Concluding Seminar

- Reflecting on post-New Wave filmmaking
- Analyzing films by Margeurite Duras and Philippe Garrel as examples of post-New Wave cinema

Course Outcomes (COs): After completing the course:

1. Students will demonstrate an understanding of key concepts and theories in film studies, including the time-image and various approaches to filmmaking.
2. Students will be able to analyze and interpret films from different periods and cultures, including Italian Neo-Realism, French New Wave, and contemporary Indian cinema.
3. Students will develop the ability to critically evaluate films and articulate their ideas in oral and written form.

4. Students will gain an appreciation for the diversity and complexity of cinema as an art form.
5. Students will apply theoretical concepts to practical analysis of films, demonstrating a nuanced understanding of film texts.

References

Recommended Resources:

- "The Cinema Book" by Pam Cook
- "Film Art: An Introduction" by David Bordwell and Kristin Thompson

Bachelor of Vocation (3D Animation) 1st Year
Semester 2
Sound and Music in Films 2 (FLM 104)

L	T	P
1	1	1

Course Name: Sound and Music in Films 2

Course Contact Hours: 3

Course Credit Hours: 3

Course Code: FLM 104

Course Objectives:

- To teach students the basics of Sound Design
- To teach students how to make a scene more relevant with use of different sounds.
- To train students to think out of the box when it comes to Sound Design.

Course Description:

Sound Design, Will guides you through the process of **Designing Sound Elements** to accompany a visual medium. The **course** begins by focusing on the aesthetics, terminology, procedures, and technical aspects of **Sound design.**

Sound Design will give the students a chance to learn how to use sound Elements to a visual medium. Students will learn in detail about Foley, Sound Design for Films, Recording Techniques, etc.

Course Contents:

Module 1: Introduction to Sound Design
- What is Sound Design?
- Importance and role of Sound Design in filmmaking

Module 2: Sound Designing Basics
- Understanding all aspects of Sound Designing
- Introduction to Sound Effects (SFX)

Module 3: Art of Recording
- Introduction to Recording
- Techniques and best practices in recording sound for films

Module 4: Foley Artistry
- Understanding Foley and its role in Sound Design
- Techniques and practices in Foley recording

Module 5: Basics of Synth Sound Design

- Introduction to synthesis and its application in Sound Design
- Subtractive Synthesis and its principles (ADSR)

Module 6: Advanced Synth Sound Design

- Wavetable Synthesis and its application
- Frequency Modulation Synthesis (FM Synthesis)
- Synth Patch Development and designing custom sounds

Module 7: Dialogue Manipulation

- Basics of Dialogue Manipulation
- Advanced techniques in Dialogue Manipulation

Module 8: Music Manipulation

- Introduction to Sound Enhancers and Reverse Polarities
- Techniques for manipulating music in Sound Design

Module 9: Basic Mixing in Sound Design

- Introduction to Perception and Basics of Panning
- Advanced Mixing techniques

Module 10: Binaural Panning and Surround Sound

- Introduction to Binaural Panning
- Introduction to Surround Sound and its types

Module 11: Mixing in Stereo

- Techniques for mixing sound in stereo
- Sound Design without relying on Surround Sound

Course Outcomes (COs): After completing the course, the student shall be able to:

1. Create / make a basic scene with Sound Design
2. Have a good knowledge of Sound Design and how different methods of sound design will impact the scene differently.

References
Recommended Resources:

- "Sound Design: The Expressive Power of Music, Voice and Sound Effects in Cinema" by David Sonnenschein
- "The Sound Effects Bible: How to Create and Record Hollywood Style Sound Effects" by Ric Viers

Bachelor of Vocation (3D Animation) 1st Year
Semester 2
Visual Story 2 (FLM 106)

L	T	P
1	1	1

Course Name: Visual Story 2

Course Contact Hours: 3

Course Credit Hours: 3

Course Code: FLM 106

Course Objectives:

1. To make visual sequences for written stories
2. To delve deeper into the composition of visuals and visual aesthetics
3. To be able to create abstract visual compositions using visual elements such as dots, line, shapes, forms
4. To be able to select aesthetically qualified pictures and assess a visual pattern in a sequential narrative

Course Description:

Having learnt Visual Stories 1, students now deep dive into selecting, sequencing and composing the most appropriate visuals that help them tell a story.

Course Contents:

Unit Modules

Introduction to Visual Storytelling

- Recap of Visual Stories 1
- Overview of the course
- Importance of visual storytelling in film.

Understanding Story Structure

- Recap of visual story 1
- Story circle exercise to collaborate on building a story
- Analysis of eventful films featuring Charlie Chaplin, Buster Keaton.

Storyboarding Techniques

- Revisiting the Story circle exercise after studying eventful films
- Introduction to jamboard for storyboard creation
- Preparation for the video exercise.

From Storyboard to Video

- Practical application of storyboard techniques in creating a video, followed by presentation and review of the videos created by students.

Elements and Principles of Visual Composition

- Exploration of the fundamental elements and principles that contribute to effective visual composition in film.

Abstraction in Visual Storytelling

- Understanding and applying abstraction in visual storytelling, including techniques to convey ideas and emotions through abstract images.

Course Outcomes (COs): After completing the course, the student shall be able to:

1. Make simple stories expressed through carefully crafted/ selected visuals
2. Have a working knowledge of visual compositions.
3. Make carefully curated/ drafted storyboards

References

Recommended Resources:

- "The Visual Story: Creating the Visual Structure of Film, TV and Digital Media" by Bruce Block
- "Storyboarding Essentials: SCAD Creative Essentials (How to Translate Your Story to the Screen for Film, TV, and Other Media)" by David Harland Rousseau and Benjamin Reid Phillips

Bachelor of Vocation (3D Animation) 2nd Year
Semester 3
Sound and Music in Films 3 (Sound Design) (FLM 201)

L	T	P
1	1	1

Course Name: Sound and Music in Films 3 (Sound Design) Course Code: FLM 201
Course Credit Hour: 3 Total Contact Hour: 2

Course Objective:

- To understand the basics of Film Scoring and Sound Design
- To think out of the box when it comes to Film Score or Sound Design

Course Description:

Movies or Motion pictures started off as a visual medium consisting of pictures that showcased the movement of subjects on a screen in real time. Gradually, the medium acquired the means to not just capture movement but also embed the sound associated with a subject or a scene. Thus, it evolved into an audio-visual medium.

The role of sound and music in making motion pictures believable as well as evocative cannot be undermined. And therefore, it is pertinent for a student of cinema to understand the whys and how's of creating a soundscape for any visual image and complementing the visual experience with a well strategized aural experience. From developing a stronger listening sense to developing expertise in handling gadgets like recorders and microphones and tools like Digital Audio Workstations, a student will undergo various training modules to develop sense and application of Sound designing and music theories.

Course Contents:

1. Introduction to Audio Production Workflow
    - Understanding the workflow of audio production in film and television
    - Overview of the key stages and processes involved
2. Elements of Audio Production
    - Exploring the fundamental elements of audio production
    - Role of sound in reproduction, production, and post-production
3. Audio Recording Techniques
    - Understanding the basics of audio recording

    - Overview of microphones, amplifiers, recorders, and mixers used in audio production
4. Audio Post-Production
    - Overview of the audio post-production stages
    - Focus on dubbing, dialogue editing, Foley, SFX, ambience, music, and sound design aesthetics
5. Rerecording and Mixing
    - Techniques for rerecording and mixing audio
    - Using tools in digital audio workstations (DAWs) to optimize sessions
6. Release Formats and Future Technologies
    - Understanding different release formats for audio in film and television
    - Exploration of future technologies in audio production

Course Learning Outcomes (COs): After completing the course, the student shall be able to

1. Identify elements of sound and learn all the stages of creation of those elements for a film
2. Develop critical listening skills to identify roles of all soft to loud sounds in the overall psychoacoustic space.
3. Have a basic knowledge of Film Score and Sound Design
4. Create a basic idea of Film Score and Sound Design for their Movie / Video / Movie /Scene
5. Learn the basics of audio recording, including microphones, amplifiers, recorders, and mixers.
6. Explore the stages of audio post-production, including dubbing, dialogue editing, foley, SFX, ambience, and music.

Recommended Resources

- "Sound Design: The Expressive Power of Music, Voice and Sound Effects in Cinema" by David Sonnenschein
- "The Sound Effects Bible: How to Create and Record Hollywood Style Sound Effects" by Ric Viers

Bachelor of Vocation (3D Animation) 2nd Year
Semester 3
Visual Story 3 (Mise-en-Scene) (ANM 201)

L	T	P
1	1	1

Course Name: Visual Story 3 (Mise-en-Scene) Course Code: ANM 201
Course Credit Hour: 3 Total Contact Hour: 2

Course Objectives:
Building on everything they've learned so far, this course aims to push the students to identify and calibrate their own personal and professional expression as artists and filmmakers. Using various styles and methods used by contemporary filmmakers, the students will have the chance to explore the myriad options that are available to them. From the visual design of the locations, to the dialogues and gadgets used by their protagonists and antagonists. By the end of the course, students should have the confidence to dive into any project with a sense of style and purpose.

Course Description:
As filmmakers develop their sense of storytelling and the genres they are associated with, they begin to also build a portfolio of visual styles, symbols and motifs that slowly becomes their signature for their work. A strong personal connection and visual expression is a must when it comes to building such a valuable professional statement.

Course Content:

Visual Narrative & Mise-en-scene
- Origin and use of Mise-en-scene
- Mise-en-scene elements: Design
- Actors
- Setting
- Décor
- Lighting
- Props
- Costumes
- Hairstyle
- Makeup

Composition
- Mise-en-scene elements: Composition
- Emphasis

- Balance
- Light
- Shade
- Line
- Shapes
- Color
- Depth
- Shot Blocking and Camera placement
- Film Stock

Visual Storytelling exercises

- Methodology and disciplines of visual communication
- Characterization
- Set design
- Lighting and Mood Boards
- Look & Feel Boards
- Storyboarding
- Designing Production bibles/Story Bibles

Course Learning Outcomes (COs): After completing the course, the student shall be able to

1. Create a sense of intent and consistency in their audio-visual language.
2. Have a deeper understanding of how themes and ideologies affect the direction of their films and the most successful films of the world.
3. Build their own methodology behind the design of props, costumes, locations, music, color schemes, art styles, lighting styles, moods, tonal contrasts and visual harmony and elements of chaos.
4. Kick-start their practice of keeping a pulse on the lifeline of global artistic movements and trends.
5. Grow within them innovative and visual mind-sets that will help them distinguish themselves from the crowd.
6. **Explore different physical methodologies for presenting their ideas**

References

1. "The Visual Story: Creating the Visual Structure of Film, TV, and Digital Media" by Bruce Block
2. "Mise-en-scène: Film Style and Interpretation" by John Gibbs

Bachelor of Vocation (3D Animation) 2nd Year
Semester 3
3D Animation 3 (ANM 203)

L	T	P
1	2	2

Course Name: 3D Animation 3 Course Code: ANM 203
Course Credit Hour: 5 Total Contact Hour: 4

Course Description:

"3D Animation 3" course that builds upon the foundational principles introduced in previous animation courses, focusing on advanced techniques and workflows for creating high-quality 3D animations. Through a combination of lectures, demonstrations, and practical exercises, students will explore topics such as character animation, rigging, and advanced motion editing using industry-standard animation software. The course emphasizes the development of storytelling skills and the application of animation principles to create engaging and expressive character performances, cinematic sequences, and dynamic motion graphics.

Course Objectives:

1. To advance students' proficiency in character animation techniques and workflows using industry-standard 3D animation software.
2. To develop students' understanding of advanced animation principles such as timing, spacing, and secondary motion, and their application in creating dynamic and expressive character performances.
3. To foster creative experimentation and innovation in animation projects, allowing students to explore different animation styles, genres, and narrative structures.
4. To cultivate critical thinking skills and the ability to analyze and critique animation sequences in terms of storytelling effectiveness, character development, and visual appeal.

Course Outcomes:

1. Demonstrate proficiency in using industry-standard 3D animation software to create high-quality character animations, cinematic sequences, and motion graphics.
2. Apply advanced animation principles such as timing, spacing, and squash/stretch to create dynamic and expressive character performances.

3. Understand the principles of character rigging and skeletal animation, and their role in creating lifelike character movements.
4. Utilize reference materials and observational skills to accurately capture real-world motion and behavior in animation projects.
5. Collaborate effectively with peers on animation projects, providing constructive feedback and support.
6. Communicate animation concepts and decisions clearly and persuasively to collaborators and stakeholders.
7. Explore career pathways in animation and understand the professional standards and practices within the industry.
8. Reflect critically on their own animation projects and identify areas for continued growth and development as animators.

Course Content:

1. Advanced Character Animation Techniques
    - Principles of character acting and performance
    - Advanced motion editing techniques for creating expressive character animations
2. Rigging and Character Setup
    - Principles of character rigging and skeletal animation
    - Rigging techniques for creating flexible and deformable character rigs
3. Cinematic Animation and Storytelling
    - Creating dynamic camera movements and cinematic sequences
    - Applying animation principles to enhance storytelling and narrative clarity
4. Motion Graphics and Visual Effects
    - Techniques for creating dynamic motion graphics and animated effects
    - Integration of 3D animation with live-action footage and compositing techniques

Recommended Reading References:

1. "The Animator's Survival Kit" by Richard Williams
2. "Character Animation Crash Course!" by Eric Goldberg
3. "Timing for Animation" by Harold Whitaker and John Halas
4. "Animating with Blender: Creating Short Animations from Start to Finish" by Roland Hess
5. "Digital Character Animation 3" by George Maestri
6. "The Illusion of Life: Disney Animation" by Frank Thomas and Ollie Johnston
7. "The Art of 3D Computer Animation and Effects" by Isaac Kerlow
8. "Character Animation Fundamentals: Developing Skills for 2D and 3D Character Animation" by Steve Roberts

Bachelor of Vocation (3D Animation) 2nd Year
Semester 3
Surfacing 2 (ANM 205)

L	T	P
1	2	2

Course Name: Surfacing 2 Course Code: ANM 205
Course Credit Hour: 5 Total Contact Hour: 3

Course Description:

"Surfacing 2" course designed to further explore the principles and techniques of surfacing for digital animation and visualization. Building upon the foundational concepts introduced in Surfacing 1, this course delves deeper into advanced surfacing workflows, materials, and shaders. Through a combination of lectures, demonstrations, and practical projects, students will learn advanced texturing techniques, procedural shading, and material creation using industry-standard software tools. The course emphasizes the creation of complex and realistic surface materials for various applications, including animation, gaming, and visual effects.

Course Objectives:

1. To deepen students' understanding of advanced surfacing principles and techniques for digital animation and visualization.
2. To develop students' proficiency in creating complex and realistic surface materials using procedural shading, advanced texturing, and material manipulation.
3. To foster creative experimentation and innovation in surfacing projects, allowing students to explore specialized materials and visual effects.
4. To cultivate critical thinking skills and the ability to analyze and critique surfacing techniques and materials in terms of their visual impact and functionality.

Course Outcomes:

1. Demonstrate proficiency in using advanced surfacing techniques and tools to create complex and realistic surface materials for 3D models.
2. Apply procedural shading techniques to generate dynamic and customizable surface textures and patterns.
3. Understand the principles of physically based rendering (PBR) and apply them to create materials with accurate lighting and reflections.

4. Utilize advanced texture painting and mapping techniques to enhance the visual quality of 3D models.
5. Explore specialized surfacing workflows for specific industries or applications, such as architectural visualization or product design.
6. Collaborate effectively with peers on surfacing projects, providing constructive feedback and support.
7. Communicate surfacing concepts and decisions clearly and persuasively to collaborators and stakeholders.
8. Reflect critically on their own surfacing projects and identify areas for continued growth and development as surfacing artists.

Course Content:

1. Procedural Shading and Texturing
    - Introduction to procedural shading techniques
    - Creating customizable surface textures using procedural methods
2. Advanced Material Creation
    - Principles of physically based rendering (PBR)
    - Creating realistic materials with accurate lighting and reflections
3. Specialized Surfacing Techniques
    - Exploring specialized materials and visual effects
    - Applying surfacing techniques for specific industries or applications
4. Portfolio Development and Presentation
    - Building a portfolio of advanced surfacing projects
    - Presenting and showcasing surfacing work effectively

Recommended Reading References:

1. "Digital Texturing and Painting" by Owen Demers
2. "Texturing and Modeling: A Procedural Approach" by David S. Ebert et al.
3. "Texturing and Modeling: A Procedural Approach" by Ken Musgrave et al.
4. "Realistic Architectural Visualization with 3ds Max and mental ray" by Roger Cusson et al.
5. "The Art of Texturing and Rendering in Video Games" by Nicholas B. Lim
6. "ShaderX7: Advanced Rendering Techniques" edited by Wolfgang Engel
7. "Introduction to Shader Programming" by Wolfgang Engel
8. "GPU Pro 7: Advanced Rendering Techniques" edited by Wolfgang Engel

Bachelor of Vocation (3D Animation) 2nd Year
Semester 3
Modelling 2 (ANM 207)

L	T	P
1	2	2

Course Name: Modelling 2 Course Code: ANM 207
Course Credit Hour: 5 Total Contact Hour: 3

Course Description:
"Modeling 2" course focused on advancing students' skills in digital 3D modeling for animation, gaming, and visualization. Building upon the foundational concepts introduced in Modeling 1, this course explores advanced modeling techniques, workflows, and industry-standard software tools. Through a combination of lectures, demonstrations, and hands-on projects, students will learn to create complex 3D models, characters, environments, and props using polygonal and subdivision surface modeling techniques. The course emphasizes the development of efficient modeling workflows, attention to detail, and the creation of visually compelling and technically optimized 3D assets.

Course Objectives:

1. To deepen students' understanding of advanced 3D modeling principles, techniques, and workflows.
2. To develop students' proficiency in creating complex and detailed 3D models for animation, gaming, and visualization projects.
3. To foster creative problem-solving skills and the ability to interpret and execute design briefs and concept art into 3D models.
4. To cultivate critical thinking skills and the ability to analyze and critique 3D models in terms of their visual appeal, functionality, and technical considerations.

Course Outcomes:

1. Demonstrate proficiency in using advanced 3D modeling techniques and tools to create complex and detailed 3D assets.
2. Apply efficient modeling workflows to optimize the creation process and manage complexity in 3D modeling projects.
3. Understand the principles of topology, edge flow, and subdivision surface modeling, and apply them to create clean and deformable 3D models.
4. Utilize reference materials and observational skills to accurately capture real-world forms and details in 3D models.

5. Explore specialized modeling techniques for specific industries or applications, such as character modeling, environment design, or prop creation.
6. Collaborate effectively with peers on modeling projects, providing constructive feedback and support.
7. Communicate modeling concepts and decisions clearly and persuasively to collaborators and stakeholders.
8. Reflect critically on their own modeling projects and identify areas for continued growth and development as 3D modelers.

Course Content:

1. Advanced Polygonal Modeling Techniques
    - Advanced modeling tools and techniques in industry-standard software
    - Modeling complex organic and hard-surface forms using polygonal modeling
2. Subdivision Surface Modeling
    - Principles of subdivision surface modeling
    - Creating smooth and deformable 3D models with clean topology
3. Character Modeling and Sculpting
    - Techniques for character design and modeling
    - Sculpting and detailing characters using digital sculpting tools
4. Environment and Prop Modeling
    - Creating detailed environments and props for animation and gaming
    - Incorporating storytelling and visual narrative into environmental design

Recommended Reading References:

1. "Digital Modeling" by William Vaughan
2. "Character Modeling with Maya and ZBrush" by Jason Patnode
3. "The Art of 3D Computer Animation and Effects" by Isaac Kerlow
4. "3D Modeling in Blender" by Jonathan Williamson
5. "Game Character Creation with Blender and Unity" by Chris Totten
6. "ZBrush Character Sculpting: Volume 1" by Rafael Grassetti
7. "Creating Characters with Personality: For Film, TV, Animation, Video Games, and Graphic Novels" by Tom Bancroft
8. "Polygonal Modeling: Basic and Advanced Techniques" by Mario Russo

Bachelor of Vocation (3D Animation) 2nd Year
Semester 3
Life Drawing 2 (ANM 209)

L	T	P
1	2	1

Course Name: Life Drawing 2 Course Code: ANM 209
Course Credit Hour: 4 Total Contact Hour: 3

Course Description:
"Life Drawing 2" is an intermediate undergraduate course focused on advancing students' skills in observational drawing of the human figure. Building upon the foundational concepts introduced in Life Drawing 1, this course provides students with further opportunities to study and draw live models in various poses and contexts. Through a combination of studio sessions, critiques, and exercises, students will refine their understanding of human anatomy, proportion, gesture, and expression. The course emphasizes the development of observational skills, creative interpretation, and personal expression in representing the human form through drawing.

Course Objectives:

1. To deepen students' understanding of human anatomy and proportion through direct observation and drawing from live models.
2. To develop students' proficiency in capturing the gesture, movement, and expression of the human figure with accuracy and sensitivity.
3. To foster creative experimentation and interpretation in life drawing, encouraging students to explore a variety of techniques, media, and stylistic approaches.
4. To cultivate critical thinking skills and the ability to analyze and critique life drawings in terms of their technical execution, expressive qualities, and artistic intent.

Course Outcomes:

1. Demonstrate proficiency in accurately depicting the human figure in various poses and gestures through observational drawing.
2. Apply principles of human anatomy, proportion, and gesture to create dynamic and expressive life drawings.
3. Utilize a variety of drawing techniques, media, and tools to explore different approaches to life drawing.
4. Develop a personal style and voice in life drawing, reflecting individual interests, preferences, and artistic sensibilities.
5. Collaborate effectively with peers during studio sessions, providing constructive feedback and support.

6. Communicate ideas, concepts, and emotions effectively through life drawing, using composition, line, value, and texture.
7. Reflect critically on their own life drawing practice, identifying areas for improvement and growth.
8. Present a portfolio of life drawings that demonstrates technical skill, creative expression, and personal development as a life artist.

Course Content:

1. Anatomy and Proportion Studies
    - Study of human anatomy, skeletal structure, and muscular system
    - Proportional relationships and measurements in life drawing
2. Gesture and Movement
    - Capturing the dynamic movement and gesture of the human figure
    - Quick sketching and gesture drawing techniques
3. Expressive Figure Drawing
    - Exploring emotional expression and storytelling in life drawing
    - Using light, shadow, and composition to enhance expressive qualities
4. Experimental Approaches to Life Drawing
    - Exploring alternative drawing techniques, media, and styles
    - Creative interpretation and personal expression in life drawing

Recommended Reading References:

1. "Figure Drawing: Design and Invention" by Michael Hampton
2. "Anatomy for Sculptors" by Uldis Zarins and Sandis Kondrats
3. "Drawing the Head and Hands" by Andrew Loomis
4. "Dynamic Figure Drawing" by Burne Hogarth
5. "The Human Figure: An Anatomy for Artists" by David K. Rubins
6. "Figure Drawing: A Complete Guide" by Giovanni Civardi
7. "The Natural Way to Draw" by Kimon Nicolaides
8. "Anatomy Drawing School: Human Anatomy" by András Szunyoghy and György Fehér

Bachelor of Vocation (3D Animation) 2nd Year
Semester 3
Motion Graphics (ANM 211)

L	T	P
1	2	1

Course Name: Motion Graphics
Course Code: ANM 211
Course Credit Hour: 4
Total Contact Hour: 3

Course Description:
"Motion Graphics" course designed to introduce students to the principles, techniques, and applications of motion graphics design for various digital media platforms. Through a combination of theoretical study, practical exercises, and creative projects, students will learn to conceptualize, design, and animate dynamic visual elements that enhance storytelling, communication, and engagement. The course covers topics such as typography animation, kinetic typography, visual effects, and motion design principles, equipping students with the skills and knowledge needed to create compelling motion graphics content for film, television, web, and advertising.

Course Objectives:

1. To familiarize students with the principles and terminology of motion graphics design.
2. To develop students' proficiency in using industry-standard software tools for motion graphics creation and animation.
3. To cultivate creative thinking and problem-solving skills in conceptualizing and executing motion graphics projects.
4. To provide students with opportunities to explore different styles, techniques, and applications of motion graphics design.
5. To encourage collaboration and effective communication skills in the context of motion graphics production.
6. To foster critical analysis and evaluation of motion graphics content in terms of its effectiveness and impact.
7. To prepare students for entry-level positions in the field of motion graphics design or related industries.
8. To promote lifelong learning and professional development in the field of motion graphics design.

Course Outcomes:

1. Demonstrate proficiency in using industry-standard software tools for motion graphics design and animation.
2. Apply principles of design, typography, and composition to create visually appealing and effective motion graphics.
3. Generate original ideas and concepts for motion graphics projects, considering target audience, message, and context.
4. Execute motion graphics projects from concept to completion, incorporating animation, visual effects, and sound.
5. Collaborate effectively with peers on motion graphics projects, contributing ideas and feedback in a constructive manner.
6. Critically analyze and evaluate motion graphics content in terms of its aesthetic appeal, technical quality, and communicative effectiveness.
7. Present motion graphics projects professionally, articulating design decisions and creative intentions.
8. Develop a portfolio of motion graphics work that demonstrates technical skill, creative vision, and conceptual thinking.

Course Content:

1. Introduction to Motion Graphics Principles
    - History and evolution of motion graphics
    - Basic principles of animation and design for motion graphics
2. Typography Animation and Kinetic Typography
    - Techniques for animating text and typography
    - Kinetic typography principles and applications
3. Visual Effects and Motion Design
    - Creating dynamic visual effects and transitions
    - Motion design principles for enhancing storytelling and engagement
4. Advanced Motion Graphics Techniques
    - Exploring advanced animation techniques and expressions
    - Integrating 2D and 3D elements in motion graphics composition

Recommended Reading References:

1. "Design for Motion: Fundamentals and Techniques of Motion Design" by Austin Shaw
2. "The Animator's Survival Kit" by Richard Williams
3. "Motion Graphics: Principles and Practices from the Ground Up" by Ian Crook and Peter Beare
4. "Animating with Blender: Creating Short Animations from Start to Finish" by Roland Hess
5. "Stop Motion: Craft Skills for Model Animation" by Susannah Shaw
6. "After Effects Apprentice: Real-World Skills for the Aspiring Motion Graphics Artist" by Chris and Trish Meyer

7. "Thinking with Type: A Critical Guide for Designers, Writers, Editors, and Students" by Ellen Lupton
8. "The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics" by Ron Brinkmann

Bachelor of Vocation (3D Animation) 2nd Year

Semester 3

3D Lighting 1 (ANM 213)

L	T	P
1	2	1

Course Name: 3D Lighting 1 Course Code: ANM 213
Course Credit Hour: 4 Total Contact Hour: 3

Course Description:
"3D Lighting 1" course designed to provide students with a comprehensive understanding of lighting principles and techniques in the context of 3D computer graphics. Through theoretical study, practical exercises, and hands-on projects, students will explore various aspects of lighting, including its role in creating mood, atmosphere, and storytelling in digital environments. The course covers topics such as light properties, shadow creation, color theory, and lighting setups for different scenarios, equipping students with the skills and knowledge needed to effectively light 3D scenes for animation, visualization, and gaming applications.

Course Objectives:

1. To introduce students to the fundamental principles of lighting and its importance in 3D computer graphics.
2. To familiarize students with the technical aspects of lighting software and tools commonly used in the industry.
3. To develop students' ability to analyze and interpret lighting concepts in the context of visual storytelling.
4. To provide hands-on experience in creating and manipulating virtual lights to achieve desired effects in 3D scenes.

5. To encourage creative experimentation and problem-solving skills in the context of 3D lighting design.
6. To cultivate critical thinking and aesthetic judgment in evaluating the effectiveness of lighting in 3D projects.
7. To prepare students for entry-level positions in the field of 3D lighting or related industries.
8. To foster a collaborative and supportive learning environment where students can exchange ideas and feedback on lighting techniques and projects.

Course Outcomes:

1. Demonstrate understanding of basic lighting principles, including light properties, color theory, and shadow creation.
2. Apply lighting techniques to enhance the mood, atmosphere, and visual appeal of 3D scenes.
3. Use lighting software and tools proficiently to set up and control virtual lights in 3D environments.
4. Analyze lighting requirements for different scenarios and genres, such as indoor vs. outdoor scenes or fantasy vs. realism.
5. Experiment with various lighting setups and effects to achieve desired results in 3D projects.
6. Critically evaluate the effectiveness of lighting in 3D scenes in terms of its impact on storytelling and audience engagement.
7. Collaborate effectively with peers and instructors in the context of lighting design projects and critiques.
8. Develop a portfolio of 3D lighting work that demonstrates technical skill, creative vision, and attention to detail.

Course Content:

1. Introduction to 3D Lighting Principles
    - Basic concepts of light, color, and shadow
    - Principles of lighting composition and mood creation
2. Technical Aspects of 3D Lighting
    - Overview of lighting tools and software in 3D graphics applications
    - Manipulating virtual lights and light properties in 3D scenes
3. Lighting Techniques and Strategies
    - Lighting setups for different scenarios, including indoor, outdoor, and low-light environments
    - Advanced lighting effects such as volumetric lighting, caustics, and global illumination
4. Practical Applications and Projects

- Hands-on exercises and projects to apply lighting principles and techniques in real-world scenarios
- Critiques and feedback sessions to evaluate and improve lighting work

Recommended Reading References:

1. "Digital Lighting and Rendering" by Jeremy Birn
2. "Light for Visual Artists: Understanding & Using Light in Art & Design" by Richard Yot
3. "Rendering with Mental Ray" by Thomas Driemeyer
4. "The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics" by Ron Brinkmann
5. "Light, Shade and Shadow" by E. L. Koller
6. "Color and Light: A Guide for the Realist Painter" by James Gurney
7. "Cinematography: Theory and Practice" by Blain Brown
8. "Realistic Architectural Visualization with 3ds Max and mental ray" by Roger Cusson

Bachelor of Vocation (3D Animation) 2nd Year
Semester 3
VFX & Compositing 2 (ANM 206)

L	T	P
1	2	1

Course Name: VFX & Compositing 2 Course Code: ANM 206
Course Credit Hour: 4 Total Contact Hour: 3

Course Description:
"VFX & Compositing 1" course that delves into the fundamentals of visual effects (VFX) and compositing in digital filmmaking. Through a combination of theoretical study and practical exercises, students will explore various techniques used in the creation of visual effects, such as green screen compositing, matte painting, and digital manipulation. The course provides students with a solid foundation in VFX principles and software tools commonly used in the industry, preparing them for further study and career opportunities in the field of digital filmmaking and post-production.

Course Objectives:

1. Introduce students to the basic concepts and principles of visual effects and compositing in digital filmmaking.
2. Familiarize students with industry-standard software tools and techniques used in VFX and compositing.
3. Develop students' technical skills in key areas such as green screen compositing, motion tracking, and digital matte painting.
4. Cultivate students' creativity and problem-solving abilities through hands-on projects and exercises.
5. Provide students with opportunities to analyze and deconstruct visual effects sequences from film and television.
6. Encourage collaborative learning and peer feedback through group projects and critiques.
7. Prepare students for entry-level positions in the field of VFX and compositing or related industries.
8. Foster a passion for innovation and experimentation in the creation of visual effects for storytelling and artistic expression.

Course Outcomes:

1. Demonstrate understanding of fundamental concepts and principles of visual effects and compositing.
2. Utilize industry-standard software tools to create basic visual effects and compositing elements.
3. Apply key techniques such as green screen compositing, motion tracking, and digital matte painting to create realistic visual effects sequences.
4. Analyze and deconstruct visual effects sequences from film and television to understand the techniques used in their creation.
5. Generate creative ideas and solutions for integrating visual effects seamlessly into live-action footage.
6. Collaborate effectively with peers on group projects and critiques, providing constructive feedback and support.
7. Develop a portfolio of VFX and compositing work that demonstrates technical skill and creative vision.
8. Present and discuss VFX projects in a professional manner, articulating the creative and technical decisions behind their work.

Course Content:

1. Introduction to Visual Effects and Compositing
    - Overview of VFX principles and terminology
    - Introduction to industry-standard software tools (e.g., Adobe After Effects, Nuke)
2. Green Screen Compositing and Rotoscoping
    - Techniques for keying and extracting elements from green screen footage
    - Basics of rotoscoping and masking for precise compositing
3. Motion Tracking and Match Moving
    - Principles of motion tracking and match moving
    - Applications of motion tracking in visual effects integration
4. Digital Matte Painting and Set Extension
    - Creating realistic environments and backgrounds using digital matte painting techniques
    - Extending physical sets digitally to enhance storytelling and visual impact

Recommended Reading References:

1. "The Art and Science of Digital Compositing: Techniques for Visual Effects, Animation and Motion Graphics" by Ron Brinkmann
2. "The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures" edited by Jeffrey A. Okun and Susan Zwerman
3. "Digital Compositing for Film and Video" by Steve Wright
4. "Compositing Visual Effects: Essentials for the Aspiring Artist" by Steve Wright
5. "Nuke 101: Professional Compositing and Visual Effects" by Ron Ganbar
6. "After Effects Apprentice: Real-World Skills for the Aspiring Motion Graphics Artist" by Chris and Trish Meyer

Bachelor of Vocation (3D Animation) 2nd Year
Semester 4
3D Modelling & Digital Sculpting (ANM 202)

L	T	P
1	2	1

Course Name: 3D Modelling & Digital Sculpting
Course Code: ANM 202
Course Credit Hour: 4
Total Contact Hour: 3

Course Description:
"3D Modeling & Digital Sculpting" course designed to introduce students to the principles and techniques of creating digital 3D models and sculptures. Through a combination of theoretical instruction and hands-on practice, students will learn the fundamentals of 3D modeling software tools and digital sculpting workflows. The course covers essential topics such as polygonal modeling, sculpting techniques, texture mapping, and rendering, providing students with the necessary skills to create detailed and realistic 3D models for various applications in animation, gaming, and visual effects.

Course Objectives:

1. Introduce students to the fundamental concepts and principles of 3D modeling and digital sculpting.
2. Familiarize students with industry-standard software tools used in 3D modeling and digital sculpting, such as Autodesk Maya and ZBrush.
3. Develop students' proficiency in creating both organic and hard-surface 3D models through hands-on exercises and projects.
4. Cultivate students' creativity and artistic vision by encouraging exploration and experimentation in digital sculpting and modeling.
5. Provide students with an understanding of texture mapping, materials, and lighting to enhance the realism of their 3D models.
6. Foster collaborative skills by engaging students in group projects and critiques, where they can give and receive constructive feedback.
7. Prepare students for further study or careers in animation, gaming, visual effects, or related fields within the entertainment industry.
8. Empower students to build a portfolio of high-quality 3D models and sculptures that showcase their skills and creativity to potential employers or clients.

Course Outcomes:

1. Demonstrate proficiency in using industry-standard 3D modeling and digital sculpting software tools.
2. Create detailed and realistic 3D models and sculptures with attention to form, proportion, and detail.
3. Apply principles of anatomy, form, and composition to create convincing organic and hard-surface models.
4. Develop efficient workflows for digital sculpting and 3D modeling projects, optimizing productivity and creativity.
5. Understand the principles of texture mapping, materials, and lighting to enhance the visual appeal of 3D models.
6. Collaborate effectively with peers in group projects, demonstrating teamwork and communication skills.
7. Present and discuss 3D modeling and sculpting projects in a professional manner, articulating creative decisions and technical processes.
8. Develop a portfolio of 3D models and sculptures that reflects their skills, creativity, and artistic vision, suitable for showcasing to potential employers or clients.

Course Content:

1. Introduction to 3D Modeling and Digital Sculpting
    - Overview of digital sculpting and 3D modeling principles
    - Introduction to software tools such as Autodesk Maya and ZBrush
2. Polygonal Modeling Techniques
    - Basics of polygonal modeling and mesh manipulation
    - Creating organic and hard-surface models using polygonal modeling techniques
3. Digital Sculpting Workflows
    - Introduction to digital sculpting software and tools
    - Sculpting organic forms, characters, and creatures using digital sculpting workflows
4. Texture Mapping and Rendering
    - Applying textures and materials to 3D models
    - Understanding lighting and rendering techniques for realistic visualization

Recommended Reading References:

1. "Introducing ZBrush" by Eric Keller
2. "Digital Sculpting with Mudbox: Essential Tools and Techniques for Artists" by Mike de la Flor
3. "Maya for Beginners: An Introduction to 3D Modeling, Animation, and Rendering" by Dariush Derakhshani
4. "ZBrush Character Creation: Advanced Digital Sculpting" by Scott Spencer
5. "The Art of 3D Computer Animation and Effects" by Isaac Kerlow

6. "Blender Foundations: The Essential Guide to Learning Blender 2.7" by Roland Hess

Bachelor of Vocation (3D Animation) 2nd Year
Semester 4
3D Character Animation (ANM 204)

L	T	P
1	2	1

Course Name: 3D Character Animation
Course Code: ANM 204
Course Credit Hour: 4
Total Contact Hour: 3

Course Description:
"3D Character Animation" course designed to provide students with a comprehensive understanding of the principles and techniques involved in animating 3D characters for various media, including film, television, and gaming. Through a combination of theoretical lectures and practical exercises, students will learn the fundamentals of character animation, including key framing, timing, posing, and acting principles. The course emphasizes hands-on experience with industry-standard animation software tools such as Autodesk Maya, allowing students to develop their skills and creativity in bringing characters to life through dynamic and expressive animation.

Course Objectives:

1. Introduce students to the principles and techniques of 3D character animation, including key framing, posing, timing, and acting.
2. Familiarize students with industry-standard animation software tools such as Autodesk Maya and their various features and functions.
3. Develop students' proficiency in using animation rigs and controls to manipulate character movement and expression.
4. Cultivate students' creativity and storytelling abilities through character animation, emphasizing narrative and emotion in animation sequences.
5. Provide students with opportunities to practice and refine their animation skills through hands-on exercises and projects.
6. Foster collaboration and communication skills by engaging students in group animation projects and critiques.
7. Prepare students for further study or careers in animation, gaming, visual effects, or related fields within the entertainment industry.
8. Empower students to build a portfolio of high-quality character animation sequences that showcase their skills and creativity to potential employers or clients.

Course Outcomes:

1. Demonstrate proficiency in using animation software tools such as Autodesk Maya for character animation.
2. Apply principles of timing, spacing, and posing to create convincing and dynamic character animation sequences.
3. Understand the principles of weight, balance, and anticipation in character movement and apply them effectively in animation.
4. Create expressive and believable character performances that convey emotion, personality, and narrative intention.
5. Develop efficient workflows for character animation projects, optimizing productivity and creativity.
6. Collaborate effectively with peers in group animation projects, demonstrating teamwork and communication skills.
7. Present and discuss character animation sequences in a professional manner, articulating creative decisions and technical processes.
8. Develop a portfolio of character animation sequences that reflects their skills, creativity, and artistic vision, suitable for showcasing to potential employers or clients.

Course Content:

1. Introduction to 3D Character Animation Principles
    - Overview of character animation principles and terminology
    - Introduction to Autodesk Maya and animation workspace
2. Key framing and Posing
    - Basics of key framing and timeline manipulation
    - Posing characters to convey emotion, personality, and action
3. Timing and Spacing
    - Understanding the principles of timing and spacing in animation
    - Applying timing and spacing techniques to create dynamic character movement
4. Acting and Performance Animation
    - Exploring acting principles and character performance techniques
    - Creating expressive and believable character performances through animation

Recommended Reading References:

1. "The Animator's Survival Kit" by Richard Williams
2. "Character Animation Crash Course!" by Eric Goldberg
3. "Timing for Animation" by Harold Whitaker and John Halas
4. "The Illusion of Life: Disney Animation" by Frank Thomas and Ollie Johnston
5. "Animating with Blender: Creating Short Animations from Start to Finish" by Roland Hess
6. "The Animator's Workbook: Step-By-Step Techniques of Drawn Animation" by Tony White

Bachelor of Vocation (3D Animation) 2nd Year
Semester 4
VFX & Compositing 2 (ANM 206)

L	T	P
1	2	1

Course Name: VFX & Compositing 2 Course Code: ANM 206
Course Credit Hour: 4 Total Contact Hour: 3

Course Description:
"VFX & Compositing 2" course that delves deeper into the principles and practices of visual effects (VFX) and compositing in digital media production. Building upon foundational knowledge acquired in previous courses, students explore advanced techniques and workflows used in the creation of high-quality visual effects for film, television, and other media. Through a combination of theoretical instruction and hands-on projects, students learn to seamlessly integrate computer-generated imagery (CGI) with live-action footage, master complex compositing techniques, and refine their skills in creating photorealistic visual effects sequences.

Course Objectives:

1. To deepen students' understanding of advanced visual effects and compositing techniques used in digital media production.
2. To familiarize students with industry-standard software tools and workflows for VFX and compositing, such as Adobe After Effects, Nuke, and Autodesk Maya.
3. To develop students' proficiency in creating complex visual effects sequences, including CGI integration, digital matte painting, and particle effects.
4. To explore advanced compositing techniques such as color correction, tracking, and rotoscoping, and their application in creating seamless VFX shots.
5. To foster students' creativity and problem-solving skills in designing and executing visual effects projects with artistic vision and technical precision.
6. To provide students with opportunities to collaborate on group projects and simulate real-world production environments in the creation of VFX sequences.
7. To encourage critical thinking and analysis of professional VFX work, including the examination of industry trends, best practices, and ethical considerations.
8. To prepare students for entry-level positions in the VFX and compositing industry or for further study in related fields, with a strong foundation in advanced techniques and portfolio-ready projects.

Course Outcomes:

1. Demonstrate proficiency in using industry-standard software tools for VFX and compositing, including Adobe After Effects, Nuke, and Autodesk Maya.
2. Apply advanced techniques in CGI integration, digital matte painting, and particle effects to create visually stunning VFX sequences.
3. Utilize color correction, tracking, and rotoscoping techniques to seamlessly integrate VFX elements with live-action footage.
4. Develop a portfolio of high-quality VFX shots that showcase artistic creativity, technical skill, and attention to detail.
5. Collaborate effectively with peers in the creation of VFX projects, demonstrating teamwork and communication skills.
6. Analyze and critique professional VFX work, identifying strengths, weaknesses, and areas for improvement.
7. Apply critical thinking and problem-solving skills to overcome challenges encountered in VFX and compositing projects.
8. Prepare and present VFX projects in a professional manner, articulating creative decisions and technical processes.

Course Content:

1. Advanced CGI Integration Techniques
    - Advanced methods for integrating CGI elements with live-action footage
    - Creating photorealistic environments and creatures using CGI modeling and texturing
2. Digital Matte Painting and Environment Design
    - Techniques for creating digital matte paintings and background elements
    - Designing and constructing digital environments for VFX shots
3. Particle Effects and Dynamics
    - Creating dynamic simulations and particle effects for VFX sequences
    - Enhancing visual impact through the use of physics-based simulations
4. Advanced Compositing Techniques
    - Color correction and grading for VFX shots
    - Tracking, rotoscoping, and advanced masking techniques

Recommended Reading References:

1. "The Art and Science of Digital Compositing" by Ron Brinkmann
2. "Digital Compositing for Film and Video" by Steve Wright
3. "Nuke 101: Professional Compositing and Visual Effects" by Ron Ganbar
4. "Adobe After Effects CC Classroom in a Book" by Lisa Fridsma and Brie Gyncild
5. "Maya Visual Effects: The Innovator's Guide" by Eric Keller
6. "VFX Fundamentals: Visual Special Effects Using Fusion 8.0" by Wallace Jackson

Bachelor of Vocation (3D Animation) 2nd Year
Semester 4
Real Time Engine - Unity (ANM 208)

L	T	P
1	2	1

Course Name: Real Time Engine - Unity
Course Code: ANM 208
Course Credit Hour: 4
Total Contact Hour: 3

Course Description:
"Real Time Engine – Unity" introduces students to the fundamentals of real-time game development using the Unity game engine. Unity is a powerful and versatile platform widely used in the gaming industry for creating interactive 2D and 3D experiences across various platforms including PC, consoles, mobile devices, and augmented reality (AR) and virtual reality (VR) headsets. Through hands-on projects and practical exercises, students learn essential concepts such as scene setup, game mechanics, scripting with C#, asset management, and optimization techniques. The course provides a comprehensive overview of Unity's features and capabilities, empowering students to develop their own interactive games and simulations.

Course Objectives:

1. To familiarize students with the Unity game engine and its interface, tools, and workflow.
2. To develop students' proficiency in creating 2D and 3D game environments, characters, and assets using Unity's built-in tools and asset store.
3. To teach students fundamental programming concepts and C# scripting techniques for implementing game mechanics and interactivity in Unity.
4. To introduce students to best practices for project organization, asset management, and version control in Unity development.
5. To explore advanced features of Unity such as physics simulation, audio integration, animation, and user interface design.
6. To cultivate students' problem-solving skills and creative thinking in designing and implementing game projects from concept to completion.
7. To provide students with opportunities to collaborate on team-based game development projects and simulate real-world development environments.
8. To prepare students for entry-level positions in the game development industry or for further study in related fields, with a strong foundation in Unity game development principles and practices.

Course Outcomes:

1. Demonstrate proficiency in using Unity's interface, tools, and workflow for real-time game development.
2. Design and create 2D and 3D game environments, characters, and assets using Unity's built-in tools and asset store.
3. Implement game mechanics and interactivity using C# scripting and fundamental programming concepts in Unity.
4. Organize and manage Unity projects effectively, including asset import/export, scene management, and version control.
5. Apply advanced features of Unity such as physics simulation, audio integration, animation, and user interface design to enhance game projects.
6. Collaborate effectively with peers in the development of interactive game projects, demonstrating teamwork and communication skills.
7. Analyze and critique existing Unity projects, identifying strengths, weaknesses, and areas for improvement.
8. Present and showcase Unity game projects in a professional manner, articulating creative decisions and technical processes.

Course Content:

1. Introduction to Unity
    - Overview of Unity interface, tools, and workflow
    - Scene setup, object manipulation, and navigation in Unity
2. Scripting and Gameplay Mechanics
    - Introduction to C# scripting in Unity
    - Implementing player controls, movement, and interactions
3. Asset Creation and Management
    - Creating and importing 2D and 3D assets into Unity
    - Asset store exploration and asset management best practices
4. Advanced Unity Features
    - Physics simulation and collision detection
    - Audio integration, animation, and user interface design in Unity

Recommended Reading References:

1. "Unity in Action" by Joseph Hocking
2. "Learning C# by Developing Games with Unity 2020" by Harrison Ferrone
3. "Mastering Unity 2020 Game Development" by Dr. Alan Thorn
4. "Game Design Fundamentals: Unity 2020 Edition" by Alan Thorn
5. "Unity Game Development Cookbook: Essentials for Every Game" by Paris Buttfield-Addison and Jon Manning
6. "Procedural Generation in Game Design" by Tanya Short and Tarn Adams
7. "Unity Virtual Reality Projects: Learn Virtual Reality by Developing More Than 10 Engaging Projects with Unity 2019" by Jonathan Linowes

Bachelor of Vocation (3D Animation) 2nd Year
Semester 4
Rigging (ANM 210)

L	T	P
1	2	1

Course Name: Rigging
Course Code: ANM 210
Course Credit Hour: 4
Total Contact Hour: 3

Course Description:
"Rigging" delves into the art and science of character rigging for animation in digital environments. Rigging is a crucial aspect of the animation pipeline, involving the creation of skeletal structures, controls, and deformations to facilitate character movement and expression. Through a blend of theoretical instruction and hands-on practical exercises, students learn the principles and techniques of rigging using industry-standard software such as Autodesk Maya. Topics covered include joint hierarchy creation, skinning, rigging constraints, IK/FK systems, blend shapes, and advanced rigging workflows. By the end of the course, students gain the skills and knowledge necessary to rig characters effectively for animation projects across various mediums including film, television, games, and visual effects.

Course Objectives:

1. To introduce students to the fundamental concepts and principles of character rigging in animation.
2. To familiarize students with the tools, techniques, and workflows used in rigging characters using industry-standard software.
3. To develop students' proficiency in creating joint hierarchies, skinning, and weight painting for character deformation.
4. To teach students how to create and manipulate rig controls, including IK/FK systems, constraints, and blend shapes.
5. To explore advanced rigging techniques such as rigging for facial animation, secondary motion, and procedural rigging.
6. To cultivate students' problem-solving skills and critical thinking in addressing rigging challenges and optimizing rig performance.
7. To provide students with opportunities to apply rigging principles and techniques to real-world animation projects.
8. To prepare students for entry-level positions in the animation industry or for further study in rigging specialization areas.

Course Outcomes:

1. Demonstrate an understanding of the principles and terminology of character rigging in animation.
2. Create and manipulate joint hierarchies, skinning, and weight painting for character deformation.
3. Design and implement rig controls, including IK/FK systems, constraints, and blend shapes.
4. Apply advanced rigging techniques to enhance character animation, including facial rigging and secondary motion.
5. Troubleshoot rigging issues and optimize rig performance for animation projects.
6. Collaborate effectively with animators and other team members in the rigging and animation pipeline.
7. Analyze and critique existing character rigs, identifying strengths, weaknesses, and areas for improvement.
8. Present and showcase rigged characters in a professional manner, articulating rigging decisions and technical processes.

Course Content:

1. Introduction to Character Rigging
    - Principles of rigging in animation
    - Overview of rigging tools and workflows in Autodesk Maya
2. Joint Hierarchy and Skinning
    - Creating and organizing joint hierarchies
    - Skinning and weight painting techniques for character deformation
3. Rig Controls and Deformers
    - Creating rig controls for character manipulation
    - Implementing deformation techniques using blend shapes and deformers
4. Advanced Rigging Techniques
    - IK/FK systems and rigging constraints
    - Facial rigging for expressive character animation

Recommended Reading References:

1. "Inspired 3D Advanced Rigging and Deformations" by Brad Clark and Kyle Clark
2. "Stop Staring: Facial Modeling and Animation Done Right" by Jason Osipa
3. "Maya Python for Games and Film: A Complete Reference for Maya Python and the Maya Python API" by Adam Mechtley and Ryan Trowbridge
4. "Rigging for Games: A Primer for Technical Artists Using Maya and Python" by Sean Spitzer
5. "The Art of Rigging" by Erica Haines and Paolo Ciccone
6. "Animating Real-Time Game Characters" by Paul Steed
7. "Character Animation Crash Course!" by Eric Goldberg

Bachelor of Vocation (3D Animation) 2nd Year
Semester 4
Production Development and Project Management (ANM 212)

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Course Name: Production Development and Project Management Course Code: ANM 212
Course Credit Hour: 3 Total Contact Hour: 3

Course Description:
"Production Development and Project Management" offers students a comprehensive understanding of the processes involved in developing and managing creative projects in various media industries such as film, television, animation, and digital media. Through a blend of theoretical exploration and practical application, students learn essential concepts and techniques for initiating, planning, executing, and closing projects effectively. Topics covered include project ideation, budgeting, scheduling, team management, risk assessment, and quality control. By the end of the course, students gain the knowledge and skills necessary to lead and contribute to successful projects in the dynamic and competitive media landscape.

Course Objectives:

1. To introduce students to the principles and practices of production development and project management in creative industries.
2. To provide students with a comprehensive understanding of the project lifecycle, from conception to completion.
3. To develop students' proficiency in project ideation, including brainstorming, concept development, and pitching.
4. To familiarize students with essential project management tools and techniques for budgeting, scheduling, and resource allocation.
5. To cultivate students' leadership and communication skills in facilitating effective team collaboration and decision-making.
6. To explore strategies for risk assessment, mitigation, and contingency planning to ensure project success.
7. To teach students principles of quality control and project evaluation for maintaining standards and meeting client expectations.
8. To prepare students for careers in production management, project coordination, or further study in related fields.

Course Outcomes:

1. Demonstrate an understanding of the project lifecycle and key stages of production development.
2. Generate and refine project ideas through effective brainstorming and concept development processes.
3. Apply project management tools and techniques to create realistic budgets, schedules, and project plans.
4. Lead and coordinate project teams, fostering collaboration, communication, and synergy among team members.
5. Identify and assess project risks, developing strategies to minimize negative impacts and capitalize on opportunities.
6. Implement quality control measures to ensure project deliverables meet established standards and client requirements.
7. Evaluate project performance and outcomes, identifying successes, challenges, and areas for improvement.
8. Communicate project progress, status updates, and recommendations effectively to stakeholders and team members.

Course Content:

1. Introduction to Production Development and Project Management
    - Overview of project lifecycle and phases
    - Importance of project management in creative industries
2. Project Ideation and Concept Development
    - Techniques for generating and refining project ideas
    - Pitching and presenting project concepts to stakeholders
3. Project Planning and Execution
    - Budgeting, scheduling, and resource allocation
    - Team management, roles, and responsibilities
4. Risk Assessment and Quality Control
    - Identifying project risks and developing mitigation strategies
    - Implementing quality assurance measures and evaluation criteria

Recommended Reading References:

1. "The Producer's Business Handbook" by John J. Lee Jr.
2. "Creative Inc.: The Ultimate Guide to Running a Successful Freelance Business" by Meg Mateo Ilasco and Joy Deangdeelert Cho
3. "Project Management for the Unofficial Project Manager: A FranklinCovey Title" by Kory Kogon, Suzette Blakemore, and James Wood
4. "The Project Management Book: How to Manage Your Projects To Deliver Outstanding Results" by Richard Newton
5. "Scrum: The Art of Doing Twice the Work in Half the Time" by Jeff Sutherland
6. "Project Management for Designers and Facilities Managers" by Howard G. Birnberg

7. "Project Management for Information Systems" by James Cadle, Donald Yeates, and Tony Wakefield

Bachelor of Vocation (3D Animation) 2nd Year
Semester 4
Graduation Project Development 1 (AE Project) (FLM 214)

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Course Name: Graduation Project Development 1 (AE Project)

Course Code: FLM 214

Course Credit Hour: 3

Total Contact Hour:2

COURSE OBJECTIVES:

The course aims to equip students with a comprehensive understanding of Adobe After Effects, enabling them to proficiently utilize its tools and techniques for dynamic motion graphics and visual storytelling. By the end of the course, students will:

- Master the fundamental principles and functionalities of Adobe After Effects.
- Develop proficiency in creating captivating animations, special effects, and cinematic sequences.
- Gain hands-on experience in utilizing key framing, compositing, and other advanced techniques.
- Learn to effectively communicate narratives and ideas through visual mediums.
- Cultivate a deeper appreciation for the role of observation and creativity in the design process.
- Apply learned skills to real-world projects, enhancing their portfolio and professional capabilities.
- Explore innovative ways to utilize After Effects as a versatile tool for creative expression across various mediums.

Course Description:

The After Effects project course illuminates the symbiotic relationship between creative concepts and visual execution. Through practical application, students harness the power of animation to articulate their ideas, effectively communicate narratives, and present diverse connections within their designs. Beginning with fundamental principles, participants cultivate a profound insight into the significance of observation in their creative journey, discovering how After Effects serves as a pivotal tool in transforming abstract concepts into tangible visual expressions.

Course Content:

- Masking
    - Masking tool
    - types of masking
- Motion tracking
    - Motion tracking
    - Track matte
- Plugins and rotoscopy
    - Rotoscopy
    - Colour Correction
    - Green screen shot

Course Outcomes:

- **CO1:** UNDERSTANDING: Gain a deep understanding of the purpose and functionality of various elements within Adobe After Effects, including layers, effects, and key frames.
- **CO2:** DEMONSTRATE: Utilize shapes, forms, and other creation tools within After Effects to effectively bring ideas to life through animation and visual effects.
- **CO3:** FLUENCY: Develop fluency in using After Effects as an expressive tool, seamlessly integrating animations, effects, and transitions to enhance storytelling and communication.
- **CO4:** COMPETENCE: Demonstrate competence in effectively communicating ideas through the dynamic medium of motion graphics, leveraging After Effects' capabilities to convey messages with clarity and impact.
- **CO5:** STRENGTH: Strengthen proficiency in the chosen media, mastering techniques to create visually compelling compositions that resonate with the intended audience.
- **CO6:** DEMONSTRATE: Showcase the ability to communicate complex ideas and narratives through visuals created in Adobe After Effects, demonstrating creativity, technical proficiency, and effective storytelling skills.

Recommended Resources

- SFX and Ambience library
- Adobe After Effects CS5 Visual Effects and Compositing Studio Techniques

Bachelor of Vocation (3D Animation) 3rd Year
Semester 5
Graduation Project - Development 2 (AE Project Shoot) (ANM 303)

L	T	P
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Course Name: Graduation Project - Development 2 (AE Project Shoot)

Course Code: ANM 303

Course Credit Hour: 2

Total Contact Hour:2

COURSE OBJECTIVES:

- Advanced After Effects Techniques: Dive deeper into After Effects, exploring advanced features and techniques such as advanced motion tracking, green screen keying, 3D compositing, and particle effects. Master the tools necessary to create professional-grade visual effects and motion graphics.
- Storyboarding and Conceptualization: Develop a compelling narrative concept and storyboard for your film project, incorporating visual effects and motion graphics elements seamlessly into the storyline. Learn how to effectively communicate your vision and translate it into a cohesive visual narrative.
- Production Planning and Execution: Utilize pre-production planning skills to organize logistics, secure resources, and assemble a production team. Coordinate the execution of your film project, managing timelines, budgets, and production schedules to ensure a smooth workflow on set.
- Cinematic Filmmaking Techniques: Explore advanced cinematography techniques, lighting setups, and camera movements to capture visually stunning footage that complements your visual effects and motion graphics seamlessly. Learn how to manipulate camera angles and perspectives to enhance storytelling and evoke emotion.
- Integration of Visual Effects and Motion Graphics: Apply your After Effects expertise to integrate visual effects and motion graphics seamlessly into your film project, enhancing storytelling, adding depth, and creating immersive cinematic experiences. Learn techniques for blending CGI elements with live-action footage and creating realistic interactions between digital and practical elements.
- Sound Design and Post-production: Enhance the cinematic experience of your film project through immersive sound design and audio post-production techniques. Learn how to manipulate sound effects, music, and dialogue to create atmosphere, convey emotion, and enhance the overall impact of your film.
- Editing and Finalization: Refine and polish your film project through the editing process, assembling footage, adding visual effects and motion graphics, and fine-tuning pacing and timing for maximum impact. Learn techniques for color grading, visual effects compositing, and seamless transition between scenes to create a cohesive final product.

Course Description:

This advanced course will bridge the gap between After Effects mastery and real-world filmmaking by guiding students through the creation of a dynamic film project. Building upon the knowledge of After Effects, students will learn how to seamlessly integrate visual effects, motion graphics, and compositing techniques into a cohesive narrative, elevating the quality and impact of a film.

Course Content:

- Pre-Production
    - Screenplay
    - Storyboard
- Production
    - Finalizing location and character
    - Shoot
- Post Production
    - 3D and Comp
    - Edit and color correction
    - Patchwork and Final render

Course Outcomes:

- **CO1:** Advanced After Effects Proficiency: Master advanced After Effects techniques for creating professional-grade visual effects and motion graphics.

- **CO2:** Seamless Integration of VFX in Filmmaking: Learn to seamlessly integrate visual effects and motion graphics into cinematic storytelling, enhancing narrative depth and impact.

- **CO3:** Advanced Cinematography Skills: Develop advanced cinematography skills to capture visually stunning footage that complements visual effects seamlessly.

- **CO4:** Effective Sound Design Techniques: Enhance the cinematic experience through immersive sound design and audio post-production techniques, adding depth and emotion to your film project.

- **CO5:** Polished Editing and Post-Production: Refine and polish your film project through advanced editing techniques, color grading, and visual effects compositing for a professional final product.

- **CO6:** Comprehensive Project Execution: Execute a dynamic film project from concept to completion, demonstrating mastery of After Effects integration and advanced filmmaking techniques.

Recommended Resources

- The Filmmaker's Guide to Visual Effects: The Art and Techniques of VFX for Directors, Producers, Editors and Cinematographers.
- The Basics of Filmmaking: Screenwriting, Producing, Directing, Cinematography, Audio, & Editing

Bachelor of Vocation (3D Animation) 3rd Year
Semester 5
Graduation Project - (Story & idea Development) (ANM 305)

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2	1	4

Course Name: Graduation Project - (Story & idea Development) Course Code: ANM 305

Course Credit Hour: 7 Total Contact Hour:3

Course Description:

The "Graduation Project: (Story & idea dev.)" course provides undergraduate students with the opportunity to conceptualize, develop, and present a comprehensive creative project as part of their academic journey. Through a combination of theoretical learning and practical application, students explore various aspects of storytelling, idea development, and project planning to create a cohesive and compelling narrative. Emphasis is placed on the iterative process of brainstorming, researching, drafting, and refining ideas to produce a final project proposal that demonstrates both creativity and feasibility. By the end of the course, students will have developed a solid foundation for their graduation project and acquired essential skills for creative problem-solving and project management.

Course Objectives:

1. To familiarize students with the principles and techniques of storytelling and idea development across different mediums and genres.
2. To encourage students to explore diverse sources of inspiration and conduct research to inform their creative projects.
3. To guide students through the iterative process of brainstorming, drafting, and refining project ideas to develop a compelling narrative concept.
4. To cultivate students' skills in project planning, including setting goals, establishing timelines, and allocating resources effectively.
5. To foster collaboration and peer feedback in a supportive and constructive environment to enhance project development.
6. To equip students with the tools and strategies for presenting their ideas confidently and persuasively to stakeholders.
7. To instill in students a sense of ownership and responsibility for their creative projects, promoting autonomy and initiative.
8. To prepare students for the successful execution and completion of their graduation project, setting them on a path towards professional fulfillment and achievement.

Course Outcomes:

1. Develop a clear understanding of storytelling principles and their application in creative projects.
2. Generate and refine project ideas through systematic brainstorming and research methods.
3. Create a comprehensive project proposal that outlines the concept, scope, and objectives of the graduation project.
4. Demonstrate effective project planning skills, including setting SMART goals and creating action plans.
5. Collaborate with peers to give and receive constructive feedback, enhancing the quality of project ideas.
6. Present project ideas confidently and convincingly to peers, instructors, and external stakeholders.
7. Take ownership of the creative process and demonstrate initiative in project development and management.
8. Lay the groundwork for the successful execution and completion of the graduation project, positioning oneself for future success in the creative industry.

Course Content:

1. Understanding Storytelling: Principles and Techniques
    - Elements of narrative structure
    - Character development and arc
    - Plot development and pacing
2. Idea Generation and Research
    - Finding inspiration from various sources
    - Conducting research to inform project ideas
    - Brainstorming techniques and exercises
3. Concept Development and Refinement
    - Drafting and revising project proposals
    - Establishing project goals and objectives
    - Creating mood boards and visual references
4. Project Planning and Presentation
    - Setting timelines and milestones
    - Allocating resources and budgeting
    - Crafting persuasive presentations and pitches

Recommended Reading References:

1. "The Anatomy of Story: 22 Steps to Becoming a Master Storyteller" by John Truby
2. "Save the Cat! Writes a Novel: The Last Book On Novel Writing You'll Ever Need" by Jessica Brody

3. "Steal Like an Artist: 10 Things Nobody Told You About Being Creative" by Austin Kleon
4. "Story: Substance, Structure, Style and the Principles of Screenwriting" by Robert McKee
5. "The Hero with a Thousand Faces" by Joseph Campbell
6. "Show Your Work!: 10 Ways to Share Your Creativity and Get Discovered" by Austin Kleon
7. "Creative Confidence: Unleashing the Creative Potential Within Us All" by Tom Kelley and David Kelley
8. "The War of Art: Break Through the Blocks and Win Your Inner Creative Battles" by Steven Pressfield

Bachelor of Vocation (3D Animation) 3rd Year
Semester 5
Graduation Project - (Idea Development & finalization) (ANM 307)

L	T	P
2	1	5

Course Name: Graduation Project - (Idea Development. & finalization)
Course Code: ANM 307
Course Credit Hour: 8 Total Contact Hour:3

Course Description:
The "Graduation Project: (Idea Dev. & Finalisation)" course is designed to guide undergraduate students through the process of refining and finalizing their graduation project ideas. Building upon the foundational concepts introduced in previous courses, students delve deeper into their chosen topics, conducting thorough research, and exploring various creative approaches to project development. Through a combination of individual and group exercises, students learn to critically evaluate their ideas, identify strengths and weaknesses, and make informed decisions to shape their projects into compelling and feasible endeavors. By the end of the course, students will have honed their project proposals, laying the groundwork for the successful execution of their graduation projects.

Course Objectives:

1. To provide students with advanced tools and techniques for idea development and refinement.
2. To guide students in conducting in-depth research and analysis to inform their project concepts.
3. To foster critical thinking and evaluation skills to assess the viability and potential impact of project ideas.
4. To facilitate collaborative discussions and peer feedback sessions to enrich project development.
5. To empower students to make strategic decisions and modifications to their project ideas based on feedback and analysis.
6. To assist students in finalizing their project proposals, including defining objectives, scope, and methodology.
7. To cultivate effective communication skills for presenting and defending project ideas to stakeholders.
8. To prepare students for the next phase of their graduation project journey with a well-developed and refined project concept.

Course Outcomes:

1. Develop advanced skills in idea generation, evaluation, and refinement.
2. Conduct thorough research and analysis to support project development.
3. Critically evaluate project ideas to assess feasibility, relevance, and originality.
4. Engage in constructive peer feedback sessions to enhance project concepts.
5. Make informed decisions and modifications to project ideas based on feedback and analysis.
6. Finalize project proposals with clearly defined objectives, scope, and methodology.
7. Communicate project ideas effectively through written and oral presentations.
8. Prepare a well-developed and refined project concept as a foundation for the next phase of the graduation project.

Course Content:

1. Advanced Idea Generation Techniques
    - Brainstorming exercises
    - Mind mapping and concept mapping
    - Creative visualization techniques
2. In-Depth Research and Analysis
    - Literature review and case studies
    - Market analysis and audience research
    - Ethical considerations and risk assessment
3. Project Evaluation and Decision Making
    - SWOT analysis (Strengths, Weaknesses, Opportunities, Threats)
    - Feasibility studies and cost-benefit analysis
    - Project prioritization and resource allocation
4. Finalizing Project Proposals
    - Defining project objectives, scope, and deliverables
    - Creating project timelines and milestones
    - Developing a project implementation plan

Recommended Reading References:

1. "The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses" by Eric Ries
2. "Designing Your Life: How to Build a Well-Lived, Joyful Life" by Bill Burnett and Dave Evans
3. "Creative Confidence: Unleashing the Creative Potential Within Us All" by Tom Kelley and David Kelley
4. "Sprint: How to Solve Big Problems and Test New Ideas in Just Five Days" by Jake Knapp
5. "Thinking, Fast and Slow" by Daniel Kahneman
6. "The Design of Everyday Things" by Don Norman
7. "The Creative Habit: Learn It and Use It for Life" by Twyla Tharp

8. "The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail" by Clayton M. Christensen

Bachelor of Vocation (3D Animation) 3rd Year
Semester 5
Graduation Project - (Project Development & Asset Creation) (ANM 309)

L	T	P
2	1	4

Course Name: Graduation Project - (Project Development & Asset Creation)
Course Code: ANM 309
Course Credit Hour: 7 Total Contact Hour:3

Course Description:

The "Graduation Project: (Project Dev & Asset Creation)" course is designed to guide undergraduate students through the development phase of their graduation projects, focusing on asset creation and project execution. Building upon the concepts and skills acquired in previous courses, students will learn advanced techniques for asset creation, including modeling, texturing, rigging, and animation. Through hands-on exercises and project-based learning, students will apply industry-standard tools and workflows to bring their project concepts to life. Emphasis will be placed on creativity, technical proficiency, and collaboration as students work towards realizing their vision for their graduation projects.

Course Objectives:

1. To equip students with advanced skills in 3D asset creation and animation for film, animation, or interactive media projects.
2. To provide students with practical experience in using industry-standard software and tools for modeling, texturing, rigging, and animation.
3. To foster creativity and innovation in the development of project assets, including characters, environments, props, and effects.
4. To facilitate collaborative project development, including team-based asset creation and integration into cohesive project pipelines.
5. To cultivate problem-solving skills and adaptability in addressing technical challenges and optimizing project workflows.
6. To guide students in applying best practices for project organization, file management, and version control to ensure project integrity and efficiency.
7. To encourage experimentation and exploration of emerging trends and technologies in digital media production.
8. To prepare students for the final presentation and exhibition of their graduation projects, showcasing their creative and technical achievements.

Course Outcomes:

1. Demonstrate proficiency in 3D asset creation techniques, including modeling, texturing, rigging, and animation.
2. Apply industry-standard software and tools effectively to develop high-quality project assets.
3. Generate original and engaging characters, environments, props, and effects for their graduation projects.
4. Collaborate effectively with team members to integrate project assets into cohesive pipelines.
5. Identify and solve technical challenges encountered during the asset creation process.
6. Organize project files, manage versions, and maintain project integrity throughout the development phase.
7. Experiment with new techniques, tools, and technologies to enhance project quality and efficiency.
8. Prepare for the final presentation and exhibition of their graduation projects, demonstrating creative and technical achievements.

Course Content:

1. Advanced 3D Modeling Techniques
    - Organic and hard-surface modeling
    - Polygonal and NURBS modeling
    - Sculpting and retopology
2. Texturing and Shading
    - Texture painting and mapping
    - Procedural texturing
    - Shader creation and material properties
3. Rigging and Animation
    - Character rigging and skinning
    - Key frame and procedural animation
    - Motion capture integration
4. Asset Integration and Pipeline Development
    - Asset import/export workflows
    - Scene assembly and layout
    - Project organization and file management

Recommended Reading References:

1. "Digital Character Development: Theory and Practice" by Rob O'Neill
2. "The Art of 3D Computer Animation and Effects" by Isaac Kerlow
3. "Animating Real-Time Game Characters" by Paul Steed
4. "Texturing and Modeling: A Procedural Approach" by David S. Ebert
5. "Rig it Right! Maya Animation Rigging Concepts" by Tina O'Hailey

6. "The Animator's Survival Kit" by Richard Williams
7. "Blender Foundations: The Essential Guide to Learning Blender 2.6" by Roland Hess
8. "CG101: A Computer Graphics Industry Reference" by Terrence Masson

Bachelor of Vocation (3D Animation) 3rd Year
Semester 5
Graduation Project - (Look Development 1) (ANM 311)

L	T	P
1	1	1

Course Name: Graduation Project - (Look Development 1) Course Code: ANM 311

Course Credit Hour: 3 Total Contact Hour:2

Course Description:

The Graduation Project: Look Development 1 course is designed to equip undergraduate students with the fundamental skills and techniques necessary to develop the visual style and aesthetic of their final graduation projects. Through a combination of theoretical lectures and hands-on exercises, students will explore various aspects of look development, including color theory, lighting, texturing, and rendering. By the end of the course, students will have the knowledge and practical experience to define and implement the visual identity of their projects, ensuring they meet their creative vision and objectives.

Course Objectives:

1. To understand the principles and theories of visual aesthetics and look development.
2. To develop proficiency in using industry-standard software tools and techniques for look development.
3. To apply creative problem-solving skills to establish the visual style and mood of a project.
4. To experiment with different lighting, texturing, and rendering techniques to achieve desired visual effects.
5. To critically analyze and evaluate the effectiveness of look development choices in conveying mood, tone, and narrative.

Course Outcomes:

By the end of the course, students should be able to:

1. Demonstrate a solid understanding of visual aesthetics and their application in look development.
2. Utilize industry-standard software tools to create and manipulate textures, shaders, and lighting setups.

3. Develop a cohesive visual style and aesthetic for their graduation projects that aligns with their creative vision.
4. Experiment with various lighting setups and rendering techniques to achieve desired visual effects.
5. Critically evaluate and iterate on their look development choices to enhance the overall quality of their projects.

Course Content:

1. Introduction to Look Development
    - Principles of visual aesthetics
    - Overview of the look development pipeline
2. Color Theory and Texture Creation
    - Understanding color psychology and symbolism
    - Techniques for creating and manipulating textures
3. Lighting and Rendering
    - Basics of lighting theory and techniques
    - Introduction to rendering engines and settings
4. Mood and Atmosphere
    - Creating mood boards and style guides
    - Experimenting with different lighting and color schemes

Recommended Reading References:

1. "Color and Light: A Guide for the Realist Painter" by James Gurney
2. "Digital Texturing and Painting" by Owen Demers
3. "Rendering in SketchUp: From Modeling to Presentation for Architecture, Landscape Architecture, and Interior Design" by Daniel Tal
4. "The Art and Science of Digital Compositing" by Ron Brinkmann
5. "Lighting for Animation: The Art of Visual Storytelling" by Jasmine Katatikarn and Michael Tanzillo
6. "Realistic Architectural Visualization with 3ds Max and mental ray" by Roger Cusson and Jamie Cardoso
7. "Texturing and Modeling: A Procedural Approach" by David S. Ebert et al.
8. "The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures" by Jeffrey A. Okun and Susan Zwerman

Bachelor of Vocation (3D Animation) 3rd Year
Semester 5
Graduation Project - (Look Development 2) (ANM 313)

L	T	P
1	1	1

Course Name: Graduation Project - (Look Development 2) Course Code: ANM 313

Course Credit Hour: 3 Total Contact Hour:2

Course Description:
Graduation Project: Look Development 2 is an advanced course focusing on refining and enhancing the visual aesthetics and look of students' final graduation projects. Building upon the foundational knowledge acquired in Look Development 1, this course delves deeper into the principles and techniques of look development, with a specific emphasis on advanced texturing, shading, lighting, and rendering. Through a combination of theoretical lectures, practical demonstrations, and hands-on projects, students will further develop their skills in creating compelling visual narratives and atmospheres that align with their creative vision.

Course Objectives:

1. To deepen students' understanding of advanced texturing, shading, and lighting techniques for achieving realistic and immersive visual effects.
2. To explore advanced rendering technologies and workflows to enhance the quality and realism of their final projects.
3. To encourage experimentation and creativity in developing unique and visually impactful looks for their graduation projects.
4. To refine students' ability to analyze and critique their own work and the work of their peers to continually improve their craft.
5. To prepare students for successful careers in the fields of animation, visual effects, and digital media production through the development of a professional-level portfolio.

Course Outcomes:

By the end of the course, students should be able to:

1. Apply advanced texturing, shading, and lighting techniques to create highly detailed and realistic assets for their graduation projects.
2. Implement complex rendering setups and optimizations to achieve high-quality final renders.
3. Demonstrate a sophisticated understanding of visual aesthetics and how they contribute to the overall look and feel of a project.

4. Develop a professional-level portfolio showcasing their mastery of look development techniques and their ability to create visually compelling narratives.
5. Collaborate effectively with peers and industry professionals to achieve common creative goals.

Course Content:

1. Advanced Texturing and Shading Techniques
    - Procedural texturing workflows
    - Material layering and blending techniques
2. Advanced Lighting and Rendering
    - Global illumination and ray tracing
    - HDRI lighting setups and image-based lighting
3. Atmospheric Effects and Visual Storytelling
    - Creating believable atmospheres and environmental effects
    - Incorporating visual storytelling elements into the look development process

Recommended Reading References:

1. "Texturing and Modeling: A Procedural Approach" by David S. Ebert et al.
2. "Advanced RenderMan: Creating CGI for Motion Pictures" by Anthony A. Apodaca and Larry Gritz
3. "Digital Lighting and Rendering" by Jeremy Birn
4. "Real-Time Rendering" by Tomas Akenine-Möller, Eric Haines, and Naty Hoffman
5. "The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures" by Jeffrey A. Okun and Susan Zwerman
6. "CGI Filmmaking: The Creation of Ghost Warrior" by Timothy Albee
7. "The Art and Science of Digital Compositing" by Ron Brinkmann
8. "Color and Light: A Guide for the Realist Painter" by James Gurney

Bachelor of Vocation (3D Animation) 3rd Year
Semester 5
Graduation Project - (Project Finalization & Presentation) (ANM 315)

L	T	P
1	1	1

Course Name: Graduation Project - (Project Finalization & Presentation)

Course Code: ANM 315

Course Credit Hour: 3

Total Contact Hour:2

Course Description:
Graduation Project: Project Finalization & Presentation course designed to guide students through the final stages of completing their graduation projects and preparing them for presentation to industry professionals, faculty, and peers. Through a combination of workshops, critiques, and practical exercises, students will refine their projects, polish their presentations, and develop the necessary skills to effectively communicate their creative vision and process. Emphasis will be placed on project management, professional presentation techniques, and the development of a cohesive portfolio that showcases students' skills and accomplishments.

Course Objectives:

1. To guide students through the final stages of their graduation projects, including refinement, polish, and presentation preparation.
2. To equip students with the skills and strategies necessary to effectively manage their time, resources, and workflow to meet project deadlines.
3. To foster critical thinking and problem-solving skills by addressing challenges and obstacles that arise during the finalization process.
4. To enhance students' ability to communicate their creative vision, process, and outcomes through professional presentations and portfolio development.
5. To prepare students for successful transition into the workforce or further studies through the development of a comprehensive and cohesive portfolio.

Course Outcomes:

By the end of the course, students should be able to:

1. Demonstrate proficiency in project management, including time management, resource allocation, and task prioritization.
2. Present their graduation projects effectively to diverse audiences, including industry professionals, faculty, and peers.

3. Apply critical thinking and problem-solving skills to address challenges and refine their projects to meet professional standards.
4. Develop a comprehensive and cohesive portfolio that showcases their skills, accomplishments, and creative vision.
5. Communicate their creative process, decision-making, and outcomes in a clear, concise, and compelling manner.
6. Collaborate effectively with peers, faculty, and industry professionals to seek feedback, support, and guidance.
7. Reflect on their learning journey and identify areas for personal and professional growth.
8. Prepare for successful transition into the workforce or further studies by leveraging their portfolio and presentation skills.

Course Content:

1. Project Refinement and Polish
    - Reviewing and revising project components to enhance quality and coherence
    - Conducting final testing and quality assurance checks
2. Professional Presentation Skills
    - Developing effective presentation materials, including slideshows, demos, and documentation
    - Practicing presentation techniques, such as public speaking, storytelling, and audience engagement
3. Portfolio Development
    - Curating and organizing project work for inclusion in a professional portfolio
    - Creating portfolio presentations and documentation for online and offline distribution
4. Project Management and Career Preparation
    - Finalizing project documentation, including project plans, reports, and summaries
    - Exploring career opportunities, networking strategies, and professional development resources

Recommended Reading References:

1. "Presentation Zen: Simple Ideas on Presentation Design and Delivery" by Garr Reynolds
2. "The Non-Designer's Design Book" by Robin Williams
3. "Show Your Work!: 10 Ways to Share Your Creativity and Get Discovered" by Austin Kleon
4. "Steal Like an Artist: 10 Things Nobody Told You About Being Creative" by Austin Kleon
5. "The Portfolio Handbook: A Guide to Creating Your Graphic Design Portfolio" by Carolyn Knight and Jessica Glaser
6. "Creative Workshop: 80 Challenges to Sharpen Your Design Skills" by David Sherwin
7. "Making Ideas Happen: Overcoming the Obstacles Between Vision and Reality" by Scott Belsky
8. "The Artist's Guide to Grant Writing: How to Find Funds and Write Foolproof Proposals for the Visual, Literary, and Performing Artist" by Gigi Rosenberg

Bachelor of Vocation (3D Animation) 3rd Year
Semester 6
Graduation Project - Internal Mentorship 1 (ANM 302)

L	T	P
1	1	2

Course Name: Graduation Project - Internal Mentorship 1 Course Code: ANM 302

Course Credit Hour: 4 Total Contact Hour:2

Course Description:
Graduation Project - Internal Mentorship 1 is an undergraduate course designed to provide students with personalized guidance and support as they embark on their graduation projects. Through one-on-one mentorship sessions with faculty mentors, students will receive feedback, advice, and direction tailored to their individual project goals and needs. The course aims to facilitate the development of students' creative projects by offering mentorship in areas such as project conceptualization, research, planning, execution, and reflection. By fostering a supportive and collaborative learning environment, the course empowers students to navigate the challenges of their graduation projects and make meaningful progress towards their goals.

Course Objectives:

1. To provide students with individualized mentorship and support for the successful completion of their graduation projects.
2. To help students define clear project objectives, timelines, and milestones aligned with their academic and professional aspirations.
3. To guide students in conducting research, gathering resources, and developing a comprehensive understanding of their project topics and themes.
4. To assist students in refining their creative vision, exploring innovative approaches, and pushing the boundaries of their artistic practice.
5. To cultivate students' critical thinking, problem-solving, and decision-making skills through constructive feedback and dialogue with mentors.
6. To foster a collaborative and supportive learning environment where students can share ideas, seek advice, and learn from each other's experiences.
7. To encourage students to reflect on their progress, identify areas for improvement, and adapt their project plans accordingly.
8. To empower students to take ownership of their learning journey, pursue their passions, and strive for excellence in their graduation projects.

Course Outcomes:

By the end of the course, students should be able to:

1. Define clear project objectives, timelines, and milestones for their graduation projects.
2. Conduct research, gather resources, and develop a comprehensive understanding of their project topics and themes.
3. Refine their creative vision, explore innovative approaches, and experiment with different techniques and methodologies.
4. Receive constructive feedback, advice, and guidance from faculty mentors to enhance the quality and impact of their projects.
5. Demonstrate progress and growth in their creative practice, problem-solving abilities, and critical thinking skills.
6. Collaborate effectively with mentors and peers to share ideas, seek support, and offer assistance.
7. Reflect on their learning journey, evaluate their strengths and weaknesses, and identify areas for further development.
8. Take ownership of their graduation projects, demonstrate resilience and perseverance, and strive for excellence in their creative endeavors.

Course Content:

1. Project Planning and Goal Setting
    - Defining project objectives, scope, and deliverables
    - Establishing timelines, milestones, and deadlines
2. Research and Concept Development
    - Conducting background research and literature reviews
    - Generating ideas, concepts, and hypotheses
3. Creative Exploration and Experimentation
    - Exploring different techniques, tools, and methodologies
    - Experimenting with materials, mediums, and processes
4. Feedback and Revision
    - Seeking feedback from mentors and peers
    - Revising and refining project concepts, designs, and prototypes

Recommended Reading References:

1. "The Creative Habit: Learn It and Use It for Life" by Twyla Tharp
2. "Art & Fear: Observations on the Perils (and Rewards) of Artmaking" by David Bayles and Ted Orland
3. "Steal Like an Artist: 10 Things Nobody Told You About Being Creative" by Austin Kleon
4. "The War of Art: Break Through the Blocks and Win Your Inner Creative Battles" by Steven Pressfield

5. "Show Your Work!: 10 Ways to Share Your Creativity and Get Discovered" by Austin Kleon
6. "Making Ideas Happen: Overcoming the Obstacles Between Vision and Reality" by Scott Belsky
7. "The Artist's Way: A Spiritual Path to Higher Creativity" by Julia Cameron
8. "Creative Confidence: Unleashing the Creative Potential Within Us All" by Tom Kelley and David Kelley

Bachelor of Vocation (3D Animation) 3rd Year
Semester 6
Graduation Project - Internal Mentorship 2 (ANM 304)

L	T	P
1	1	2

Course Name: Graduation Project - Internal Mentorship 2 Course Code: ANM 304

Course Credit Hour: 4 Total Contact Hour:2

Course Description:
Graduation Project - Internal Mentorship 2 course designed to provide continued mentorship and support to students as they progress with their graduation projects. Building on the foundation established in Internal Mentorship 1, this course offers students the opportunity to refine and develop their creative projects with the guidance of faculty mentors. Through individualized mentorship sessions, students will receive feedback, critique, and advice to further enhance their project outcomes. The course emphasizes the integration of research, experimentation, and critical reflection to produce high-quality creative works that demonstrate students' artistic vision and technical proficiency.

Course Objectives:

1. To provide advanced mentorship and support for students in the final stages of their graduation projects.
2. To facilitate the refinement and development of students' creative concepts, designs, and prototypes.
3. To encourage students to engage in in-depth research, experimentation, and exploration to push the boundaries of their projects.
4. To guide students in effectively integrating feedback, critique, and revisions into their project workflow.
5. To foster collaboration, peer review, and interdisciplinary dialogue to enrich students' creative processes.
6. To promote critical reflection, self-assessment, and continuous improvement in students' artistic practice.
7. To prepare students for the presentation, exhibition, and dissemination of their graduation projects to broader audiences.
8. To empower students to take ownership of their creative projects, showcase their skills, and make meaningful contributions to their chosen fields.

Course Outcomes:

By the end of the course, students should be able to:

1. Demonstrate advanced progress and refinement in their graduation projects, incorporating feedback and critique from mentors and peers.
2. Apply research, experimentation, and exploration to further develop and expand the scope of their creative concepts and designs.
3. Showcase technical proficiency, artistic vision, and innovation in the execution of their graduation projects.
4. Effectively communicate their creative process, insights, and outcomes to diverse audiences through presentations, exhibitions, or other forms of dissemination.
5. Collaborate with mentors, peers, and external stakeholders to gather input, seek support, and foster interdisciplinary dialogue.
6. Reflect critically on their artistic practice, identifying strengths, weaknesses, and areas for further growth and development.
7. Prepare professional-quality documentation, portfolios, or other materials to showcase their graduation projects to potential employers or clients.
8. Demonstrate resilience, adaptability, and problem-solving skills in overcoming challenges and obstacles encountered during the project development process.

Course Content:

1. Advanced Project Development and Execution
    - Refining project objectives, scope, and deliverables
    - Implementing advanced techniques, tools, and methodologies
2. In-depth Research and Experimentation
    - Conducting specialized research in relevant areas of interest
    - Experimenting with cutting-edge technologies, materials, or processes
3. Integration of Feedback and Critique
    - Incorporating feedback from mentors, peers, and industry professionals
    - Revising and refining project concepts, designs, and prototypes
4. Presentation and Dissemination Strategies
    - Preparing for public presentations, exhibitions, or showcases
    - Creating professional-quality documentation, portfolios, or demo reels

Recommended Reading References:

1. "Art & Fear: Observations on the Perils (and Rewards) of Artmaking" by David Bayles and Ted Orland
2. "Steal Like an Artist: 10 Things Nobody Told You About Being Creative" by Austin Kleon
3. "The War of Art: Break Through the Blocks and Win Your Inner Creative Battles" by Steven Pressfield

4. "Show Your Work!: 10 Ways to Share Your Creativity and Get Discovered" by Austin Kleon
5. "Making Ideas Happen: Overcoming the Obstacles Between Vision and Reality" by Scott Belsky
6. "The Artist's Way: A Spiritual Path to Higher Creativity" by Julia Cameron
7. "Creative Confidence: Unleashing the Creative Potential Within Us All" by Tom Kelley and David Kelley
8. "Art, Inc.: The Essential Guide for Building Your Career as an Artist" by Lisa Congdon

Bachelor of Vocation (3D Animation) 3rd Year
Semester 6
Graduation Project - External Mentorship (Animation Studio) (ANM 306)

L	T	P
1	2	2

Course Name: Graduation Project - External Mentorship (Animation Studio)
Course Code: ANM 306
Course Credit Hour: 5 Total Contact Hour:3

Course Description:
Graduation Project – External Mentorship is an advanced undergraduate course designed to provide students with personalized mentorship and guidance from external industry professionals as they work on their graduation projects. Through one-on-one mentorship sessions and feedback exchanges, students will have the opportunity to benefit from the expertise and experience of mentors in their chosen field. The course aims to enhance students' creative and technical skills, foster professional networking opportunities, and facilitate real-world insights into industry practices and standards. By engaging with external mentors, students will gain valuable perspectives, insights, and support to help them successfully navigate the final stages of their graduation projects.

Course Objectives:

1. To provide students with access to industry professionals who can offer expert guidance, feedback, and mentorship on their graduation projects.
2. To support students in refining and advancing their creative concepts, designs, and prototypes through personalized mentorship sessions.
3. To facilitate networking opportunities and professional connections between students and external mentors in relevant industries or disciplines.
4. To expose students to real-world insights, best practices, and industry standards in their chosen field of study or professional interest.
5. To empower students to critically evaluate their work, seek constructive feedback, and integrate mentor input into their project development process.
6. To enhance students' communication, presentation, and interpersonal skills through interactions with external mentors and industry professionals.
7. To inspire students to think creatively, solve problems innovatively, and approach their graduation projects with confidence and professionalism.
8. To prepare students for future career opportunities, internships, or employment prospects by leveraging the knowledge and expertise gained from external mentors.

Course Outcomes:

By the end of the course, students should be able to:

1. Establish productive and meaningful relationships with external mentors in their chosen field or industry.
2. Receive personalized guidance and feedback on their graduation projects from experienced industry professionals.
3. Incorporate mentor input and advice to refine and improve the quality of their creative concepts, designs, and prototypes.
4. Develop a deeper understanding of industry practices, trends, and standards relevant to their field of study or professional interest.
5. Demonstrate enhanced communication, collaboration, and networking skills through interactions with external mentors.
6. Showcase a heightened level of professionalism, adaptability, and resilience in navigating the challenges of their graduation projects.
7. Present their work confidently and effectively, articulating their creative vision, process, and outcomes to external mentors and peers.
8. Cultivate long-term relationships and connections with external mentors that may lead to future career opportunities or collaborations.

Course Content:

1. Introduction to External Mentorship
    - Overview of the mentorship process and expectations
    - Identification of relevant industry professionals and mentors
2. Mentorship Sessions and Feedback Exchanges
    - One-on-one meetings with external mentors to discuss project progress and challenges
    - Exchange of feedback, suggestions, and insights to support project development
3. Networking and Professional Development
    - Opportunities to connect with external mentors and industry professionals through workshops, events, or networking sessions
    - Exploration of career pathways, internships, and employment opportunities in collaboration with mentors
4. Project Refinement and Finalization
    - Integration of mentor feedback into project revisions and refinements
    - Preparation for project presentations, exhibitions, or showcases with mentor support

Recommended Reading References:

1. "Creative Mentorship and Career-Building Strategies: How to Build your Virtual Personal Board of Directors" by Denise K. Fletcher
2. "The Mentor's Guide: Facilitating Effective Learning Relationships" by Lois J. Zachary

3. "Mentor: The Kid & the CEO" by Tom Pace and Walter Jenkins
4. "The Art of Mentoring: Lead, Follow and Get Out of the Way" by Darlene Montgomery
5. "The Mentee's Guide: Making Mentoring Work for You" by Lois J. Zachary
6. "The Mentor Leader: Secrets to Building People and Teams That Win Consistently" by Tony Dungy
7. "The Power of Mentoring: Shaping People Who Will Shape the World" by Martin Sanders
8. "The Mentor's Field Guide: Answers You Need to Help Kids Succeed" by Gail Manza and Susan K. Patrick

Bachelor of Vocation (3D Animation) 3rd Year
Semester 6
Graduation Project - Final Display (ANM 308)

L	T	P
1	2	9

Course Name: Graduation Project - Final Display Course Code: ANM 308

Course Credit Hour: 12 Total Contact Hour:3

Course Description:

The Graduation Project – Final course is the culmination of undergraduate studies, providing students with an opportunity to showcase their creative, technical, and scholarly achievements through a comprehensive final project. Students will integrate the knowledge, skills, and insights gained throughout their academic journey to conceptualize, develop, and execute a substantial project within their chosen field of specialization. Emphasizing creativity, innovation, and critical thinking, this course encourages students to push the boundaries of their discipline, explore new ideas, and demonstrate their readiness to enter the professional world. Through mentorship, peer collaboration, and faculty guidance, students will produce a final project that reflects their individual talents, interests, and aspirations, setting the stage for future success in their chosen careers.

Course Objectives:

1. To provide students with an opportunity to apply and demonstrate the knowledge, skills, and techniques acquired during their undergraduate studies through the development of a comprehensive final project.
2. To foster creativity, innovation, and critical thinking skills by encouraging students to explore new ideas, experiment with different approaches, and push the boundaries of their chosen field of specialization.
3. To cultivate interdisciplinary collaboration and teamwork by facilitating interactions between students from diverse academic backgrounds who share common interests and goals.
4. To enhance students' research, problem-solving, and project management abilities through the planning, execution, and documentation of a substantial independent project.
5. To encourage students to engage with industry professionals, peers, and faculty mentors for feedback, guidance, and support throughout the development of their final project.
6. To promote effective communication, presentation, and storytelling skills by requiring students to articulate their project concept, process, and outcomes to diverse audiences.

7. To prepare students for transition into the professional world by equipping them with a portfolio of work that demonstrates their capabilities, interests, and potential contributions to their chosen field.
8. To celebrate and recognize students' achievements and contributions to their academic community through the public exhibition, presentation, or showcase of their final projects.

Course Outcomes:

By the end of the course, students should be able to:

1. Conceptualize, plan, and execute a comprehensive final project that demonstrates creativity, innovation, and technical proficiency.
2. Apply interdisciplinary knowledge and skills to address complex problems and challenges within their chosen field of specialization.
3. Collaborate effectively with peers, mentors, and industry professionals to seek feedback, guidance, and support for their final project.
4. Conduct in-depth research, analysis, and evaluation to inform the development and implementation of their project concept.
5. Manage project timelines, resources, and deliverables to ensure successful completion of their final project within specified deadlines.
6. Communicate project concepts, methodologies, and outcomes clearly and persuasively to diverse audiences through written, oral, and visual presentations.
7. Reflect critically on their academic journey, personal growth, and professional development throughout the final project process.
8. Showcase their final project through public exhibitions, presentations, or showcases to celebrate their achievements and contributions to their academic community.

Course Content:

1. Project Conceptualization and Planning
    - Brainstorming, ideation, and concept development
    - Project proposal writing and approval process
    - Setting project goals, objectives, and timelines
2. Project Development and Execution
    - Research methodologies and data collection
    - Prototyping, iteration, and refinement
    - Collaboration, teamwork, and peer feedback
3. Project Documentation and Presentation
    - Writing project reports, documentation, and reflections
    - Creating visual presentations, portfolios, and showcases
    - Rehearsing and delivering project presentations to diverse audiences
4. Project Evaluation and Reflection
    - Self-assessment and critical reflection on project outcomes
    - Soliciting feedback from peers, mentors, and faculty
    - Identifying lessons learned, successes, and areas for improvement

Recommended Reading References:

1. "The Art of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm" by Tom Kelley and Jonathan Littman
2. "Creative Confidence: Unleashing the Creative Potential Within Us All" by Tom Kelley and David Kelley
3. "Designing Your Life: How to Build a Well-Lived, Joyful Life" by Bill Burnett and Dave Evans
4. "The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses" by Eric Ries
5. "Show Your Work!: 10 Ways to Share Your Creativity and Get Discovered" by Austin Kleon
6. "The War of Art: Break Through the Blocks and Win Your Inner Creative Battles" by Steven Pressfield
7. "Art & Fear: Observations on the Perils (and Rewards) of Artmaking" by David Bayles and Ted Orland
8. "The Creative Habit: Learn It and Use It for Life" by Twyla Tharp