LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (LOCF) FOR UNDER GRADUATE PROGRAMMES

Department of MULTIMEDIA AND ANIMATION

LOYOLA COLLEGE (AUTONOMOUS)

CHENNAI 600034

PREFACE

THE LOYOLA OUTCOME BASED CURRICULUM FRAMEWORK

FOR B.SC MULTIMEDIA & ANIMATION

FACING AN UNPRECEDENTED DEMAND

WITH FIRM FOUNDATIONS

At the outset, we wish to say Bravo to ourselves. As a young team leading an emerging degree programme, it has been a novel exercise for us in course output mapping. And that we have emerged satisfactorily successful is a call for cheer.

No to become complacent, not to rest on our laurels or lose sight of future goal stops… but to simply acknowledge that competing with an ever changing industry and its expensive hardware and software requirements from the comfort of academics is no small task.

On the one hand, we have these extremely creative, but often introverted, students who study immersive gaming and VFX. On the other hand, we face disruptive changes in software and technology; challenges of remote instruction and more.

As the pandemic continues to challenge us, and the industry scales up tremendously, we strive to instil in our dreamers and thinkers more than just software tools. The principles of aesthetics and visual art, the values of ethical character design, sensitivity to race, colour, creed, etc…

And all the while, we are constantly battling software upgradations. Animation is at the forefront of disruptive innovations today, and our students need not only strong foundations but also the know-how of the latest software tools.

Certain Free and Open Sourced Software options have provided us some relief, but they are still only short term solutions and leave our students at a disadvantage.

As we gear for the next academic restructuring due in 2022, we wish to focus on seamless software progression, optimising course specializations, and balancing our programme with industry expectations.

The LOCF exercise was both satisfying and inspiring. It has validated many of our classroom practices and curriculum design. It has also inspired us to intellectually justify the scientific workings of a creative mind.

We stand extremely proud of our classroom teaching, lab mentoring and handholding for creative projects. May the Animation course grown from strength to strength and may we soon offer a Masters in Multimedia and Animation in the near future. God Speed!

VISION AND MISSION OF LOYOLA COLLEGE

VISION

- Towards holistic formation of youth, grounded in excellence, through accompaniment to serve the humanity.

MISSION

- To provide inclusive education through an integral and holistic formative pedagogy.
- To promote skills that prepare them for the future.
- To kindle in young minds the spirit of social and environmental justice with a blend of academic excellence and empathy.
- To stimulate critical and conscientious scholarship leading to meaningful and innovative human Capital.

CORE VALUES

- Cura Personalise
- Pursuit of Excellence
- Moral Rectitude
- Social Equity
- Fostering solidarity
- Global Vision
- Spiritual Quotient

VISION AND MISSION OF THE DEPARTMENT

VISION

Enhancing the Department as a globally acclaimed Institution for learning visual communication and animation related areas.

MISSION

To achieve the highest standards in imparting quality education in different spheres of media, thereby forming socially responsible media professionals.
To empower students and faculty members to develop meaningful and effective voices in the society.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

(School of Media)

PEO 1	**PROFESSIONAL AND TECHNICAL SKILL DEVELOPMENT** To impart industry specific skills, develop creativity, knowledge to the students in media studies and to make them socially responsible and prudent citizens.
PEO 2	**CORE COMPETENCY AND ACADEMIC EXCELLENCE** To develop scope and enhance the core competencies in the chosen area of specialization and to provide access to quality education through the use of modern tools and techniques and to empower them with entrepreneurial skills.
PEO 3	**LOCALLY AND GLOBALLY RELEVANT CURRICULUM** To constantly strive to innovate, revise, update and upgrade the curriculum on par with the international standards and teaching methodologies to cater to the needs of the students and to make the teaching and learning relevant to the local and global context.
PEO 4	**SOCIAL RESPONSIBILITY AND ENVIRONMENTAL SUSTAINABILITY** To integrate social responsibility, concern towards the environment and create content for sustainable development into the curriculum of all media and communication specializations.
PEO 5	**HOLISTIC DEVELOPMENT AND PROFESSIONALISM ETHICS** To prioritize experiential learning through specialized and customized training and to understand the importance of life skills, holistic development, professional attitude, ethics, collaboration, critical thinking, accountability and multidisciplinary approach.
PEO 6	**INCLUSIVE AND ENABLING LEARNING ENVIRONMENT** To provide access to students, preferentially the underprivileged, an academic environment which is conducive to academic excellence, the urge of discovery, creativity, inventiveness, leadership and life-long learning.

PROGRAMME OUTCOMES (POs)

(School of Media)

PO 1	**DISCIPLINARY KNOWLEDGE AND SKILL DEVELOPMENT** Students will apply the inter-disciplinary knowledge acquired in classrooms and labs in real life situations and work environment. They will internalize the importance of arts that will enable them to become skilled professionals.
PO 2	**REFLECTIVE THINKING AND EFFECTIVE COMMUNICATION** Students will enhance their communication skills such as reading, writing, listening and speaking, visualising which will help them to express their ideas and views clearly and improve/acquire critical thinking.
PO 3	**PROFESSIONALISM AND ETHICS** Students will demonstrate the core competencies and professional ethics in their discipline through Analytical reasoning, Problem-solving, Research-related skills, Cooperation/Teamwork, Scientific reasoning and Reflective thinking and will emerge as entrepreneurs and become employable in various positions.
PO 4	**SOCIAL SKILLS AND INCLUSIVITY** Students will imbibe moral and social values in personal and social life leading to highly cultured and civilized personality and sensitized to gender, age, caste, religion, race, ethnicity and region and use education as a tool for equity, emancipation and empowerment of humanity.
PO 5	**MEDIA EDUCATION AND ENVIRONMENT SUSTAINABILITY** Students will understand socio-cultural, economic, political and media issues and will contribute towards the betterment of the human living environment and sustainable growth.
PO 6	**SELF- DIRECTED AND LIFELONG LEARNING** Through media and communication literacy, students will engage in self-paced and self-directed learning for personal development, professional

	accomplishment and social advancement.
PO 7	**MULTICULTURAL COMPETENCE AND LEADERSHIP QUALITY** Students will exhibit moral and ethical awareness/reasoning, Leadership readiness/qualities, Multicultural competence, diversity and become competent, committed, conscious, creative, and compassionate men and women for others.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

Department of Multimedia and Animation

PSO 1	Understand visual art elements and the principles of animation on different types of animation and anatomy.
PSO 2	Develop the art of storyboarding, graphic designing and character designing for 2D and 3D animation, and creating the pertinent context.
PSO 3	Create graphic user interfaces for various applications, creating the layouts with proper composition on par with industrial standards.
PSO 4	Analyze the social, economic, political, environmental, legal and ethical ramifications of technology and practice professional ethics through digital technologies.
PSO 5	Enhance skills in 3d character modelling, texturing, rigging and animation for films, new media, games and television using its principles and techniques, to work effectively in teams with industrial expertise.
PSO 6	Create aesthetic art for animation fluently using different techniques compatible with industrial requirements by exhibiting their skills and to remain life-long learners and pensive contributors to society.
PSO 7	Execute professional portfolios for internships, to pursue higher education and get placements both regionally and globally as effective industry leaders, entrepreneurs and professionals.

B. Sc Multimedia and Animation Restructured CBCS curriculum with effective from June, 2019

PART	SEMESTER I	SEMESTER II	SEMESTER III	SEMESTER IV	SEMESTER V		SEMESTER VI	CREDITS
I	G. Language (3h/3c)	G. Language (3h/3c)	G. Language (3h/3c)	G. Language (3h/3c)	3D animation (6h/6c)		Professional skills for animation (6h/6c)	12
II	General English (6h/3c)	General English (6h/3c)	General English (5h/3c)	General English (5h/3c)	Advance 2d Animation(6h/6c)		3D Dynamics (6h/6c)	12
III MC	Principles of Animation (3h/3c)	Stop motion animation (4h/4c)	2d Digital Animation(5h/5c)	Character Modelling (4h/4c)	Art and aesthetics (6h/6c)		Production management (6h/6c)	84
	Traditional Animation (3h/3c)	Graphic Design and Multimedia (4h/4c)	Story Board and Character Design (4h/4c)	Layout and Composting (3h/3c)	Documentation and Presentation skills (6h/6C)		Vfx and editing Techniques (6h/6c)	
	Story& Script (3h/3c)	Anatomy and figure Drawing (4h/4c)	3D Set Modelling (3h/3c)	Game Design (6h/6c)	Rigging and Animation (6h/6c)			
				Website and Apps Design (6h/6c)	Lighting and Compositing (6h/6c)			
AR/ AO	Digital Design (6h/3c)	Photography and Videography (6h/3c)	Infographics (5h/3c)	Media Entrepreneurship& Economics (5h/3c)				12
	Drawing for animation (6h/3c)	Traditional Media (6h/3c)						
ME			Visualization for animation (3h/2c)	Film Direction (3h/2c)				12
MS							Final Project (6h/3c) Internship (h/3c)	12 (MS&TP)
BT/AT /NME					MOOC/SSP			4
			Conservation Biology/Public Health and hygiene (3h/2c)	Green Technologies/Natural Hazards and Disaster Management (3h/2C)				
FC	FC (3/1)	FC (3/2), EVS	FC (2/1)	FC 2(1)				5
CCA	CC	CCA(90/1)						1
ORA			OR	OR (120/2)				2
Hr/C	**30h/22c**	**30h/(23+1c)**	**30/24c**	**30h(24+2c)**	**30h/30**	**30 days**	**30h/33c**	**180(159)**

Internship for 4 weeks during Christmas Holidays

Note : A theory paper shall have 4 to 7 contact hours and a practical session have 2 contact hour

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI

DEPARTMENT OF B. Sc MULTIMEDIA AND ANIMATION

(2019 - Restructured Curriculum)

OVERALL COURSE STRUCTURE

Sem	Subject Code	Course Title	T/L/P	Category*	Credit	Hours
I	UFR 1101 UOL 1101 UOL 1104 UTL 1101	French for beginners-I Hindi Prose – I General Sanskrit – I General Tamil - I	T	GL	3	3
I	UEL 1201 UEL 1202 UEL 1203	General English I – Advanced General English I – Intermediate General English I - Basic	T	GE	3	6
I	UMM 1501	Principles of Animation	T	MC	3	3
I	UMM 1502	Design Fundamentals	L	MC	3	3
I	UMM 1503	Traditional Animation	T	MC	3	3
I	UMM 1504	Story & Script Writing	L	MC	3	3
I	UVC 1302	Drawing for Animation offered by Viscom	L	AR	3	6
I	UHE 1001 UHE 1003	Personality Development Value Education	T	FC	1	3
I		CCA				
II	UFR 2101 UOL 2101 UOL 2103 UTL 2101	French for beginners-II Hindi Prose – II General Sanskrit – II General Tamil - II	T	GL	3	3
II	UEL 2201 UEL 2202 UEL 2203	General English II – Advanced General English II – Intermediate General English II - Basic	T	GE	3	6
II	UMM 2501	Stop Motion Animation	L	MC	4	4
II	UMM 2502	Graphic Design and Multimedia	L	MC	4	4
II	UMM 2503	Anatomy and Figure Drawing	L	MC	4	4
II	UVC 2302	Photography and Videography offered by Viscom	T	AR	3	6
II	UHE 2001	Life Issues and Coping Strategies	T	FC	2	3
II		CCA	T		1	
III	UFR 3101 UOL 3101 UOL 3102 UTL 3101	French for beginners-III Hindi Prose – III General Sanskrit – III General Tamil - III		GL	3	3
III	UEL 3201 UEL 3202 UEL 3203	General English III – Advanced General English III – Intermediate General English III - Basic		GE	3	5
III	UMM 3501	2D Animation (or) 2D Digital Animation	T	MC	5	5
III	UMM 3502	Story Board and Character Design	L	MC	4	4
III	UMM 3503	3D Set Modelling	L	MC	3	3
III	BT	BT/AT/NME Non Major Elective– visualization for animation	T	NME	2	3
III	UHE 3001	Social Awareness	T	FC	1	2

III		**ORA**	**T**	**ORA**		
IV	**UFR 4101** **UOL 4101** **UOL 4102** **UTL 4101**	**French for beginners-IV** **Hindi Prose – IV** **General Sanskrit – IV** **General Tamil - IV**	**T/L**	**GL**	**3**	**3**
IV	**UEL 4201** **UEL 4202** **UEL 4203** **UEL 4204** **UEL 4205** **UEL 4206** **UEL 4207**	**Introduction to technical translation** **Soft skills for professional development** **Professional content writing** **English for technical writing** **English for employability skills** **Essential skills for group communication** **Theatre performance and film review**	**T/L**	**GE**	**3**	**5**
IV	**UMM 4501**	**3D Character Modelling**	**L**	**MC**	**3**	**3**
IV	**UMM 4502**	**BG Layout and Compositing**	**L**	**MC**	**3**	**3**
IV	**UMM 4601**	**Game Design**	**L**	**ES**	**6**	**6**
IV	**UMM 4602**	**Website and Apps Design**	**L**			
IV	**BT**	**Non Major Elective – Film Direction**	**T/L**	**BT**	**2**	**3**
IV		**FC**	**T**	**FC**	**1**	**2**
V	**UMM 5501**	**3D Animation**	**L**	**MC**	**6**	**6**
V	**UMM 5502**	**Advanced 2D Animation**	**L**	**MC**	**6**	**6**
V	**UMM 5503**	**Art and Aesthetics**	**T**	**MC**	**6**	**6**
V	**UMM 5504**	**Documentation & Presentation Skills**	**T**	**MC**	**6**	**6**
V	**UMM 5601**	**Rigging and Animation**	**L**	**ME**	**6**	**6**
V	**UMM 5602**	**Lighting and Compositing**	**L**	**ME**	**6**	**6**
VI	**UMM6501**	**Professional skills for Animation**	**T**	**MC**	**6**	**6**
VI	**UMM6502**	**3D Dynamics**	**L**	**MC**	**6**	**6**
VI	**UMM6503**	**Production Management**	**T**	**MC**	**6**	**6**
VI	**UMM 6706**	**VFX and Editing Techniques**	**P**	**MS**	**5**	**6**
VI	**UMM 6708**	**Final Project**	**P**	**MS**	**5**	**6**
VI	**UMM 6705**	**INTERNSHIP**	**P**	**MS**	**5**	**0**

OFFERED TO OTHER DEPARMENTS:

I	**UMM 1301**	**Digital Design**	**L**	**AR**	**3**	**6**
II	**UMM2301**	**Traditional Media**	**L**	**AR**	**3**	**6**
III	**UMM 3401**	**INFOGRAPHICS**	**T/L**	**AR**	**3**	**5**
IV	**UMM 4401**	**Media Entrepreneurship &Economics**	**T/L**	**AO**	**3**	**5**

COURSE DESCRIPTOR

Course Code	UMM 1501
Course Title	PRINCIPLES OF ANIMATION
Credits	03
Hours/Week	03
Category	MC –Theory
Semester	I
Regulation	2019

Course Overview

- Animation is an interdisciplinary subject integrating the fields of Animation.
- The aim of the course is to gives basic knowledge in animation.
- The different modules of the course will examine principle of animation.
- In this course, we will also examine the different methods to apply Principles of animation.
- In this Course, we will discuss the Mechanism behind the Works of animation, we cover the Production Process.
- In this Module of the course we also Apply the knowledge acquired in the basic animation technique like Traditional Animation and Flipbook.

Course Objectives

- To understand the history of Animation.
- To understand Animation
- To understand the fundamentals of Animation - Traditional Animation to CGI Animation till date.
- To understand Different type of Animation.
- To apply the knowledge of Principles of Animation in Traditional Animation.

Prerequisites	**1.** Laptop/desktop **2.** Adobe after effects.

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Introduction to Animation & History of Animation: What is Animation, History of Animation - Starting from Early Approaches to motion in art, Animation before fdm, Traditional Animation - The silent era, Walt Disney & Warner Bros., Snow White & the seven dwarfs, The Television era, Stop- motion, CGI Animation - till date. Different Types of Animation: 1. Traditional Animation - Cel Animation or hand drawn Animation 2. Stop Motion Animation - Puppet Animation, Clay Animation, Cut-out Animation, Silhouette Animation, Model Animation, Object Animation etc. 3. Computer Animation	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5.K6

	- 2D Animation, 3D Animation			
II	The 12 basic Principles of Animation: The basic rules of animation including Squash and stretch, Anticipation, Staging, Straight Ahead Action and Pose to Pose, Follow Through and Overlapping Action, Slow In and Slow Out, Arc, Secondary Action, Timing, Exaggeration, Solid drawing, Appeal.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5.K6
III	Timing for Animation: Ease in & Ease out, X-Sheet handling, Field Chart usage, Camera Panning, Zoom-in & Zoom-out, Cut-shot, Dissolve transform, trick shot, hook-up. shot etc. How to create hook-up poses for animation. How to use camera angles to emphasize performance	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5.K6
IV	Animation Production Process: Understand Animation Requirements, Basic steps in Preproduction, Production and Post-Production.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5.K6
V	Basic Traditional Animation Samples: To apply the principles of animation, Posing and character emotion. How to observe and study human behaviour and expressions to help visualize concepts. How to enact and emote. Sample animations - Bouncing Ball Animation, Walk Cycle, Run Cycle, 4 Leg Walk cycle, Fly Cycle	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5.K6

Text Books

1. The Illusion of Life: Disney Animation - Frank Thomas and Ollie Johnston (1995)
2. YouTube Video - https://www.youtube.com/watch?v=haa7n3UGyDc & feature=you

Suggested Readings

1. 1. Cartoon Animation - Preston Blair (1994)

2. The Animator's Survival Kit - Richard Williams (2009)

Web Resources

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To Understand the History, development and differentiation of different Animation.	K1, K2
CO 2	To incorporate and assess the principles of animation.	K3
CO 3	To analyse and differentiate the type of Animation.	K4
CO 4	To Interpret the steps involved in the preproduction, production and post-production.	K5
CO 5	To construct and create an animation applying the principle of animation.	K6

Course Code	UMM1502
Course Title	DESIGN FUNDAMENTALS
Credits	03
Hours/Week	03
Category	Major Core (MC) – PRACTICAL
Semester	I
Regulation	2021

Course Overview

This course aims at imparting the basic knowledge of design, the fundamental principles of design, the importance of typography and the different Printing processes. The knowledge gained will help make the right choice of fonts and create the right design output. Students will be able to think creatively, practice various designs with visual elements, learn to be spontaneous, gain confidence and produce meaningful designs for the media.

Course Objectives

- To help understand and learn graphic design principles and process.
- To understand the use of typography and the print medium.
- To conceptualize ideas in graphic form and creatively produce designs.

Prerequisites	Basic knowledge of Visual Media

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Design-definition, language of design –process of designing-Elements of design – line; applications of geometrical forms- two dimensional and three dimensional, volume and mass, texture, pattern, black and white, colour, space, movement, colour and space, form and space, visual structure.	**9**	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
II	Principles of design – balance, contrast, harmony, rhythm, proportion, emphasis, scale and unity. Visual center of design; space; formal and informal balance; scale-size, shape contrast; rhythm & movement; layout principles: rule of thirds, grids; proportion-the golden mean and the unity of layout elements; basic design applications.	**9**	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

III	Typography –-classification groups and subgroups, families, fonts: serifs, sans serifs, hand formed and specialized; craft of typography- point system, selection and use of fonts -type specification, copy fitting and spacing; calligraphy.	**9**	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
IV	Graphic reproduction - elements of printing- basic production steps - fundamentals of letterpress, lithography, offset, gravure, flexography, screen-printing - colour separation, reproduction and registration - computerized prints - dot-matrix, jet, electrostatic and laser; papers and inks for printing.	**9**	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
V	Message presentation from concept to visual; process of design; problem identifying; preliminaries refinement, analysis decision making and implementation; design as purposeful, informational visual language and creativity; thumbnails-roughs-comprehensives-print designs	**9**	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

Key Text Books and Reference

3. Timothy Samara, [2007] Design Elements: A Graphic Style Manual Rockport Publishers.
4. Bryony Gomez-Palacio, [2011] Graphic Design, Reference: A Visual Guide to the Language, Applications, and History of Graphic Design, Rockport Publisher.
5. Wendell. C. Crow, [1986] Communication Graphics, Prentice-hall, Englewood Cliffs, N.J.
6. Peter Bridgewater, [1987] An Introduction to Graphic Design, Chartwell Books, N.J.
7. Russell N. Baird, [1987] The Graphic Communication, Holt, Rinehart and Winston, Canada.
8. Jerry Palmer &MacDodson, [1995] Design and Aesthetics, Routledge, London.
9. David Bann, [1985] The Print Production Hand Book, Macdonald & Co (Publisher) Ltd, London.

Web Resources

1. What is graphic design? https://youtu.be/YqQx75OPRa0
2. Colour: https://youtu.be/_2LLXnUdUIc
3. Typography: https://youtu.be/sByzHoiYFX0
4. layout and composition in graphic design: https://youtu.be/a5KYlHNKQB8
5. logo design ideas: https://youtu.be/Z5-ewrDyFH8

Course Outcomes (COs) and Cognitive Level Mapping

21MM1MC03 DESIGN FUNDAMENTALS		Cognitive Level
CO 1	have clear knowledge of the fundamentals of design	K1, K2
CO 2	Think creatively with visual elements and Typefaces	K3
CO 3	Show better understanding of printing technology	K4
CO 4	Analyse problems in design and find solutions	K5
CO 5	Creatively think of layouts for Visual Media	K6

Course Code	UMM1503
Course Title	Traditional Animation
Credits	03
Hours/Week	03
Category	Major Core (MC) - Theory
Semester	I
Regulation	2019

Course Overview

- In depth knowledge of animation and the knowledge of Principles of Animation in every software
- Able to work with professional skill in Animation studios and production house.

Course Objectives

- To understand the fundamental principles and basic techniques of Traditional animation.
- To understand the basic cartoon characters with their shapes.
- To understand the acting skills of animation.
- To understand the Animation production work flow.
- To apply the knowledge of Principles of Animation in Traditional Animation.

Prerequisites	Clay and Materials Laptop/desktop/Mobile/Tab

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Basic Cartooning: Shapes, Understand Cartoon Characters and their shapes, analyse different cartoon characters and their attitudes, their relative props, creating a cartoon character with tum-around and lip-synch etc. Posing and Character emotion - Attitudes, expressions, poses and gestures, emotions etc.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
II	Acting Skills for Animation: Observe, act and emote body Movement and expression acting skills+-	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
III	Preproduction: Story, Voice-Over and Story-Board Creation: Story development, Script Writing, Storytelling, Voice modulation,	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

	Acting Skills, Character descriptions, Dialogue Writing, Voiceover creation, Recording, Scene by scene editing using Sound Forge, Storyboard, Elements, Animatic Storyboard.			
IV	BG & Layout Creation: Background Designing, Layout Creation, and Over-layers creation. Working with colour and strokes. Convent animation on the Stage.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
V	Production & Postproduction: Animation basics - Creating key frames / Break down / In between / Final Clean up- Representations of animation in the Timeline - Frame rates - Frame-by-frame Animation - Working with sound	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

Text Books

1. Sketching for Beginners: Step-by-Step Guide to Getting Started with Your Drawing by Sandra Myers.
2. Timing for animation by Harold Whitaker.
3. Basics Animation: Drawing for Animation by Paul Wells.
4. The Art of Stop-Motion Animation Ken A. Priebe.
5. The Animator's Survival Kit - Richard Williams (2009).
6. Cartoon Animation - Preston Blair (1994).

Suggested Readings

1. Welles, Paul et al (2008) Drawing for Animation, Ava Publishing.
2. Chong, Andrew (2008) Digital Animation, Ava Academia.
3. Welles, Paul (2006) Fundamentals of Animation, Ava Publishing.
4. Welles, Paul (2007) Basics Animation: Scriptwriting, Ava Publishing.
5. White, Tony, How to Make Animated Films, Focal Press, (recent edition).
6. Peaty, Kevin and Kirkpatrick, Glenn (2002) Flash Cartoon Animation, Freindssoft.

Web Resources

- https://booksite.elsevier.com/samplechapters/9780240520544/9780240520544.pdf
- https://files.meetup.com/2149451/gesturedrawingforanimation.pdf

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand the basic concepts of character design for animation.	K1, K2
CO 2	To apply the basic principles of animation, animation workflow and basic tools and techniques.	K3
CO 3	To analyze characteristics of well-designed and executed animation.	K4
CO 4	To assess the current animation trends in relation to the past trends.	K5
CO 5	To create traditional animation based on current industry trends and Practices.	K6

Course Code	UMM 1504
Course Title	STORY AND SCRIPTWRITING
Credits	3
Hours/Week	3
Category	MC
Semester	FIRST
Regulation	2019-22

Course Overview

1. This course is designed specifically to introduce animators to art and joy of creating professional scripts for their creative concepts.
2. The course will enable students to create scripts using the fundamental concepts in visual storytelling, narrative structures, character creation and development, and script and screenplay writing.
3. Students will be exposed to tools and techniques that will help them incorporate sound and other special effects effectively.
4. The course will discuss the works of legendary animators for an appreciation of style and perspective.
5. An overview of writing for different animation genres and techniques will be offered to the aspiring storytellers.
6. Students will have guest sessions to expose them to free online tools that can aid their scripting projects.

Course Objectives

Students must be able to tell a great story from the concepts that they have**.**

- Evaluate the work of their classmates by offering both written and verbal constructive criticism in a workshop environment.
- Distinguish between scriptwriting and other forms of written storytelling, with emphasis on how problems of narrative time, interiority, backstory, and character development are solved in scripts.
- Revise their own work by incorporating both peer and instructor feedback.
- Apply comprehensive and advanced methods for the successful creation and revision of narrative scripts.
- Develop effective strategies of creative invention, drafting, and revision for different film genres and individual composing styles.

- Compose collaborative and individual scripts with creativity and audience awareness.
- Perform research to achieve effective writing.
- Demonstrate a professional attitude toward their writing and the writing of others by focusing on the need for appropriate format and style.

Prerequisites	

SYLLABUS

Unit	**Content**	**Hrs**	**COs**	**Cognitive level**
I	Story Telling: Creative thinking techniques and exercises, Story Narration, Real life situations in creating a story. Creating a scrap book to record everyday happenings and areas of interest, to develop a story-plot.	05	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
II	Story-Board Creation: Scripting & Story boarding for animation: Creation and Development. Standard story-board temples and understand the elements in the template. Dialogues and Voice and timing to screens.	07	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
III	Concept Development - Concept Development and Realization-Concept Generation, Research & Pre-production Screen Adaptation: Concepts & Analysis. Creative thinking of concepts and creative assignments	07	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
IV	Introduction to Creative writing: Writing-Script writing: Techniques, Ideas & Development- Story Design, Analysis, Creative Presentation- Creative Skills Development	08	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
V	Creative Thinking Techniques: Different techniques available on Creative thinking lateral thinking like six hats thinking etc.	04	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

Suggested Readings
1. The Elements of Style: William Strunk& E.B. White.
Web Resources
1. www.thescriptlab.com 2. www.scriptlug.com 3. www.26screenplays.com

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To think and write visually using the fundamental building blocks of scriptwriting.	K1, K2
CO 2	To develop and write original short scripts for short films, games and other interactive media of production quality.	K3
CO 3	To design appropriate sound and special effects suitable to the story and situation.	K4
CO 4	To create narratives with rich backstories, character development, interiority and narrative time.	K5
CO 5	To generate a comic book style output with incorporating all required elements of writing and using an environmentally aligned theme which will help their post graduate studies and careers.	K6

Course Code	UMM 2501
Course Title	Stop Motion animation
Credits	04
Hours/Week	04
Category	Major Core (MC) - Theory
Semester	II
Regulation	2019

Course Overview

This course has been designed to give knowledge on various techniques to be applied for experimental animation including creating, importing and sequencing media elements to create stop motion animation. Emphasis will be on conceptualization, creativity, and visual aesthetics. This course takes the students through various aspects of Stop Motion animation using a variety of materials and techniques. Developing concepts, storyboarding and production of several stop motion animations will be accomplished. Stop Motion Animation is an intermediate course for Object, Clay and Puppet Animation. This course provides students the fundamental skills to produce traditional style animation as well as puppet animation and the knowledge of the principles of animation to be built upon final outcome

Course Objectives

- To understand the knowledge of animation principles for applying in various stopmotion animations
- To Acquire the knowledge on experimental animation production pipeline
- To Develop and Create concepts, illustrations, Characters, props and properties using cut out, Claymation, silhouette, Puppet Animation and Object motion
- This course enables students to apply principles of animation techniques at industrial standards for stop motion animation
- To be able to correctly operate the equipment and produce a short stop motion animation

Prerequisites	1 Clay and Materials 2 Junk Materials, Cardboard, Pins, Needle & Thread etc 3 Laptop/desktop/Mobile/Tab

SYLLABUS				
Unit	**Content**	**Hrs**	**COs**	**Cognitive level**
I	Introduction to Tools and equipment's for clay modeling: Basics of Clay Modelling, a sculptural equivalent in clay, emphasizing inter-relationships of form, space and surface. Create different characters in clay modelling, Cartoons, human figures, Animals, Props etc	8	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
II	Armature making for types of clay modelling : Clay application and carving. Concept Creation for clay modelling: How to create own concept, understanding the limitations and challenges of the medium, Creation and Execution of the concept, challenges in clay modelling and shooting, Props & lip-synch handlings	8	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
III	Introduction to Experimental Animation Techniques: Flip Book Making, Application of the following stop motion animation techniques: Traditional frame-by-frame capture through various materials, Claymation, Cut-out, White Board Animation, Using Computer-generated tools	14	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
IV	Introduction to stop-motion Pro animation Software: Process and techniques of stop-motion animation-Camera angles, Character positioning, Frame by Frame controls, Positioning and actions of secondary characters and Props	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

V	Introduction to Editing software: Navigate editing Software, Create and open projects, Work with files, import media into Software, Organize Timeline for video and audio tracks, Edit tracks in the Timeline, sequences and nested sequences, motion clips, key frames, colour-correction tools, Adding text, shapes, audio and logos Export media	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

Text Books

1. Jeanie Hirsch, 2015. "An Essential Guide to Getting Started in the Art of Sculpting Clay" Create Space Independent Publishing.
2. Amos M. Kellogg, 2018 "Forty Lessons in Clay Modelling" Create Space Independent Publishing,
3. The Animator's Survival Kit - Richard Williams.
4. Barry JC Purves, 2014 "Frame by Frame Film-making with puppets and models" Bloomsbury publishing.

Suggested Readings

1. 3D Total Publishing, 2017"Beginner's Guide to Sculpting Characters in Clay".
2. Barry JC Purves, 2010 "Stop-motion" Bloomsbury publishing.

Web Resources

https://tinkerlab.com/easy-stop-motion-animation-kids/

https://cloudstopmotion.com/

https://www.smashingmagazine.com/2008/12/50-incredible-stop-motion-videos/

https://www.smashingmagazine.com/2008/12/50-incredible-stop-motion-videos/

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand and Recall the Application of techniques in creating variety of clay modelling and Stop motion.	K1, K2
CO 2	To articulate, integrate and assess the animation principle to be applied for experimental animation	K3
CO 3	To Illustrate, Measure and focus on creating the Characters, props and properties for experimental animation	K4
CO 4	To explain, justify and planning the development process of the clay modelling and stop motion animation with simulating materials	K5
CO 5	To compose & Compile the created resources for Experimental Animations.	K6

Course Code	UMM 2502
Course Title	Graphic Design & Multimedia
Credits	04
Hours/Week	04
Category	Major Core (MC) - Lab
Semester	II
Regulation	2019

Course Overview

- To develop verbal and non-verbal, formal and informal, digital and visual communication skills,
- The ability to create and develop visual form in response to communication problems, including an understanding of principles of visual organization/composition, information hierarchy, symbolic representation, typography, aesthetics, and the construction of meaningful images.

Course Objectives

- To understand and apply the basic principles, techniques, and algorithms for generating and interacting with simple graphical objects on a display screen.
- To understand the techniques of graphical outputs through tools and utilize them using software.
- To understand the techniques for digital designing for print and digital media.
- To understand the knowledge of typography, Color correction and image composition using Graphic softwares
- To create business cards, brochures, or anything you want using Adobe Photoshop and Illustrator

Prerequisites	1. Laptop/desktop **2.** Adobe Photoshop, Adobe Illustrator, Adobe InDesign

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	**Introduction to Computer Graphics / CGI & Multimedia:** Graphics, Multimedia, It's Applications - Presentation Graphics - Resolution and File Formats, Web /Mobile based categories, Computer Aided Design (CAD) in Education, Training, Entertainment etc. Design Standards and Specifications - Final	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

	output Formats, Input and Output Devices, Digital Image Editing.			
II	**Introduction to Graphics Software -** Essentials of Adobe Photoshop, Adobe Illustrator, Menus Options and Techniques.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
III	Basic introduction to software, User interface, Colour modes RGB, CMYK, Basic Image editing techniques (Selection tools), Basic Image editing (Bitmap Images, Vector Images, Image Size and Resolution Settings, Scanning Images, Creating New Images, Placing Files), Typographic designs, Layer techniques.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
IV	Image retouching and manipulation, Shapes, paths, layer styles, blending options and modes (Correcting and Enhancing Digital Photographs), Adjustment layers, Image colour corrections, Filter options. Photo manipulations, masking techniques, Path finders.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
V	**Graphics creation** - brand and corporate identity (Logo, Visiting Cards, Letter heads) manual, poster, brochure, label artwork presentation. Vector drawing techniques (Bitmaps and Vector graphics).	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

Text Books

1. Rawson, Philip, "Design, Prentice Hall, 1987.
2. Bryson, Norman, Ann Holly, Michael, Moxey, Keith, "Visual Theory: Painting and Interpretation," Harper Collins, 1991.
3. Rose Gillian, "Visual Methodologies, "Sage, 2006.
4. Sturken, Marita, "The Practices of Looking," OUP, 2009.
5. Foley, Van Damn, Feiner and Hughes, Computer Graphics: "Principles and Practice" Addison Wesly"2003.
6. Gomez and Velho "Image Processing for Computer Graphics", library of congress, September 2013.

Suggested Readings

1. Graphic Design, "Referenced: A Visual Guide to the Language, Applications, and History of Graphic Design", Bryony Gomez-Palacio), Armin Vit, 2012.
2. Adobe Photoshop CS6 Classroom in a Book by Adobe Creative Team, 2012.
3. Adobe Photoshop CS6: Learn by Video: Core Training in Visual Communication by Kelly McCathran and video2brain ,2012

Web Resources

1. https://helpx.adobe.com/pdf/photoshop_reference.pdf
2. https://www.pgsd.org/cms/lib07/PA01916597/Centricity/Domain/202/illustrator_for_beginners_

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand the elements and basic principles of Graphic Design	K1, K2
CO 2	To apply graphic design principles in the ideation, development, and production of visual messages.	K3
CO 3	To analyze different ideas about designs and its implementations	K4
CO 4	To evaluate professional efficiency in Raster and Vector Graphics through a series of practical assignments.	K5
CO 5	To create a well-designed layout, or other design materials for print or web.	K6

Course Code	UMM 2503
Course Title	Anatomy and Figure Drawing
Credits	04
Hours/Week	04
Category	MC - Practical
Semester	II
Regulation	2019

Course Overview

- Anatomy Figure Drawing is a subject on the basics of human anatomy.
- The aim of the course is to give basic knowledge about how the skeleton changes positions when the human body is in action and in different poses.
- The different modules of the course will examine the principles of movement, weight, balance, shape, and anatomy when the human body is in action and in different poses and gestures.
- In this course, we will also learn different body types.

Course Objectives

- To sketch the human figure in right anatomical proportions and in variety of poses from a range of angles.
- To understand proportion and relationship of parts to one another
- To recognize the basic bone structures
- To comprehend the range of flexibility of the human body.
- To convey gesture and movement in the figures.

Prerequisites	Basic knowledge on Drawing

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Basic Life Drawing Skills - Life drawing including human anatomy, emotions, actions and expressions. Stick Figures, Line of action, Basic Human, Animals and Birds Anatomy	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
II	Basic Perspective Drawings – How to draw Shapes, Buildings and Figures in 1 point, 2 point and 3 point perspectives, Worm's Eye View, Bird's Eye View – Out-door study	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

III	Light & Shade in Drawings – Basic Drawings including Humans, Animals, Birds etc. with Light & Shade, Still-life study	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
IV	Basic Anatomy Drawings - Basic Anatomy Drawings including Humans, Animals, Birds etc. – using Mannequins, Group figure studies	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
V	Actions & Movements, Emotions, Postures & Gestures in Drawings: Live Action / Motion Drawings including Humans, Animals, Birds etc. Including emotions, actions and expressions, attitude, postures and gestures, Facial expressions	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

Text Books

1. The Illusion of Life: Disney Animation, Frank Thomas, Ollie Johnston, Walt Disney Company, 1995, 576 pp
2. Walt Disney's Nine Old Men and the Art of Animation, John Canemaker, Disney Editions, 2001, 310 pp
3. The History of Animation: Enchanted Drawings, Charles Solomon, 1994, Outlet, 356 pages
4. Animation Art: From Pencil to Pixel, the World of Cartoon, Anime, & CGI, Jerry Beck, 2004, Harper Design, 384 pp
5. Animation Art: The Early Years, 1911-1954. A Visual Reference for Collectors, Jeff Lotman, Jonathan Smith, 1997, Schiffer Publishing, 420 pages

Suggested Readings

1. Animation in Asia and the Pacific, John A. Lent, 2001, Indiana University Press, 280 pages
2. The Anime Encyclopedia, A Century of Japanese Animation, Jonathan Clements (Author), Helen McCarthy (Author), 2015, Stone Bridge Press
3. The Artist's Complete Guide to Figure Drawing: A Contemporary Master Reveals the Secrets of Drawing the Human Form, Anthony Ryder, 1999, Watson-Guptill, 160 pp
4. Human Anatomy for Artists: The Elements of Form, Eliot Goldfinger, 1991, Oxford University Press, USA 368 pages
5. The Art of Teaching Art: A Guide for Teaching and Learning the Foundations of Drawing-Based Art, Deborah A. Rockman, 2000, Oxford University Press, USA, 340 pp

Web Resources

3. https://animationresources.org/animation/

Course Outcomes (COs) and Cognitive Level Mapping

ANATOMY AND FIGURE DRAWING (MC)		Cognitive Level
CO 1	To understand the anatomical relationships and draw the basic human anatomy, actions and postures.	K1, K2
CO 2	To apply and develop animation characters with anatomy and right proportions.	K3
CO 3	Design animation characters in different actions and with appropriate gestures.	K4
CO 4	Assess the expressive possibilities of the animated characters in postures and gestures.	K5
CO 5	Plan and create a creative character with right proportions, anatomy and creative interpretations of the human anatomy.	K6

Course Code	UMM 3501
Course Title	2D Digital Animation
Credits	05
Hours/Week	05
Category	Major Core (MC) - Practical
Semester	III
Regulation	2019

Course Overview

- 2D Digital animation is a subject deals with basic tweening and Primitive based animation.
- It gives brief introduction to BG creation, motion guide & gif Animation
- The course deals with the different types of layout, shapes and forms
- Character creation & Animation with Lip sync and eyes blink.
- Representation of animation.in the timeline, Key frames, Masking, Onion Skin and special effects.

Course Objectives

- To understand the basics of Digital drawing and animation.
- To Develop the knowledge on the basic interface of 2D Software
- To Acquire the knowledge on the tools and techniques of 2D Software
- To analyse accurate and aesthetically appealing computer-generated animation
- To Create 2D characters and environments that reflect the integration of design element

Prerequisites	4 **Laptop or desktop with suitable configuration (student must preferably possess to practice and submit assignments)** 5 **Adobe Animate CC, Photoshop and Illustrator**

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Introduction to 2D Digital animation: Exploring Interface & Tools Overview, vector and bitmap graphics, Classic Tweens, Shape Tweens, Symbols, slow motion, Snapping, working with text, Editing Image, Managing Timeline Layer, Importing Illustrator and Photoshop files	10	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

II	Digital Drawing, Background Creation, stick figure Animation, Camera movement, Motion Guide, Animated Gif	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
III	Layout Creation, Reshaping lines and shape outlines, Over-layers creation, Pencil and painting tools, working with colour, strokes and fills. Selection objects - Moving, copying and deleting objects, arranging object.	10	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
IV	Convent animation on the Stage into a movie clip, Digital Character creation, Character lip Sync, Character eye blink, Animation principles, bouncing ball, Primitive based animation.	14	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
V	Advanced Character Animation: Creating motion, creating key frames, Representations of animation in the Timeline, Frame rates, Frame-by-frame animation, Onion skinning, extend still images, Mask layers, Using Timeline effects, Twinned animation, Special effects, Filter, Animation Filters - Create pre-set filter libraries, Blend modes, Working with sound.	20	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

Text Books

10. Richard Williams, 2012. The Animator's Survival Kit, Farrar, Straus and Giroux., 392PP
11. Adobe Creative Team and Russell Chun, 2013. Adobe Flash Professional CC Classroom, Adobe Press
12. Preston Blair, 1994. Cartoon Animation, Walter Foster Publishing

Suggested Readings
4. Tony white, 2013. How to Make Animated Films, Focal Press 5. Laura Moreno, 2014. The Creation Process Of 2D Animated Movies, Online
Web Resources **6.** https://helpx.adobe.com/animate/view-all-tutorials.html **7.** https://www.youtube.com/user/DrawWithJazza

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand and recall the different types of tools in a 2D Software, Character and Background Creation.	K1, K2
CO 2	To articulate, integrate and assess the different types of animation used in an animated film.	K3
CO 3	To analyse and measure the different principle of animation and layers in the stage	K4
CO 4	To explain and distinguish different types of masking techniques, timeline effects and planning	K5
CO 5	To construct and animate a new character on his own	K6

Course Code	UMM 3502
Course Title	Story Board and Character Design
Credits	04
Hours/Week	04
Category	Major Core (MC) - Lab
Semester	III
Regulation	2019

Course Overview

1. Students will learn how to develop and design visual storyboards and how to sell their storyboard ideas
2. Students will demonstrate how to construct storyboards as a brief form of storytelling

Course Objectives

- To understand the preproduction stages of Animation pipeline
- To understand the step by step production process of storyboarding for animation
- To understand cartoon drawing which includes character designing, facial expressions of characters and different proportions of characters?
- To understand the knowledge of camera angles and terminology conducive to storyboard and film making
- To demonstrate understanding on the production of Animatic.

Prerequisites	Drawing pad Adobe Photoshop, Adobe Illustrator

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Understanding the Concept and Story Development: Introduction to Principles of Drawing, Scripting & Story boarding for animation: Creation and Development.	12	CO1 CO2 CO3 CO4 CO5	K1, K2, K3, K4, K5, K6
II	Introduction of Story Board and Types of Story Board: Scripting & Story boarding for animation: Creation and Development	12	CO1 CO2 CO3 CO4 CO5	K1, K2, K3, K4, K5, K6
III	Applying Angles and Shots: Understanding different camera angles and shots and applying in your own group project. Camera Panning techniques, Zoom-in & Zoom-out, Cut-shot, Dissolve transform, trick shot, hook-up shot etc. Using standard symbols in storyboard to depict the camera angles, zooming options etc. Creating your own animatics.	12	CO1 CO2 CO3 CO4 CO5	K1, K2, K3, K4, K5, K6
IV	Principles of Characters and Props Design: Different types of characters, different	12	CO1 CO2	K1, K2, K3, K4, K5, K6

	body shapes for cartoon characters, Head shapes and characteristics, Hands – on Characters and Props Design. Create your own cartoon character and its relative props. Understanding the Character Bible: Original character creation and its turn-around, lip-synch, size relation chart and their respective props etc.		CO3 CO4 CO5	
V	Understanding the Animation Workflow: Understanding the entire pre-production process involved in Animation.	12	CO1 CO2 CO3 CO4 CO5	K1, K2, K3, K4, K5, K6

Text Books

1. Wendytumminello, "Exploring Storyboarding (Design Exploration Series)", Delmar Cengage Learning, 1st Edition, 2004.
2. John Hart, "The Art of the Storyboard A Filmmaker's Introduction", Focal Press; 2 edition 2013.
3. Cartooning: Character Design: Learn the Art of Cartooning Step by Step by Sherm Cohen
4. Gottfried Bammes , "The Artist's Guide to Human Anatomy"
5. Vladimir Minuty and Stephanie Torta, Storyboarding: Turning Script to Motion (Digital Filmmaker Series), Mercury Learning & Information, 3rd edition, 2014.

Suggested Readings

1. Giuseppe Cristiano, Storyboard Design Course: Principles, Practice, and Techniques, Barron's Educational Series, 2012.
2. Mark Simon, Producing Independent 2D Character Animation: Making and Selling a Short Film, Focal Press, 2nd edition, 2012.

Web Resources

1. https://mahithinsidious.files.wordpress.com/2012/01/reference-book_1.pdf
2. http://www.fridgemonsters.com/storyboarding/storyboarding.pdf

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand basic drawing to develop legible storyboards	K1, K2
CO 2	To apply storyboard techniques and understanding the standard practices	K3
CO 3	To analyze and define common storyboard terminology	K4
CO 4	To evaluate the gathered knowledge to develop storyboard in the industry for animation and related areas.	K5
CO 5	To create Character designing and acquiring professional skills in designing characters.	K6

Course Code	**UMM 3503**
Course Title	3D Set Modelling
Credits	**3**
Hours/Week	**3**
Category	**MC**
Semester	**III**
Regulation	**2019**

Course Overview

- This course gives the knowledge of 3d tools.
- This course help to create set props and models for films
- This module will give confidence on 3d tools and to create an 3d environment for film and game industries

Course Objectives

- To understand the use of 3d primitives
- To understand the application of 3d tools creatively
- To analyse the set props and the set to be created for a film.
- To demonstrate the creative method of applying 3d tools to create a proper 3d environment.
- To apply the knowledge acquired through this course and implement in creating 3d sets and environments at industrial standard.

Prerequisites	Laptop/desktop, Autodesk max, maya, Adobe photoshop.

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Introduction to 3D Software: Introduction to Autodesk Maya. Basics of Autodesk Maya, 3D Output and delivery formats, Autodesk Maya will be used as a tool for 3D. Compositing / Miniature setting - Models – How to draw Set models, create various set locations – Village, City, Under water, Forest, Park, Zoo etc. as drawings, Create props for the chosen locations.	10	CO 1 CO 2 CO 3	K1, K2, K3, K4

II	Introduction to Maya and 3Ds Max interface: Being familiar with Maya viewport, user interfaces, status line, shelf, types of modeling geometries; Establishing different type of geometries, nature of difference meshes, advantage and disadvantage of these geometries. Preferences settings, User Coordinate Systems, Multiple Viewports, Visual Styles, Units Setup.	10	CO 1 CO 2 CO 3	K1, K2, K3, K4
III	Concept of 3D modeling: Understanding the 3 Dimensions, Isometric & Orthographic projection, 3D space, difference between 2D & 3D and xyz coordinates. Introduction to modeling tools; Introducing toolbox, basic primitives. Edit Mesh, Mesh tool, Mesh, Mesh display, Curves, Extrusions and Booleans, Revolve, Path Extrusions. Nonlinear Deform, Surfaces.	11	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Maya Materials - Types, Hypershade, applying materials from Libraries, Creating custom Standard Materials, Object Mapping Coordinates, Bitmap Bump Mapping, Procedural mapping, Transparent and Reflective Materials, lights in Maya.	08	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	Rendering Engine Options, Rendering Regions and Selected Objects, Mental Ray Indirect Illumination Parameters, Saving and Reusing Final Gather and Photon Maps, Network Rendering with Backburner. Advance Rendering in V-Ray.	06	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4

Text Books

1. Autodesk 3ds Max 2021: Modeling Essentials, 3rd Edition Paperback – 1 July 2020 by Pradeep Mamgain (Author)

2. 3D Max 2019 Training Guide Paperback – 1 January 2019 by Linkan Sagar/ Nisha Gupta (Author)

3. 3DS MAX REFERENCE GUIDE BOOK Paperback – 1 January 2018 by CAD Desk (Author)

Suggested Readings

1. Autodesk 3Ds Max 2017 For Beginners: A Tutorial Approach Paperback – 1 January 2017 by Sham Tickoo/TIET (Author)
2. Autodesk 3ds Max 2019: A Beginners Guide Paperback – 1 January 2019 by Prof. Sham Tickoo (Author)
3. Autodesk 3Ds Max 2018 For Beginners A Tutorial Approach Paperback – 1 January 2018 by Sham Tickoo/TIET (Author)
4. Autodesk 3ds Max 2021: A Detailed Guide to Arnold Renderer, 3rd Edition Paperback – 1 July 2020 by Pradeep Mamgain (Author)

Web Resources

1. https://www.youtube.com/watch?v=jyijxnhyQmk
2. https://www.youtube.com/watch?v=n72Dx5kxLB4
3. https://www.youtube.com/watch?v=cJmgypv7gY0
4. https://www.youtube.com/watch?v=06HY-3L8CgU

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand the techniques of 3d tools	K1, K2
CO 2	To incorporate and assess the Primitives to create the Props and 3d Design.	K3
CO 3	To analyse the 3d units to create the architecture models and set for films.	K4
CO 4	To explore 3d environment featuring lighting and textures.	K5
CO 5	To construct the Set model with the 3d tools	K6

Course Code	UMM 4501
Course Title	3D Character Modeling
Credits	3
Hours/Week	45
Category	MC - LAB
Semester	IV
Regulation	2019

Course Overview

- The aim of the course is to gives basic knowledge about the 3d character modelling technique.
- This Course will explain the importance of topology to be used while modeling.
- This Subject will give the confidence to create 3d character models at industrial standard.

Course Objectives

- To understand the procedure of polygon modeling .
- To understand the flow of mesh while modeling.
- To analyse the topology of mesh in biped, quadruped and props to be used for animation.
- To apply the knowledge of modeling in creating industrial level characters and props.

Prerequisites	• Laptop/desktop • Autodesk Maya, Adobe Photoshop

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Introduction to 3D Character Modelling: Conversion of 2D drawing to 3D Model: Introduction to Creating Characters and Props,Understanding their relation and usage, Collect different characters and its relative props - Human Figures, cartoon characters, Animals, Props etc. Understanding the connection between characters and props, Understanding how to convert 2D drawings to 3D manually, Understanding volume handling and light & shade	08	CO 1 CO 2 CO 3	K1, K2, K3, K4
II	3D modeling of characters and props & Texturing**:** Character Modeling: Modeling	15	CO 1 CO 2	K1, K2, K3, K4

	Cartoon Character -Quadruped Modeling- Modeling of related Props. Character Texture painting with Photoshop and 3D painting tool- Image based Texturing (Image Projection) and Painting UV seams -Creating Bump, Normal, Displacement and Specular Map-Texturing techniques for Characters and Props. Study the principles of Color theory and ways in which it can be explored to meet the needs of the production		CO 3	
III	Rigging Basics**:** Bones and Joints, Parenting and skinning methods, Joints and hierarchies Concept of Skeleton, Connect Joint, Remove, joint, Insert joint, Re-root joint Mirror, Joint, Set preferred angle, Assume preferred angle, Kinematics (IK & FK), Requirements for a clean Model, Clean UVs. Binding - Smooth Binding. Concept of a single cluster. Max Influence & Drop-off rate. Rigid Binding, Creating and Editing Lattice, Sculpt, joint Cluster, Painting Cluster weights, Rigid Binding Practice. Rigging the props and Mechanical Model	10	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Lighting & Compositing**:** Types of Lighting, Physical properties of light, Natural and artificial light study, Color, Aesthetics and mood, Roll of lighting in visual composition. Character lighting, Shadows, Lighting effects. Intro to shaders. Understanding Concept of camera, Orthographic projection, working with Maya camera and attributes. Light Theory, Physical properties of light, Classification of lights in MAYA, Common Light Attributes. Concepts of lighting - 3-Point Lighting, Key – Fill- BG - Rim etc. The Visual Functions of Shadows, Shadow types - Depth map Shadows, Ray traced shadows.	06	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	Rendering for characters and props: Essentials of rendering - Types of rendering engines - Using the Render Settings Window- Image & Video formats Resolution, Intro to shaders Rendering optimization - Introduction to	06	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4

	mental ray, Render passes			

Text Books

13. 3-D Human Modeling and Animation.
    Author: Peter Ratner Publisher: Wiley Year 2009 Edition: 3rd
14. Cartoon Character Animation with Maya.
    Author: Keith Osborn Publisher: Fairchild Books Year 2015 Edition: 1st
15. Digital Lighting & Rendering. Author: Jeremy Birm Publisher: New Riders Year 2000 Edition: 1st

Suggested Readings

1. Maya Character Creation: Modeling and Animation Controls.
   Author: Chris Maraffi Publisher: New Riders Year 2009 Edition: 3rd
2. Digital Modeling.
   Author: William Vaughan Publisher: New Riders Year 2012 Edition: 1st
3. Body Language: Advanced 3D Character Rigging.
   Author: Eric Allen, Kelly L Murdock Publisher: Sybex Year 2011 Edition: 1st
4. Character Modeling with Maya and ZBrush: Professional polygonal modeling techniques 1st Edition, Kindle Edition, Jason Patnode (Author)

Web Resources

1. https://www.youtube.com/watch?v=L23r9FNmJt0&t=853s
2. https://www.youtube.com/watch?v=bgItZrZlkGg
3. https://www.youtube.com/watch?v=spi4lGxnMZg
4. https://www.youtube.com/watch?v=xzmg0grXHyE

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand three-dimensional physical models using a variety of materials at different scales.	K1, K2
CO 2	To integrate the different models with related props with proper texturing.	K3
CO 3	To analyse and differentiate the Flow of mesh for 3d Character models and independently Create 3d Cartoon Model and texturing for Animation	K4
CO 4	To Demonstrate modeling skills to an animated and game project.	K5
CO 5	To Create a biped with UV texturing from character references using polygon modelling techniques.	K6

Course Code	UMM 4502
Course Title	BG Layout and Compositing
Credits	3
Hours/Week	3
Category	Major Core (MC) - Lab
Semester	IV
Regulation	2019

Course Overview

1. Emphasizes on background creation and composition techniques

Course Objectives

- To understand the compositional techniques for background creation.
- To understand knowledge about types of perspective with one point, two points and three points and with atmospheric perspective.
- To understanding the colour, composition, mid tone, shadow, hue and saturation, creating canvas, colour tone and proportion.
- To understanding the layer compositing in Background composition.
- To demonstrates the different techniques of background design through projects.
-

Prerequisites	Laptop/Desktop Adobe Photoshop

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	The Photoshop Workspace, Brush Basics - Pen Tool Basics - Capture Brush Tip Shapes Adding and changing Brush Dynamics -Painting and Blending Techniques –watercolour and oil painting using Photoshop-Illustration techniques	12	CO 1 CO 2	K1, K2, K3
II	Creating Shape Layers and Paths - Stroking Paths with Brushes – Drawing - Sketching and painting of the character - Value and colour in character creation - Lighting for a character - Using and blending edges in painting, creating textures and patterns, painting an eye, face and	12	CO 1 CO 2 CO 3	K1, K2, K3

	hair, Painting real and fantasy characters.			
III	Concept of Perspective, types of perspective, understanding the significance vanishing point, Linear Perspective with one point, two points and three points, above eye level, below eye level, Collage techniques, working with atmospheric perspective. Understanding the colour composition, colour perspective, colour shades by atmosphere lighting, highlight, mid tone, shadow, hue and saturation, creating canvas, working with colour correction, merge by colour tone and proportion.	12	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4
IV	Creating, Saving, and Loading Selections - Combining and Modifying Selections - Channels and Masking Techniques - preparing the background plate - articulated mattes - plate restoration, plate extension - adding 3D elements - creating sky mattes, static matte and motion matte painting - colour grading.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5
V	Background compositing, Image composting, understanding the Depth of field, Multi-plane set up in composting, matte layers extractions matching with 3d objects or live action.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5

Text Books

1. Brian Sum,ShaddySafadi, Levi Hopkins, “Digital Painting Techniques: Volume 5”, 3D Total Publishing, 2013.
2. John Montague, “Basic Perspective Drawing: A Visual Approach”, John Wiley publication, 6th Edition, 2013.
3. Steve Wright, “Composting Visual Effects”, Focal Press; Second Edition, 2011.
4. Ron Ganbar, “Nuke 101: Professional Compositing and Visual Effects”, Peachpit Press; Second Edition, 2014.

Suggested Readings

1. David B.Mattingly, “The Digital Matte Painting Handbook “,Sybex publications, 1986
2. David Luong , Damien Mace, Milan Schere, “d'artiste Matte Painting 3”, Ballistic,2013
3. Ron Brinkmann, “The Art and Science of Digital Compositing”, Morgan Kaufmann Publishers In; Second Revised Edition, 2008

Web Resources

1. https://booksite.elsevier.com/samplechapters/9780123706386/Sample_Chapters/02~Chapter_1.pdf
2. https://ptgmedia.pearsoncmg.com/images/9780321984388/samplepages/9780321984388.pdf

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand the efficiency of workflow and compositing techniques	K1, K2
CO 2	To apply the principles examined in case studies to the techniques used in Layout.	K3
CO 3	To analyse major applications of compositing process used in industry.	K4
CO 4	To evaluate project workflow and solve advanced compositing challenges.	K5
CO 5	To create an effective digital media portfolio project.	K6

Course Code	UMM 4601
Course Title	Game Design
Credits	06
Hours/Week	06
Category	Major Core (MC) - Practical
Semester	IV
Regulation	2019

Course Overview

Students are exposed to the fundamentals of game design and web design. This course covers many of the concepts involved in game design, beginning with the history of gaming and an examination of the software engineering aspects of game design. Other topics include the programming environment, Web designing, game hardware, mathematical concepts, physical concepts, and graphics. This course teaches students effective and structured procedures used to design and develop games

Course Objectives

- To understand and define the terms and principles of game design and web design.
- To Select and evaluate programming and scripting languages to develop particular games.
- To define the structure and duties of the game development team.
- To Practice animation production and creation tools in different platform.
- Apply virtual reality & augmented reality to developing computer games.

Prerequisites	• Laptop or desktop with suitable configuration (student must preferably possess to practice and submit assignments) • Photoshop, Unity 3D, Autodesk Maya

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Basics and History of Game Design: Introduction to gaming and concepts. Meaning and definition, Classification of gaming, Game production process, Pre production for Gaming – Concepts and ideas, Interface, Game assets design, Production environment steps and planning – Implementation in 2D Flash. Post production – Compositing and editing, sound designing.	10	CO 1 CO 2 CO 3	K1, K2, K3, K4

II	Introduction to UI design: User Interface Vs. User Experience, Existing UI kits, working with text, Buttons, loading bars, Scrollbars, loading icons, Dropdown, Playback, Navigation bar, Radial Progress bars	20	CO 1 CO 2 CO 3	K1, K2, K3, K4
III	Coding**:** Introduction to Variables, Operations with Variables, Functions, Conditional Statements, Loops, Arrays, Arrays and Functions, Classes and Objects, Data Encapsulation, Inheritance, Mono behaviour, Static Variable and Functions	15	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Mobile Apps: Introduction to Mobile Applications, Designing of apps for Android, IOS, Symbian operating systems – Windows Touch apps, Understanding the limitations of the different devices and their specific	20	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	Virtual Reality & Augmented Reality: Virtual sets – Application and uses of Virtual reality in day to day life. Augmented Reality – Immersive – Location based – Aided Learning. 3D Bio Printing: Conversion of 3D objects from digital to real life models.	10	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4

Text Books

16. Karl M Kapp, 2013. The Gamification of Learning and Instruction Fieldbook: Ideas into Practice. Wiley
17. Tracy Fullerton, 2014, Game Design Workshop: A Playcentric Approach to Creating Innovative Games. A K Peters/CRC Press.,
18. Jesse Schell, 2008. The Art of Game Design: A book of lenses, CRC Press.,
19. Bill Philips, 2013. Android Programming: The Big Nerd Ranch Guide.,

Suggested Readings

8. Brenda Braithwaite, Ian Schreiber,2008. Challenges for Game Designers, Charles River Media.,

9. Jens Grubert, Raphael Grasser, 2013, Augmented Reality for Android Application Development, Packt Publishing.,

10. Steve Swink, 2008. Game Feel: A Game Designer's Guide to Virtual Sensation (Morgan Kaufmann Game Design Books), CRC Press.,

11. Roberto Dillon, 2010. On the Way to Fun: An Emotion-Based Approach to Successful Game Design, A K Peters/CRC Press.,

Web Resources

12. https://learn.unity.com/tutorials
13. https://www.unrealengine.com/en-US/onlinelearning-courses
14. https://tutorial.techaltum.com/webdesigning.html
15. https://www.w3schools.com/

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand the ability to organize digital assets required for a short game, in a manner that is easy to decipher and designing for web	K1,K2
CO 2	To Apply and distinguish creative & effective design knowledge to game environment	K3
CO 3	To Articulate and analyze own work and the work of others to evaluate the technical and aesthetic quality	K4
CO 4	To Assess development, Identify steps, and manage a successful professional workflow	K5
CO 5	To construct a short game project, including all the aspects of the development: game design, art assets creation, sound design, coding, bug fixing, testing, and create a workable game.	K6

Course Code	UMM 4602
Course Title	Website & Apps Design
Credits	06
Hours/Week	06
Category	ES - LAB
Semester	IV
Regulation	2019

Course Overview

- This course will explain about the web application and game application.
- This course will give the knowledge on web application designed with user interface.
- This course gives confidence to create a web application and game application at Industrial standard.

Course Objectives

- To understand the design elements.
- To analyse the market and the existing web designs and game designs.
- To apply the knowledge of designing to develop web application and game application.
- To create a Web app and Game app

Prerequisites	• Laptop/desktop • Adobe Photoshop, Adobe XD.

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Introduction to Game design, Designing Web pages, Creating websites and pages using Dream Weaver - editing cross-platform and cross-browse pages. Flash to HTML 5 Conversion: Flash to HTML 5 Conversion, Understanding basics of HTML 5 to create web pages – Building information Management, Planning and designing web page - HTML programming, Text, Table, Image and audio	22	CO 1 CO 2 CO 3	K1, K2, K3, K4
II	Basics and History of Game Design: Introduction to gaming and concepts. Meaning and definition, Classification of gaming, Game production process, Pre production for Gaming –Concepts and ideas, Game assets design, Production environment steps and planning – Implementation in 2D Flash. Post production – Compositing and editing, sound designing.	20	CO 1 CO 2 CO 3	K1, K2, K3, K4

III	Web Apps: Introduction to Web Applications, Understanding Graphical User Interface designing	16	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Mobile Apps: Introduction to Mobile Applications, Designing of apps for Android, IOS, Symbian operating systems – Windows Touch apps, Understanding the limitations of the different devices and their specifics	18	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	Virtual Reality & Augmented Reality: Virtual sets – Application and uses of Virtual reality in day to day life. Augmented Reality – Immersive – Location based – Aided Learning. 3D Bio Printing: Conversion of 3D objects from digital to real life models.	14	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4

Text Books

20. Karl.M.Kapp, 2013. The Gamification of Learning and Instruction Fieldbook: Ideas into Practice, Wiley., 1st edition.
21. Tracy Fullerton, Game Design Workshop: A Playcentric Approach to Creating Innovative Games.. A K Peters/CRC Press., 3rd edition.
22. Jesse Schell,. The Art of Game Design: A book of lenses., 1st Edition, CRC Press.
23. Bill phillips, Android Programming: The Big Nerd Ranch Guide", 1st edition, Big Nerd Ranch Guides

Suggested Readings

1. Building Web Apps with WordPress: WordPress as an Application Framework 2nd Edition, Kindle Edition by Brian Messenlehner (Author), Jason Coleman (Author)
2. UX Design: A Field Guide To Process And Methodology For Timeless User Experience Paperback – 3 April 2021 by Steven Miller (Author)
3. UX for Beginners: A Crash Course In 100 Short Lessons Paperback – 5 January 2016 by Joel Marsh (Author)
4. Mobile User Interface/UI App Design Notebook: Mobile UI/UX Template Notebook Sketchbook - Design Your Own Mobile App - For App Designers, Developers, Programmers, & Web Designers Paperback – 27 July 2018 by Popizm Film Books (Author)

Web Resources

1. https://www.youtube.com/watch?v=RsQ1tFLwldY
2. https://www.youtube.com/watch?v=VLCBV97aQbQ
3. https://www.youtube.com/watch?v=W8smyf1eHFk
4. https://www.youtube.com/watch?v=3m7N5loxgIE
5. https://www.youtube.com/watch?v=sc3h5JXtIzw

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand the importance of User interface and user experience.	K1, K2
CO 2	To Identify the Design tools to incorporated into assignments for social work.	K3
CO 3	To Analyze the method of designing for digital media to plan and design web pages.	K4
CO 4	To Demonstrate the web application and Game Application .	K5
CO 5	To Create a Creative web application and Game application .	K6

Course Code	UMM 5501
Course Title	3D Animation
Credits	06
Hours/Week	06
Category	Major Core (MC) - Practical
Semester	V
Regulation	2019

Course Overview

- This course covers the principles of animation, and provides students with the understanding of timing and spacing.
- Students learn the fundamentals of weight and its direct relation to timing. They also learn to animate basic bouncing, wave motion, and a human locomotion.
- Students are introduced to the animation tool sets, learn how to cycle animation and use various skills and functions for the line of action
- Students begin to analyze the effect that outside weight can have on a character, and how they can use it to create the illusion of life.
- Students go through all of the steps involved in creating an animated sequence for a short film.
- Students go through thumbnailing the shots, blocking, posing, Editing, and then polishing the shots
- Students expand their knowledge of the animation principles with advanced levels of application. Students work on multiple in-class exercises designed to build their understanding, proficiency, workflow speed, and critical artistic eye for mechanics of motion, timing, and staging. The mechanics of quadruped motion is also discussed and applied

Course Objectives

- To understand the principles of animation with the understanding of timing and spacing.
- To Develop competencies and skills needed for becoming an effective Animator
- To Acquire the knowledge on managing Animation Projects from its Conceptual Stage of animating to the final Product creation
- To analyse accurate and aesthetically appealing computer-generated animation
- To Create 3D character Animation and environments that reflect the integration of design element

Prerequisites	• Laptop or desktop with suitable configuration (student must preferably possess to practice and submit assignments) • Autodesk Maya, Adobe AnimateCC/Photoshop

SYLLABUS				
Unit	**Content**	**Hrs**	**COs**	**Cognitive level**
I	Animation tools and Techniques: Analyse and research on the movement and the force of the objects in the real world. 3D animation and film-making to create sequences and scenes/shots. Follow the storyboard for composition. Prop Animation – Basic Key Concepts, Timing, Graph editor-tangents, Cycle - post and pre infinity, Dope Sheet, Graph Editor, Moving Keys in Dope Sheet, Time Line, Path animation, path flow, ghost etc., Setting up output file size and resolution, Previewing Animation using Play blast.	10	CO 1 CO 2 CO 3	K1, K2, K3, K4
II	The Principles of timing. Principles of human/ animal/ character anatomy and how they can be applied to animation. How to observe and study human/ animal/ character behaviour and expressions to help visualise concepts. How to enact and emote; and thereby animate characters in accordance to the demands of the script and animatic.	12	CO 1 CO 2 CO 3	K1, K2, K3, K4
III	The blending option- Animate expressions and lip movements to match dialogues and sound. The typical processes involved 3D Animation Production i.e. Staging, Blocking, 1st. level Animation, lip-Sync and Facials, Final Animation.	18	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Different types of Animation of Ball Bouncing- Ball bouncing on different types of surface. Timing and Spacing; Animating a ball/ made of different material/s, surface/s and texture/s – Metal, Rubber, Plastic, Wood. Arcs: Animating different ball/ made of different material/s, surface/s and texture/s – Wood, Ping Pong, at the	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5

	same time.			
V	Exaggeration: Animating collision between two or more different bouncing ball in an environment inside view, Pendulum Animation in 3d: Classical Pendulum and Hinged Pendulum. Follow Through, overlap; Animate a Ball with a tail (like a Squirrel). Applying the observed movement on walk cycle of Human and animal.	20	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4

Text Books

1. Andy Beane, 1970. 3D Animation Essentials, John Wiley & Sons, Inc., pp.
2. John Edgar Park, 2005 Understanding 3D Animation Using Maya, Springer-Verlag New York.,.
3. Andrew Chong, 2007. Basics Animation: Digital Animation, AVA Publishing., pp.
4. Richard Williams, 2009. The Animator's Survival Kit, Faber

Suggested Readings

1. Tony white, 2013. How to Make Animated Films, Focal Press
2. Laura Moreno, 2014. The Creation Process Of 2D Animated Movies, Online

Web Resources

1. https://helpx.adobe.com/animate/view-all-tutorials.html
2. https://www.youtube.com/user/DrawWithJazza

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand and Recall the Application of motion Principles and analyze the key framed animations	K1, K2
CO 2	To articulate, integrate and assess the behaviour and expression of the character used in animation films.	K3
CO 3	To analyse and Measure different principle of animation and Blocking for the Characters	K4
CO 4	To explain and distinguish with planning the timing and spacing of the character with simulating materials	K5
CO 5	To construct and animate different 3D characters on his own	K6

Course Code	UMM 5502
Course Title	Advanced 2D Animation
Credits	06
Hours/Week	06
Category	Major Core (MC) - Practical
Semester	V
Regulation	2019

Course Overview

Advanced 2D Animation is an advanced course for Traditional and computer generated animation. This course provides students advanced skills to produce animation and the knowledge of the principles of animation to be built upon in subsequent courses leading up to the Portfolio. Students can also apply skills learned in this class in other areas including Experimental Animations. This course will mature students to craftily put up artistry hand drawn to the final execution of 2D animation

Course Objectives

- To make students experiment the advanced techniques of 2D animation.
- To apply principles of animation in both traditional cel animation and in Digital based software.
- To Experiment different types of animation like cut-out animation, silhouette animation etc.
- To Understand the entire workflow of 2D animation process and apply them in own project
- To enhance the ability of their creations.

Prerequisites	6 Basic Drawing Skills and Drawing Materials 7 Laptop/Desktop

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Advanced 2D Animation: Advanced cel animation practices, How to use story-board effectively, How to plan the action before starting animation, How to work in a team for animation, Applying the principles of animation, Expertising in Posing and Character emotion for different actions,	16	CO 1 CO 2 CO 3	K1, K2, K3, K4

	Animating for own story.			
II	Applying different types of 2D Animation: Create original ideas to apply different types of animation like Cut-out Animation, Silhouette Animation etc.	14	CO 1 CO 2 CO 3	K1, K2, K3, K4
III	Advanced Animation: Understanding and applying complex movie clip properties, layers, library etc. Understanding advanced timing in animation, Coloring, BG and Layout creation in flash. Creating your own group project in 2D Software	15	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Understanding the Production workflow for 2D animation: Understanding the entire workflow involved in the Production process. Apply the process for the group project.	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	Different domains to use 2D Package Animation: Theme based Character Animation, Understanding the different industries and domains where 2D animations can be used like – Entertainment, Education, Technical, e-learning etc	20	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4

Text Books

1. Richard Williams, 2012. The Animator's Survival Kit, Farrar, Straus and Giroux., 392PP
2. Preston Blair, 2020. Cartoon Animation, Walter Foster Publishing., 128PP
3. Sandro Corsaro, Clifford J. Parrott, 2004. Hollywood 2D Digital Animation, Cengage Learning., 256PP

Suggested Readings

1. Tony white, 2013. How to Make Animated Films, Focal Press., 510PP
2. Laura Moreno, 2014. The Creation Process Of 2D Animated Movies, Online
3. Ollie Johnston,1995. The illusion of Life**,** Disney Editions., 576PP

Web Resources

1. https://helpx.adobe.com/animate/view-all-tutorials.html
2. https://www.youtube.com/user/DrawWithJazza
3. https://www.animatorisland.com/
4. https://line-of-action.com/

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand and Identify design for both digital and traditional animation	K1, K2
CO 2	To articulate and assess scene planning and understanding of timing and pace in 2d animation	K3
CO 3	To analyse and compare types, medium and domains in 2d animations	K4
CO 4	To explain and distinguish production workflow for 2D traditional and digital animation	K5
CO 5	To Create traditional and computer generated animation based on current industry trends and practices	K6

Course Code	UMM 5503
Course Title	Art and Aesthetics
Credits	06
Hours/Week	06
Category	Major Core (MC) - Theory
Semester	V
Regulation	2019

Course Overview

1. Art and Aesthetics is an interdisciplinary subject integrating philosophy and art history.
2. The aim of the course is to provide a fundamental understanding about aesthetics and major periods in art history.
3. The different modules of the course will examine the philosophical approaches to eastern and western aesthetics and analysis of the works of art and architecture within contextual and cultural frameworks
4. Stylistic development in the works of art and architecture and the role of artists within political, social and cultural contexts will also be explored.

Course Objectives

- To understand the fundamental concepts of aesthetics and its complexity.
- To understand the eastern and western philosophical approaches to aesthetics. .
- Analyse works of art in relevance to factors involved in social and cultural context.
- To apply aesthetic approaches and interpret works of art and architecture.
- To understand the evolution of art over time.

Prerequisites	None

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	***Introduction to Aesthetics:*** Philosophy of art or philosophy of beauty; Objectivism vs. subjectivism; Aesthetic Experience, aesthetic attitude, aesthetic judgment, aesthetic object, aesthetic emotion, aesthetic pleasure, aesthetic qualities, aesthetic value, aesthetic concepts; Expression versus expressiveness, Evolutionary aesthetics.	15	CO 1 CO 2	K1, K2, K3,

II	Eastern Aesthetics: Tamil aesthetics: Agam, Puram, Thinai; Basics of Abhinaya, Bhava, Rasa, Dhvani, Riti and Alankara (Natya Shastra), Six limbs of Indian paintings (shadanga); Indian Iconography (Chitrasutra) and architecture (Silpasastra). Indian paintings: Mural (Ajantha, Ellora, Bagh, Vijayanagar, Siitanavasal) and Miniatures (Pala, Mughal, Rajasthani, Pahari, Deccan), Raja Ravi Varma, Bengal School, A.K. Coomaraswamy and Stella kramkrisch contributions to Indian art; Chinese aesthetics - six Chinese canons; Japanese aesthetics.	15	CO 1 CO 2 CO 3	K1, K2, K3,
III	Western Aesthetics*:* Greek - Plato (Mimesis, the Arts and Unity of Values); Aristotle (Catharsis); Clive bell (Formalism); Panofsky (Iconology); Croce (intuition); Baumgarten (Aesthetica); Tolstoy (everyday expressivism); Immanuel Kant (The Four Moments); George Dickie (The Myth of the Aesthetic Attitude); John Dewey (Aesthetic Qualities); Edward Bullough (Psychical Distance);	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5,K6
IV	Aesthetics in Arts***:*** The unity of form and content – Literary arts; Nietzsche (the Birth of Tragedy) - Performing Arts; Architecture as An Art; Representation and artistic value – Visual Art; pleasure, emotion and Music – Music Art; Experimental art and the avant-garde, Art for Art's sake; 'Intentional fallacy' (Monroe C. Beardsley); Aesthetics of Nature; film as an art – Cinema.	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5, K6
V	Art Movements: Pre-historic art, Greek, Romanesque, Early Christian art, Byzantine, Gothic, Renaissance, Mannerist, Baroque, Romanticism, Realism, Impressionism, Post-impressionism, Pointillism, Symbolism, Fauvism, Cubism, Rocco, Expressionism, Futurism, Dadaism, Surrealism, Abstract expressionism, Op, Pop, Minimal, German Expressionism, Installation, Street art, , De Stijl	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5

Text Books

1. Gardner Helen, (2012) Art through the Ages: A Global History, Volume I and II, Wadsworth Publishing.
2. Robert Stecker, (2010) Aesthetics and the Philosophy of Art: An Introduction (Elements of Philosophy) Rowman & Littlefield Publishers.
3. Yuri Borev, (1985) Aesthetics, Progress Publications, Moscow.
4. Rama Coomaraswamy (Editor), (2003) The Essential Ananda K. Coomaraswamy, World Wisdom Publisher.

Suggested Readings

1. Arnold Hanser, (1982), Social History of Art, Routledge and Kegan Paul, London.
2. Ernst Fischer, (1963), The Necessity of Art, penguin Books, U.K.
3. Nihranjan Ray (1974), An Approach to Indian Art, Publishing Bureau Punjab University.
4. Compilation, (1990), Aestheticians, publications Division, Government of India.

Web Resources

1. https://www.britannica.com/list/10-modernist-art-movements

Course Outcomes (COs) and Cognitive Level Mapping

ART AND AESTHETICS (MC)		Cognitive Level
CO 1	To demonstrate an understanding of the fundamental aesthetic concepts and history of art.	K1, K2
CO 2	To apply aesthetic ideas to understand and appreciate contemporary and classical art.	K3
CO 3	To analyse, distinguish and synthesize the main arguments of eastern and western aesthetic approaches to art.	K4
CO 4	To engage with art, artists, and foundational thinkers critically, develop original arguments and alternative positions.	K5
CO 5	Adapt and articulate sustaining arguments for alternative solutions for contextual issues and problems in art and aesthetics; express their understanding in a clear, precise and accessible terms as well as incorporate in their art.	K6

Course Code	UMM 5504
Course Title	DOCUMENTATION & PRESENTATION SKILLS
Credits	6
Hours/Week	4
Category	MC
Semester	V
Regulation	2019-22

Course Overview

The course aims to enable animation students to become effective and dynamic presenters and leaders in the industry.

To create animators who can not only bring alive stories through their software fluency, but tell effective stories and make compelling presentations, pitches and documents that aid them in every step of their career.

To enable students to create successful documentation practices that efficiently improve team effectiveness.

To help students create their successful showreels and presentations, with a focus towards getting a prestigious final internship, which will lead to a career.

Course Objectives

To enable students create professional networks through a variety of social media and interpersonal tools.

To encourage students to apply all the psychological, histrionic and neuroscience tools that can transform presentations into compelling storytelling.

Prerequisites	Basic editing, photoshop, photography, and design skillsets, Adobe Suite.

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Science & Storytelling for Documentation Science of Documentation; Ethics and Integrity; News & Information Values; Using Storyboarding in Documentation; Content Organization; Scientific & Technical Documentation; Interactive Documentation; Documentation as compelling as Storytelling.	14	CO1, CO2	K1, K2, K3, K4

II	Stage Skillsets Body Language; Voice Acting; Eye Contact, Relationship with Audience; Relationship between Theatre Games, Improvisation, Creativity & Acting; Physicalization of a Speech; Master Stage Presence; Speed, Pace & Rhythm.	12	CO2, CO5	K4, K5, K6
III	Visuals & Props Applying Visuals, Infographics; Data Visualization; Dressing up Numbers; Typography; Visual Metaphors; Dynamic Movement; Using props effectively; Hitchcock Rule.	14	CO4, Co5	K5, K6
IV	Sound & Storytelling Inserting Sound & Silence effectively; Sound Ambience; Interactive Props; Golden Circle; Story Arc & Conflict; Antagonist & Conquering Hero; Rule of Thirds; User Experience Designing in Presentations. Marriage of Sound & Visuals.	12	CO5	K5, K6
V	Presentations as Campaigns Using Documentation, Data and Presentation to build Social Capital; Pitching & Elevator Pitches Digital Storytelling; Presentations & Speeches that shaped the world; Corporate Communication.	14	CO5	K6

Text Books

1. Body, Voice, Imagination by David Zinder, Taylor and Francis, 2009.
2. Respect for Acting by Uta Hagen, Macmillan Publishing, 2008.
3. Presentation Secrets of Steve Jobs by Carmine Gallo, McGraw Hill, 2009.

Suggested Readings

1. The Presentation Coach by Graham G. Davies, Wiley Publications, 2011, First Ed.

Web Resources: Duarte.com

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	Observe and decode key presenters and speakers make successful presentations using a variety of psychological, storytelling and technological tools.	K1, K2
CO 2	Finding each one's niche voice and style of presentation and delivering mock presentations.	K3, K6
CO 3	Deliver professional pitches and persuasive communication using the histrionic tools learnt.	K4, K6
CO 4	Creating documents and portfolios using appropriate video and sound technology suited to a niche audience.	K5, K6
CO 5	Network with influencers to create niche audiences and professional linkages through Digital Marketing and Social Media.	K6

Course Code	UMM 5601
Course Title	Rigging & Animation
Credits	06
Hours/Week	06
Category	Elective (ES) - Practical
Semester	V
Regulation	2019

Course Overview

- Rigging takes students step-by-step through the tools and techniques used in animation.
- The aim of the course is to transfer into more technical roles in rigging & animation.
- The different modules of the course will examine different areas of Rigging & Animation including deep knowledge of 3D tools, anatomy, coding, math and physics.
- In this course, we will also examine the models built by the students themself and turning them into something that can be efficiently used for rig and animate
- The other important aspects of Rigging & Animation is to build rigs for a wide variety of model and character types using the latest industry-standard methods. Advanced techniques for facial work, cloth, simulations, scripting and tool development.

Course Objectives

- To understand the structures and purposes of basic components of Props, Shapes, biped & Quadruped.
- To understand how rigs are setup and moved.
- To understand the tools and techniques used to rig and animate.
- To apply the knowledge of effectively Create Character rigs for 3D Characters to enable animation for the Characters in a Scene.
- To apply the concept of skins and how they deform with joint movement and animation

Prerequisites	• Laptop or desktop with suitable configuration (student must preferably possess to practice and submit assignments) • Autodesk Maya, Photoshop

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Self-Created Props Rigging: Making a basic Prop based rig with FK and IK blending, Mechanical rig with parenting method and Different Attributes connection concept.	10	CO 1 CO 2 CO 3	K1, K2, K3, K4
II	Create your Own Character and Apply Rigging: Usage of Rigging in 3D Animation, to get a solid understanding	20	CO 1 CO 2 CO 3	K1, K2, K3, K4

	of rigging characters and use the rigging techniques on your own characters with adding basic expressions.			
III	Advanced Character Rigging**:** To learn advanced character rigging techniques in Maya. How to create a modular rig to be inserted into the skeletons for flexibility and speed. How to create and utilize custom tools. To learn how to create IK FK systems to produce more exaggerated results. To learn how to create non-flipping twist rigs to hold volume.	20	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Advanced Animation: Character Animation, Animation Types – Key frame Animation – Understanding Animation workflow. Animation Techniques – Non – Linear and Character Animation – Posing, Timing and Refining – Working with Poses. Path Animation - Animate an object along a curve or surface - Edit path or other animation parameters during playback - Set Driven Key - Establish Relationships where one action automatically drives another. Character Animation – Skeletons – Clusters and Lattices Forward and Inverse Kinematics – Using the IKRP Solver, IKSC Solver, IK Spine handle Solver, IK Spring Solver, Human IK Solver – Switching between FK and IK	18	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	Timing for 3D Animation: Dope sheet - Rapid and intuitive global editing of key frame timing - Channel Box - Quickly edit an Object ‘s attributes, one or more fields at a time - Graph Editor - Precise Controlling on animated parameter changes over time -Motion Blur - Generalized Constraints - Comprehensive assortment of	10	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4

	constraints. The Animation Process: Posing, Timing and Refining			

Text Books

1. Richard Grandy, 2005. Inspired 3D Advanced Rigging and Deformations, Course Technology Inc., 288pp.
2. Tina O Hailey, 2018, Rig it Right! Maya Animation Rigging Concepts. Routledge.256PP
3. Andy Beane, 2012. 3D Animation Essentials, Sybex , 567 pp.
4. Eyal Assaf, 2016. Rigging for Games: A Primer for Technical Artists Using Maya and Python, Routledge., 392PP
5. John Edgar Park, 2005, Understanding 3D Animation Using Maya, Springer., 331pp
6. Roger King, 2006, Maya 3d Animation for Everyone, Charles River Media.,

Suggested Readings

1. Alias/Wavefront, 2002, Learning Maya | Character Rigging and Animation, Alias/Wavefront., 338pp
2. Class Creatives, Maya & Unreal Engine | Complete Guide to fast 3D Animation and Rigging
3. Autodesk Maya Press, 2008, Learning Autodesk Maya 2009 The Modeling & Animation Handbook, John Wiley & Sons., 560pp
4. Sham Tickoo, 2020, Autodesk Maya 2020 for 3D Artists, BPB Publications., 652pp
5. Kenny Roy, 2013, How to Cheat in Maya, Routledge., 336pp

Web Resources

1. https://animatorsresourcekit.blog/
2. https://www.highend3d.com/
3. http://livlily.blogspot.com/
4. http://sevencamels.blogspot.com/
5. http://andreasdeja.blogspot.com/

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand and Identify technical skills needed to set up Various Character and animate.	K1, K2
CO 2	To Calculate, Manage and assess rigs, alter and support character animations effectively with references.	K3
CO 3	To analyse and Evaluate procedural deformers to geometry for animation with integrating principles	K4
CO 4	To Measure and express custom character rigs and character movement	K5
CO 5	To Produce the custom and Procedural Design character rigs for animating	K6

Course Code	UMM 5602
Course Title	Lighting and Compositing
Credits	6
Hours/Week	6
Category	ES- LAB
Semester	V
Regulation	2019

Course Overview

- To Understand the concept of lighting.
- To develop the understanding of interior and exterior lighting.
- To create a lighting for the 3d environment using software lighting.
- To create the photo realistic render image using 3d lighting.
- To compose the 3d and live shot and colour match.

Course Objectives

- To understand the 3d environment lighting.
- To understand render setting and the different types of lighting to be used in different environment.
- To understand the importance of lighting like shadows, final gathering, global illumination, caustics.
- To apply the knowledge of lighting in 3d project to create photo realistic images.

Prerequisites	• Laptop/desktop • Autodesk Maya, Adobe Photoshop, Adobe After effects

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Introduction Of Lighting: Understanding the illumination of light, Different types of Lights, 3-Point Lighting, the four types of light: hard light, soft light, specular and diffused light., available or natural light, studio or artificial light, three point lighting, key lights, fill light, backlight,There are three major types of continuous lighting bulbs: fluorescent, tungsten & LED	15	CO 1 CO 2 CO 3	K1, K2, K3, K4
II	Usage of lighting in 3D Animation. Types of Lighting in maya, Shadow types: Depth Map & Ray traced	20	CO 1 CO 2 CO 3	K1, K2, K3, K4

	shadows - Global Illumination using maya lights - Ray tracing: reflections & refractions - Physical Sun & Sky network. Color Temperature Chart - Overview of Final Gather - Scattering - Mental Ray's nodes - A first look at Global Illumination - Introduction to Caustics - Using Global Illumination - Setting up caustics. Lighting and Rendering options			
III	Advanced 3d lighting, creating the photorealistic interior lighting and exterior lighting, with maya render engines, mental ray, arnold, and Vray.	20	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Different types of Compositing, Introduction to Compositing Software. Digital Compositing: Introduction to Composting Digital Images, Compositing in 2D involves taking footage shot during production and 2D elements created in post-production to integrate them cohesively into a single shot. Blending layers of 2D elements to create the illusion of depth while matching colour, lighting, and perspective. Integrating 3D elements into a live action shot	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	Color, Camera & Tracking: Stabilization/Color Correction. Colour manipulation tools, Filters, Colour Manipulation using Blending Mode, Layer Blending. Advanced Colour Correction Creating Mood for the scene Tinting Footages, Exposure	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4

	Adjustments, Brightness and Contrast. Learning to stabilize camera shake and jitter, Analyzing Footage for shake, Using stabilize option - Camera Tracking: Tracking Concept, Using footage elements in tracking, 2D Tracking, Using the Data of Tracking. 3D Tracking, Constraints of 3D Tracking, Using the Data of Tracking, Advanced Tracking Techniques. Compositing the 3d object with the 3d camera tracking points with same lighting.			

Text Books

1. Aesthetic 3D Lighting: History, Theory, and Application Paperback – 27 April 2018 by Lee Lanier (Author)
2. Light for Visual Artists Second Edition: Understanding, Using Light in Art & Design Paperback – 15 July 2019 by Richard Yot (Author)
3. Advanced Visual Effects Compositing: Techniques for Working with Problematic Footage Paperback – 31 January 2017 by Lee Lanier (Author)
4. [digital] Visual Effects and Compositing 1st Edition, Kindle Edition by Gress Jon (Author) Format: Kindle Edition

Suggested Readings

1. Digital Lighting and Rendering (Voices That Matter) Paperback – 11 November 2013 by Jeremy Birn (Author)
2. Blender 3D For Beginners: The Complete Guide: The Complete Beginner's Guide to Getting Started with Navigating, Modeling, Animating, Texturing, Lighting, Compositing and Rendering within Blender. Kindle Edition by Danan Thilakanathan (Editor) Format: Kindle Edition
3. Learning Blender: A Hands-On Guide to Creating 3D Animated Characters 2nd Edition, Kindle Edition by Villar Oliver (Author)
4. BLENDER 3D FOR GRAPHICS DESIGNERS TO ANIMATE , VISUAL EFECTS & MOTION GRAPHICS Kindle Edition by MARK MYERS (Author)

Web Resources

1. https://www.youtube.com/watch?v=WZD-MTXwP4c
2. https://www.youtube.com/watch?v=bkWataJdYC8
3. https://www.youtube.com/watch?v=4A9kbUZpqIU

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand a 3D environment featuring lighting and textures	K1, K2
CO 2	To integrate and assess complex visual effects shots incorporating live action, 2D and 3D generated imagery.	K3
CO 3	To analyse images and physical sets to digitally re-create lights, cameras, locations and objects.	K4
CO 4	To Create photo-real images to match live action footage by the application of advanced rendering techniques.	K5
CO 5	Integrate 2D and/or 3D computer generated imagery and live action elements using compositing techniques.	K6

Course Code	18UMM6MS01
Course Title	PROFESSIONAL SKILLS FOR ANIMATION
Credits	06
Hours/Week	06
Category	Major Core (MC) – PRACTICAL
Semester	VI
Regulation	2021

Course Overview

The course aims at giving an overview of the Animation Industry, help develop a portfolio and skills to face interviews for job placement or start a business in the Animation industry.

Course Objectives

1. To demonstrate a rationale for an individual programme of work culminating in a proposal of one or more pieces of work for job placement.
2. To Investigate and resolve problems likely to arise in research, production and professional practice.
3. To value commitment, motivation, interpersonal and communication skills.
4. To Implement Time Management effectively towards defined outcomes and deadlines.

Prerequisites	Basic knowledge of Animation Industry.

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Business Opportunities in Animation: Discuss about the business opportunities in Animation, Creative usage of Animation, Existing studios and Industry visits	15	CO 1 CO 2 CO 3	K1, K2, K3, K4
II	Presentation Skills For Business: Etiquettes for Business presentations – Team presentations and Individual presentation. Preparing successful presentations, thinking about audience, making effective use of visual aid, Delivering presentation, engaging the audience, dealing with questions and interruptions, Mock presentations.	15	CO 1 CO 2 CO 3	K1, K2, K3, K4

III	Public Speaking Skills: Formal and Informal conversations- INFORMAL: Introducing, Opening and closing Speeches, Inviting, thanking, Apologizing, Expressing anger Resolving conflict, Giving and taking information. FORMAL: Etiquettes for Public Speaking (extempore and lectures), Interviews and Group Discussions, Telephone conversations and Business Meetings.	15	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Interview Skills: Interviews – Types of Interviews, preparing for interviews, facing interviews, reviewing performance, participating in mock interviews	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	Careers in Animation: Career opportunities in animation	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5

Key Text Books and Reference:

1. George Avgerakis (2003) Digital Animation Bible - Creating Professional Animation with 3ds Max, Light wave and Maya, McGraw-Hill/TAB Electronics, 1st Edition
2. Andrew Gahan, (2010) 3D Automotive Modeling: An Insider's Guide to 3D Car Modeling and Design, Focal Press1st Edition
3 Andrew Selby (2013) Animation (Portfolio) Laurence King Publishing1st Edition
4. Marc Taro Holmes (2016) Designing Creatures and Characters: How to Build an Artist's Portfolio for Video Games, Film, Animation and More, North Light Books, Kindle Edition

Web Resources

1. https://digitalmarketingdeal.com/blog/animation-companies-in-india/
2. https://www.profitableventure.com/animation-studio-business-plan/

Course Outcomes (COs) and Cognitive Level Mapping

18UMM6MS01 PROFESSIONAL SKILLS FOR ANIMATION		Cognitive Level
CO 1	Understand the business in Animation Industry.	K1, K2
CO 2	Learn of one's strength and prepare the Resume, Portfolio and Show reel.	K3
CO 3	Prepare and apply Interview skills for job placement.	K4
CO 4	Analyse and evaluate Animation Industry and grab the opportunity.	K5
CO 5	Create Business proposals and make presentations.	K6

Course Code	UMM 6502
Course Title	Advance 3D Dynamics
Credits	06
Hours/Week	06
Category	MC- lab
Semester	VI
Regulation	2019

Course Overview

- To apply 3d Dynamics technology effectively in the field of animation and VFX projects.
- To develop the kinematics of displacement, velocity and acceleration for systems of particles and rigid bodies.
- To develop visualize concepts, and their application for creating works with 3d Dynamics tools.
- To create the specific effect of forces on the motion of an element by applying the laws of motion and conservation of energy and momentum.
- To incorporate Particles, Fluid Stimulation, paint Effects, MASH, Cloth Stimulation, Creative 3d Projects.

Course Objectives

- To understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.
- To understand how these cellular components are used to generate and utilize energy in cells.
- To understand the cellular components underlying mitotic cell division.
- To apply the knowledge of cell biology to selected examples of changes or losses in cell function.

Prerequisites	• Laptop/desktop • Autodesk Maya, Adobe Photoshop

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Introduction For Dynamics. Rigid Body Basics Active/passive - rigid Bodies, Rigid Body Attributes, Rigid Body Simulation, Rigid Body Constraints, Dynamic simulations Soft Body Basics. Movement of bipeds and quadrupeds - Hair/fur simulation - Cloth simulation.	18	CO 1 CO 2 CO 3	K1, K2, K3, K4
II	Legacy Particles - Particle Terminology, Particle Tool, Create emitters. Particle Attributes – Lifespan, Render Attributes. Per particle attributes. Particles collusion events, Forces and fields. Applying Fields.	15	CO 1 CO 2 CO 3	K1, K2, K3, K4

	Types of Fields. Common Field Attributes. Particle Goals. Emit from object. Curve Emission. Surface Emissions. Particle Expressions. Creating water Fountain, and Group Stimulation			
III	Nucleus Particles - Emitter, Create option, Emit from Object, and Understand passive collusion, Paint Effects in Maya: Creating Environment and Backgrounds.	17	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Maya Fluids- 2d container and 3d container, fluid emitter, Emit from object, Gradient Fill, Paint Fluid tool, Collusion, Create Pond, Create ocean, Make wake and make Boat, make the objects float..	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	NCloth- Create ncloth, passive collider, tear able surface, stretchable cloth, create hair. Advanced Compositing: Compositing in both 2D and 3D. Handling compositing for the theme, Advanced Rendering	20	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4,K5,K6

Text Books

1. Learning MayaTM 5: Dynamics (Learning Maya 5) Paperback – Import, 16 September 2003by Alias Wavefront (Author)
2. Maya Studio Projects: Dynamics Paperback – Import, 27 October 2009 by Todd Palamar (Author)
3. Practical Maya in Post Production: Dynamic FX Setups: Fire Kindle Interactive Edtion by Eric Ebling (Author)

Suggested Readings

1. Learning Maya 6: Dynamics Paperback – Import, 8 June 2004 by Alias Learning Tools (Author)
2. Practical Maya in Post Production: Dynamic FX Setups: Laser Beams by Eric Ebling | 14 September 2016
3. Practical Maya in Post Production: Dynamic FX Setups: Clouds by Eric Ebling | 15 September 2016

Web Resources

1. https://www.youtube.com/watch?v=gMaxLHjpnxA&t=12s
2. https://www.youtube.com/watch?v=-tUC0WqOjHE&t=603s
3. https://www.youtube.com/watch?v=T7gU4A8ncUg
4. https://www.youtube.com/watch?v=t9evBIWrGlA
5. https://www.youtube.com/watch?v=OPRRhamahQs

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand to use 3d Dynamics technology effectively in the field of animation and VFX projects.	K1, K2
CO 2	To incorporate the kinematics of displacement, velocity and acceleration for systems of particles and rigid bodies	K3
CO 3	To analyse visualize concepts, and their application for creating works with 3d Dynamics tools.	K4
CO 4	To create the specific effect of forces on the motion of an element by applying the laws of motion and conservation of energy and momentum.	K5
CO 5	To incorporate Particles, Fluid Stimulation, paint Effects, MASH, Cloth Stimulation, Creative 3d Projects.	K6

Course Code	UMM 6503
Course Title	Production Management
Credits	04
Hours/Week	04
Category	Major Core (MC) - Theory
Semester	VI
Regulation	2019

Course Overview

- To provide an overview about understanding the project brief, product requirements and methodology/technique(s) to be used for production This course explores the whole production process techniques. After taking this course the students will be able to attain skills in managing animation projects. They will get a clear idea about the pre-production, production and post-production.
- This Course will introduce students to key management and crew roles, their responsibilities and common workplace practices within the global animation industry. Students will explore these roles and demonstrate knowledge of key management strategies applied in the development
- This course will cover all the aspects of managing an animation film or TV project that are crucial for it to be completed within its allocated timeframe and budget, and at the promised level of quality. The course is for graduates and professionals of animation, film, business, media studies and similar, preferably with some animation experience.

Course Objectives

- Gain In-depth knowledge in Pre-production, Production and Post-Production methods using computer software
- Describe key management roles and responsibilities found within the global animation industry
- Identify appropriate documentation and tools used to plan and manage sequences of animation
- Demonstrate professional competencies in the planning, management and production of an animated shot
- Evaluate management workflows and the application of production techniques during the creation of an animated sequence

Prerequisites	• Knowledge of 2D/3D Animation, VFX, Game and graphic design • Laptop/PC

SYLLABUS				
Unit	**Content**	**Hrs**	**COs**	**Cognitive level**
I	Importance & Need of Production Management, Prerequisites & deliverables, animation production pipeline, 2D animation, 3D animation, staging department, stop-motion project, Scheduling, understanding project requirements, Planning for deadlines, resource management	12	CO 1 CO 2 CO 3	K1, K2, K3, K4
II	Props, budget, rendering, data management, story boards, designs, references, delivery specifications, technical requisites, data tracking, feedback sheets, File transfer protocol, intranet, storage, folder structure, naming conventions, job sheet, project handover notes, summary sheets, detailed daily progress sheets, importance of colour coding	12	CO 1 CO 2 CO 3	K1, K2, K3, K4
III	Asset management & handling – recording requirements for assets, collating receipts, pipelines – feed & movement, approvals & sign-offs – Inter-department & responsibilities, Implications of drops & retakes	12	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Importance of effective communication, types of communication – verbal & written, categorizing conversations, communication wagon wheel, communication between departments, Records, meetings, recording minutes, follow-up, importance of decision making, effects of indecision	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	Delivery process chain, client specification related to delivery – file format, resolution, aspect ratio, frame rate, leader, frame count, zero padding, preparing the medium – checking the physical mediums like hard	12	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4

	discs, optical discs, DVDs, data tapes, CDs, portable pocket, zip & flash drives, delivery check lists, packaging, paperwork & transportation – customs formalities & disclaimers, tracking the shipment, confirming the deliveries, closure – archival & knowledge updates		CO 5	

Text Books

- Bastian Cleve, 2017. Film Production Management, Routledge., 222PP
- John Hart, 2007.The Art of story board, Routledge., 224 PP
- **Jeffrey Scott's, 2003. 'How to Write for Animation,** Penguin USA., 224PP
- **Walt Stanchfield,** Don Hahn, 2009. **Drawn to Life,** Routledge., 370PP

Suggested Readings

- Burke, Jack. D., 1970. Cell Biology, Scientific Book Agency, Calcutta.
- Jean Ann Wright, 2013. Animation Writing and Development, Routledge., 360PP
- **Mark Simon, 2005, Facial Expressions: A Visual Reference for Artists,** Watson-Guptill. 256 PP
- **Chris Webster, 2005, Animation the Mechanics of motion, Focal Press., 280PP**

Web Resources

1. https://www.slideshare.net/BenT1990/animation-production-presentation
2. https://webneel.com/different-types-of-animation-styles
3. http://pellacini.di.uniroma1.it/teaching/projects10/lectures/01_pipeline.pdf
4. https://www.mondaq.com/india/copyright/883188/animation-and-it39s-protection-under-copyright
5. https://www.ipmall.info/sites/default/files/hosted_resources/IDEA/18.Lalor.pdf
6. https://corporate.findlaw.com/intellectual-property/protection-of-graphic-characters.html

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To List, understand and apply the production pipeline of an animation project	K1, K2
CO 2	To extend knowledge and implement the different types of animation techniques	K3
CO 3	To analyze and assess allocated resources and schedule an animation project	K4
CO 4	To critique and develop a daily progress sheet for different department in media and animation industry	K5
CO 5	To construct a professional Presentation par with industry standard	K6

Course Code	UMM 6701
Course Title	VFX and Editing Techniques
Credits	04
Hours/Week	04
Category	Major Skill (MS) - Practical
Semester	VI
Regulation	2019

Course Overview

This course introduces students to the Advanced skills used in the Visual Effects- VFX industry. Students learn compositing and how the vfx field integrates computer graphics and 3D components with live action plates. The main purpose of this course is to familiarize students with the core skills used in the vfx industry. Students continue to gain practical experience through editing, compositing, and vfx, integrating computer graphics and 3D components with live action plates. Students will continue to learn the methods by which computer generated elements can be integrated into live action plates, specifically, how these elements are digitally composited. This is a hands-on class where students will learn through practical experience. This course includes comprehensive practical exercises that simulate current industry pipelines. In addition to Layer Based Compositing topics include Colour Correction, Keying, Tracking, Rotoscoping, Tracking, effects, templates and node based compositing. In this course students apply key compositing skills to their final visual effects projects

Course Objectives

- To understand and Identify common visual effects used in motion graphics, Tv and Film.
- To Apply various tools and techniques for emulating realistic effects.
- To analyse and plan visual effects sequences.
- Students will be able to merge elements from various sources to achieve intended effect and composition.
- To make students understand the use of Visual effects in media and animation industry
- To make them fully understand the latest VFX techniques and software
- To Handle VFX for 2D, 3D and Live shoot Learning Video Editing Techniques
- To prepare the learners to design and execute compositing in Visual Effects using digital electronic media and develop the students in a core set of technical and creative skills related to digital filmmaking.
-

Prerequisites	• Laptop or desktop with suitable configuration (student must preferably possess to practice and submit assignments) • Adobe After effects, Autodesk Maya, Adobe Photoshop, Nuke

SYLLABUS				
Unit	**Content**	**Hrs**	**COs**	**Cognitive level**
I	Tools And Techniques: The basics of creating projects, compositions, and layers, Importing footage, including video, audio, and still images, Creating animation for shapes, objects, and layers, Adding and animating text, Lower third, Animating shapes, Exporting to Video	12	CO 1 CO 2 CO 3	K1, K2, K3, K4
II	Rotoscope & Track Mattes: Role and responsibility of Roto Artist, Selection of relevant raw footage, saving in the appropriate file formats, Normal Rotoscope & Stereoscopic Rotoscope, Creating and using masks and track mattes, Working in 3D	15	CO 1 CO 2 CO 3	K1, K2, K3, K4
III	Masking Techniques & Paint: Creating, Saving, and Loading Selections - Combining and Modifying Selections - Channels and Masking Techniques - preparing the background plate - articulated mattes, Normal Paint & Stereoscopic Paint. Matte Painting. Blue Matte & Green Matte Removing: Live Shoot, Usage of plug-in, Wire removal - Removal of Blue Matte & Green Matte.	16	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Camera & Object Tracking: Match Movie – with Camera movements. Tracing live action images, framing, camera movements.	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	Compositing: Normal Compositing & Stereoscopic Compositing, Composting, crowd replication, motion capture, adding different effects, creating mattes, R&D. Editing: voice effects and digital effects, rendering and grain effects. Continuity editing and montage editing, rough cut, final cut and director's cut sound designing and mixing	20	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4

Text Books

1. McAlister, Michael, "The Language of Visual Effects",Eagle,1993.
2. The Invisible Art by Mark Cotta Vaz
3. Visual Effects Cinematography [Paperback] Zoran Perisic (Author)
4. Industrial Light & Magic: The Art of Special Effects by Thomas G. Smith
5. The Art and Science of Digital Compositing (The Morgan Kaufmann Series in Computer

Graphics) by Ron Brinkmann
6. The Language of Visual Effects by Micheal J. McAlister
7. Special Effects: The History and Technique by Richard Rickitt

Suggested Readings

1. Beck, Jerry, "Animation Art: Form Pencil to Pixel, The World of Cartoon, Anime and CGI" Collins, 2004.
2. Clements, Jonathan and McCarthy, Helen," The Anime Encyclopedia," Stone Bridge Press, 2001.
3. Ryder, Antony, "The Artists Complete Guide to Figure Drawing," WatsonGuptill,1999.
4. Goldfinger, Eliot,"Human Anatomy for Artists :The Elements of Form,"OUP,1991.
5. Rawson, Philip, "Design, " Prentice Hall,1987.
6. Bryson, Norman, Ann Holly, Michael, Moxey, Keith, "Visual Theory: Painting and Interpretation, "Harper Collins,1991.
7. Cancellearo, Joseph, "Exploring Sound Design for Interactive Media, "Delmar Cengage,2005.

Web Resources

1. https://motionographer.com/
2. https://www.awn.com/vfxworld
3. https://www.visualeffectssociety.com/
4. https://pixabay.com/
5. https://search.creativecommons.org/
6. http://www.freeimages.co.uk/

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To Identify, differentiate and apply the post-production activity similar to film and TV	K1, K2
CO 2	To articulate, integrate and assess the content with appropriate background through visual design in vfx shot.	K3
CO 3	To analyse and Measure different Masking techniques and Matte Painting.	K4
CO 4	To explain and distinguish with planning the camera movement and tracking live action images with appropriate framing	K5
CO 5	To compile and prepare different effects as a vfx shot.	K6

Course Code	UMM1301
Course Title	DIGITAL DESIGN
Credits	3
Hours/Week	6
Category	AR - LAB
Semester	I
Regulation	2019

Course Overview

- The aim of the course is to give basic knowledge on principles of digital design.
- This course explains the importance of elements to be used in digital design.
- This course gives the confidence to create a digital design.

Course Objectives

- The aim of the course is to give basic knowledge on principles of digital design.
- This course explains the importance of elements to be used in digital design.
- This course gives the confidence to create a digital design.

Prerequisites	**3.** Laptop/desktop **4.** Adobe Illustrator, Photoshop, Indesign

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Unit I : Visual thinking and Designing - techniques, concept development, composing, using objects, texture, color and space. Elements of Design & Principles of Design: Elements of Design - Dot, Line, Shape, Value/Tone, Texture, Space, Color. Principles of Design - Balance - Symmetrical or Asymmetrical, Repetition / Rhythm, Focus / Emphasis / Dominance, Unity / Harmony, Scale, Proportion, Contrast, Movement, Depth.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
II	Unit II : Basic introduction to software, User interface, Colour modes RGB, CMYK, Basic Image editing techniques (Selection tools), Basic Image editing (Bitmap Images, Vector Images, Image Size and Resolution Settings, Scanning Images, Creating New Images, Placing Files), Typographic designs, Layer techniques.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

III	Unit III : Image retouching and manipulation, (Correcting and Enhancing Digital Photographs), Adjustment layers, Image colour corrections, Filter options.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
IV	Unit IV : Shapes, paths, layer styles, blending options and modes. Advance photo manipulations, masking techniques.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
V	Unit V : Graphics creation - brand and corporate identity (Logo, Visiting Cards, Letter heads) manual, poster, brochure, label artwork presentation. Vector drawing techniques (Bitmaps and Vector graphics).	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

Text Books

24. Don Norman, 2013. The Design of Everyday Things, Hachette UK., 2nd edition.
25. Diana, Practical UI Patterns for Design Systems. Apress., 1st edition.
26. Steve Krug. Don't Make Me Think, Revisited, 3rd Edition, New Riders.,
27. Graphic Design Play Book: An Exploration of Visual Thinking Paperback – 24 June 2019

Suggested Readings

1. Graphic Design School: A Foundation Course for Graphic Designers Working in Print, Moving Image and Digital Media Paperback – 1 January 2020 by David Dabner (Author)
2. Graphic Design For Everyone: Understand the Building Blocks so You can Do It Yourself Hardcover – 4 July 2019 by Cath Caldwell (Author)
3. Digital Image Processing | Fourth Edition | By Pearson Paperback – 30 July 2018 by Rafael C. Gonza Lez (Author), Richard E. Woods (Author)
4. Design and the Digital Humanities: A Handbook for Mutual Understanding Paperback – Import, 17 September 2021 by Milena Radzikowska (Author), Stan Ruecker (Author)

Web Resources

1. https://www.youtube.com/watch?v=YqQx75OPRa0
2. https://www.youtube.com/watch?v=a5KYlHNKQB8
3. https://www.youtube.com/watch?v=_2LLXnUdUIc
4. https://www.youtube.com/watch?v=sByzHoiYFX0

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand the use of social media as a tool to appreciate the role of technology.	K1, K2
CO 2	To Identify infographic tools to incorporated into assignments for social work.	K3
CO 3	To Analyse the strengths and weaknesses of infographics as a method of displaying information.	K4
CO 4	To Demonstrate an understanding of the ways in which infographics can be used to present design to propose alternatives that would improve them.	K5
CO 5	To contextually obvious interactions through design.	K6

Course Code	UMM2301
Course Title	TRADITIONAL MEDIA
Credits	3
Hours/Week	6
Category	AR
Semester	2
Regulation	19

Course Overview

1. Traditional media is an interdisciplinary subject that deals with various arts of different parts of India.
2. The subject intended to give sufficient knowledge on performing art forms of the region.
3. Some of the art forms in India are about to extinct, the subject throws light on it.
4. The subject connects culture, art and literature
5. Art forms used in rituals are of great importance.

Course Objectives

1. To educate on the traditional forms of media to understand the other forms of available media.
2. To understand the types of traditional art forms
3. To understand how these traditional media can used to communicate for development
4. To understand the difference between popular media and traditional media
5. To apply the knowledge of traditional media to communicate better

Prerequisites	Basic knowledge on Indian culture especially Tamil culture

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Society definitions- structure- functions- culture- high culture- low culture- popular culture people culture	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
II	Introduction to folklore- folk beliefs- customs - communication - approaches to folklore	10	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
III	Tamil society - structure- culture- Tamil folklore - stories-myths - narratives - folk forms- Songs	15	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6

IV	Folk theatre in Tamil nadu - therukoothu and- folk art forms folk communication in Tamil Nadu	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
V	Traditional media - forms - functions- effectiveness. Folk media and mass media.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5, K6
Text Books D. Lourdu naatar vzhakkariyal An Approach to Indian art Nihranjan ray Publishing Bureau Punjab University 1974 1st Ed				
Suggested Readings Alan dundies introduction to folklore				
Web Resources				

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand and recall the various art forms exists in a culture.	K1, K2
CO 2	To integrate and assess the traditional art forms for day to day life.	K3
CO 3	To analyse and differentiate the nature and forms of folk arts to utilise in pop media	K4
CO 4	To explain the role of traditional and folk forms in holistic development	K5
CO 5	To construct and simulate the role of individuals to use folk forms and traditional art forms	K6

Course Code	UMM 3401
Course Title	INFOGRAPHICS
Credits	3
Hours/Week	5
Category	AO - LAB
Semester	III
Regulation	2019

Course Overview

1. This course is to provide the understanding of the power of visual communication that their infographics break through
2. To Learn step-by-step systems and processes used by professional graphic designers
3. This course provide knowledge to finished infographic which will engage your target audience and convey information clearly through effective use of design elements such as typography, color, and structure.

Course Objectives

1. To Understand to build a basic structure to hold all parts of their Infographics together.
2. To Develop infographics techniques needed to bring their content to life
3. To analyse to illustrate big problems in clear language, distill complex ideas, and call attention to overlooked issues.
4. To Create core to advanced universal infographics design principles used by professionals

Prerequisites	Laptop/desktop Adobe Photoshop, Adobe Illustrator, Adobe InDesign

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	GUI Kit – Buttons, Loading bars, Scrollbars, Fields, Rating, loading icons, tag icon Search bars, Dropdown, Playback, Pagination, Picture Slider, Newsletter Sign up, Radial loading Bar, Pricing Table.	12	CO 1 CO 2 CO 3	K1, K2, K3, K4
II	Flat Design – Buttons, Navigation bar, Radial Progress bars, Sliders, Log in, Rating, Newsletter Sign up, Tabs, Video player.	12	CO 1 CO 2 CO 3	K1, K2, K3, K4
III	Pie Infographic – Main chronometer circles, chronometer animation, text refining through expressions, label	12	CO 1 CO 2 CO 3	K1, K2, K3, K4, K5

	elements, Descriptive Elements, Entry Animation, Animated arrows and Values, Compositions, Colors.		CO 4	
IV	Linear Graph Chart- Creating Grid and color Control, Beam Linking, Labels, Graph points, Line charts, Bar Line Infographics, World Map Infographics.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5
V	Canva – Pre made Designs, Photos, Layers, Text usage and rules, Text Orientated Infographics, picture-oriented Infographics, Data oriented Infographics.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4,K5

Text Books

Don Norman, 2013. The Design of Everyday Things, Hachette UK., 2nd edition.
Diana, Practical UI Patterns for Design Systems. Apress., 1st edition.
Steve Krug. Don't Make Me Think, Revisited, 3rd Edition, New Riders.,

Suggested Readings

1. The Infographic Guide For Entrepreneurs: A Visual Reference for Everything You Need to Know Paperback – 12 February 2019 by Carissa Lytle & Jara Kern (Author)
2. Infographic: How it Works Bind-Up (Life on Earth, Our Planet, Our Universe) 3 Books in 1 Paperback – 14 September 2018 by Jon Richards (Author), Ed Simkins (Author)
3. The Infographic Guide to Personal Finance: A Visual Reference for Everything You Need to Know Paperback – 5 December 2017 by Michele Cagan CPA (Author), Elisabeth Lariviere (Author)
4. The Infographic Guide to Grammar: A Visual Reference for Everything You Need to Know Paperback – 4 August 2020 by Jara Kern (Author)

Web Resources

1. https://www.youtube.com/watch?v=uQXf_d5Mgjg
2. https://www.youtube.com/watch?v=tN8_85gKOTc
3. https://www.youtube.com/watch?v=bZc-DjWd2BE
4. https://www.youtube.com/watch?v=_2LLXnUdUIc
5. https://www.youtube.com/watch?v=sByzHoiYFX0

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To understand the use of social media as a tool to appreciate the role of technology.	K1, K2
CO 2	To Identify infographic tools to incorporated into assignments for social work.	K3
CO 3	To Analyze the strengths and weaknesses of infographics as a method of displaying information.	K4
CO 4	To Demonstrate an understanding of the ways in which infographics can be used to present design to propose alternatives that would improve them.	K5
CO 5	To contextually obvious interactions through design.	K6

Course Code	UMM 4401
Course Title	Media Entrepreneurship & Economics
Credits	3
Hours/Week	5
Category	AO
Semester	IV
Regulation	2019

Course Overview

1. The subject deals with the basics of business especially help the media students to become an entrepreneur.
2. Basic knowledge on a business firm is given to start or run a media firm
3. This subject furnishes knowledge on the traits of a manager
4. To run a production house as an entrepreneur it gives knowledge
5. How to deal economy is dealt in this course.

Course Objectives

1. To understand entrepreneurship
2. To acquire knowledge on the set and functions of a business firm.
3. To learn media is a business

Prerequisites	

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	The heroic entrepreneur, key traits of successful entrepreneurs; Discovering an opportunity – serving a need; Entrepreneurial society; demand & supply; opportunity cost; scarcity.	10	CO 1 CO 2 CO 3	K1, K2, K3, K4
II	Market trends, subjective value, comparative advantage, competition, pricing, business ethics and CSR. Competition and cooperation.	12	CO 1 CO 2 CO 3	K1, K2, K3, K4
III	Specific analytics, testing tools for every business niche, online tools, free tools and software, gauging results, using pilot data to build and streamline the original business idea.	10	CO 1 CO 2 CO 3 CO 4	K1, K2, K3, K4, K5
IV	Creating a business plan, value system, incentives, perks, value added services, social responsibility in business.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K5
V	Gathering customer feedback, using free online tools to gauge customer experience, build on it, using Industry analytics, identifying mentors, investors, venture capitalists, etc.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4

Text Books

S.No.					Vol./Ed
1.	"Entrepreneurial Journalism: How to build	Mark Briggs	Sage/CQ Press	2012, LA	2
2.	The Lean Start-up and The Start-up Way	Both by Eric Ries	Currency	2017, USA	1

Suggested Readings

					Vol./Ed
1.	8 Questions that will help define the future of Journalism	Richard Gingras	The Nieman Lab	April 2012	3
2.	Media Entrepreneurship: Definition, Theory and Context	Anne Hoag	International Journal on Media Management	2005, 2008.	5

Web Resources

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To Understand and appreciate Entrepreneurship	K1, K2
CO 2	To integrate and assess the methods of managing a media business	K3
CO 3	To analyse market Research scientifically, running pilots and tests before launching	K4
CO 4	To explain the role of managers in the business firm.	K5
CO 5	To Create Business Plans and to run a media firm	K6

Course Code	UMM 3801
Course Title	Visualization for Animation
Credits	02
Hours/Week	03
Category	Major Core (MC) -
Semester	III
Regulation	2019

Course Overview

1. This course will offer skill development in the use of software to develop storyboards and 2-dimentional animation including creating, importing and sequencing media elements to create multi-media presentations.

Course Objectives

1. To understand the form of human anatomy to get knowledge for illustration.
2. To understand the step by step production process of storyboarding for animation.
3. To understand the tools usage of tools for modeling and measuring for clay modelling.
4. To understand and develop the skill & knowledge in 2D Animation.
5. To create professional portfolio project.

Prerequisites	Drawing pad Clay and materials Laptop/Desktop Adobe CC Animate

SYLLABUS

Unit	Content	Hrs	COs	Cognitive level
I	Character Design: Anatomy Study - Male (Front & Side) - Female (Front & Side) - Portrait (Study from live figure - Outline) - Study from live figure (Pencil shading) - Hand & Feet Study – Hairstyle - Cloth study - Skin colours - Facial Expression - Concept Character.	12	CO 1	K1, K2, K3, K4,
II	Storyboard: Introduction of storyboard - Various types of shots - Where and why we need to use these shots - Camera movements - Camera Angles - Types of Symbols & Arrows - Golden rule of third & where we can break it - Composition and staging of character – Continuity - 180 Rule - Thumbnail sketches	12	CO 1 CO 2	K1, K2, K3, K4,
III	Clay Modeling: Discussion of materials	12	CO 1	K1, K2, K3,

	based on the concept art - Making skeleton for the character - Fixing of the skeleton on base with proper balance - Covering the skeleton with paper mesh to give basic form - Fevicol coating on the basic form - Applying the clay over the basic model - Finishing with details		CO 3	K4,
IV	2D Animation: Principles of animation – Primary and secondary animation - 2D animation Background - Cartoon Character and their props - Walk cycle - Key Poses – Breakdowns - In-betweens - Compositing with BG.	12	CO 4	K1, K2, K3, K4,
V	Portfolio Making: How to make a portfolio - Collection of best works - Composition & mounting –How to protect and preserve the works - Portfolio Presentation.	12	CO 1 CO 2 CO 3 CO 4 CO 5	K1, K2, K3, K4, K5

Text Books

1. Portrait Techniques Made easy by Chari, N, Aditya
2. The Artist Guide to Human Anatomy by Bammes, Gottfriend
3. Anatomy for the Artist by Carter, Daniel and Courtney, Michael
4. Figure Study Made Easy by Chari, Aditya
5. Anatomy and Drawing by Perard, Victor
6. RichardWilliams “The Animator’s Survival Kit”, Faber & Faber, 4th Edition, 2012.
7. Edoux, Trish, Ranney, Doug, & Patten, Fred (Ed.) “Complete Anime Guide: Japanese Animation Film Directory and Resource Guide”, , Tiger Mountain Press, 1997

Suggested Readings

1. Bob Godfrey and Anna Jackson “The Do-It-Yourself Film Animation Book', BBC Publications, Edition I, 1974 ISBN 978-0-563-10829-0
2. Thomas, Frank and Johnston Ollie “Disney Animation: The Illusion of Life”, Abbeville Publications, 1981

Web Resources

1. https://mahithinsidious.files.wordpress.com/2012/01/reference-book_1.pdf
2. https://files.meetup.com/2149451/gesturedrawingforanimation.pdf

Course Outcomes (COs) and Cognitive Level Mapping

COs	CO Description	Cognitive Level
CO 1	To Understanding the technique of traditional hand drawing methods and how to create animation using basic shapes and sketching methods.	K1, K2
CO 2	To apply storyboard techniques and understanding the standard practices	K3
CO 3	To analyze modelling techniques and handling materials for clay modeling.	K4
CO 4	To assess the current animation trends in relation to the past trends in 2D Animation.	K5
CO 5	To create an effective digital media portfolio project.	K6

COGNITIVE LEVEL (CL) AND COURSE OUTCOME (CO) BASED CIA QUESTION PAPER FORMAT (UG/PG)

SECTION		Q. NO	COGNITIVE LEVEL (CL)				
			K1	K2	K3	K4	K5
A	(6 x 1 = 6) Answer ALL	1	+				
		2	+				
		3	+				
		4		+			
		5		+			
		6		+			
B	(1 x 5 = 5) Answer 1 out of 2	7			+		
		8			+		
C	(1 x 5 = 5) Answer 1 out of 2	9				+	
		10				+	
D	(2 x 7 = 14) Answer 2 out of 4	11					+
		12					+
		13					+
		14					+
No. of CL based Questions with Max. marks			3 (3)	3 (3)	1 (5)	1 (5)	2 (14)
No. of CO based Questions with Max. marks			CO 1		CO 2	CO 3	CO 4
			6(6)		1 (5)	1 (5)	2 (14)

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI 60034
Department of Visual Communication
FIRST CONTINUOUS ASSESSMENT TEST, JULY, 2021
MC01 PRINCIPLES OF ANIMATION

II BMM Animation 15.07.2021
Time: 10.00am to 11.30 am Max. Marks: 30

SECTION A			
Answer ALL the Questions in one or two sentences (6 x 1 = 6 Marks)			
1	Define 'Staging'	K1	CO1
2	Recall follow through and overlapping principle	K1	CO1
3	State the importance of 'Timing'.	K2	CO1
4	Describe 'Secondary Action'.	K2	CO1
5	Differentiate 'slow in from slow out'.	K2	CO1
6	Write down the importance of Exaggeration in animation.	K2	CO1
SECTION B			
Answer any ONE of the following in 150 words (1 x 6 = 6 Marks)			
7	Classify the different types of animation.	K3	CO2
8	Illustrate the squash and stretch animation principle.	K3	CO2
SECTION C			
Answer any ONE of the following in 150 words (1 x 6 = 6 Marks)			
9	Analyse the growth and development of animation from 2D to 3D animation	K4	CO3
10	Distinguish the key differences in stop motion animation and puppet animation.	K4	CO3
SECTION D			
Answer any ONE of the following in 100 words (1 x 12 = 12 Marks)			
11	Evaluate the role CGI in 3D cartoon films.	K5	CO4
12	Summarise the steps in preproduction, production and post production process in 2D animation.	K6	CO5

COGNITIVE LEVEL (CL) AND COURSE OUTCOME (CO) BASED END SEMESTER EXAMINATION QUESTION PAPER FORMAT (UG)

SECTION		Q. NO	COGNITIVE LEVEL (CL)				
			K1	K2	K3	K4	K5
A	(6 x 5 = 30) Answer ALL	1	+				
		2	+				
		3	+				
		4		+			
		5		+			
		6		+			
B	(3 x 5 = 15) Answer 3 out of 5	7			+		
		8			+		
		9			+		
		10			+		
		11			+		
C	(3 x 5 = 15) Answer 3 out of 5	12				+	
		13				+	
		14				+	
		15				+	
		16				+	
D	(2 x 20 = 40) Answer 2 out of 4	17					+
		18					+
		19					+
		20					+
No. of CL based Questions with Max. marks			3 (15)	3 (15)	3 (15)	3 (15)	2 (40)
No. of CO based Questions with Max. marks			CO 1		CO 2	CO 3	CO 4
			6 (30)		3 (15)	3 (15)	2 (40)

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI 60034

Department of Department of Visual Communication

END SEMESTER EXAMINATION, OCTOBER, 2021

MC01 PRINCIPLES OF ANIMATION

III BMM 15.11.2021

Duration: 3 hrs Max. Marks: 100

SECTION A			
Answer ALL the Questions		**(5 x 1 = 5 Marks)**	
1.	**Define the following**		
a)	Shadow puppetry	K1	CO1
b)	Magic Lanterns	K1	CO1
c)	Anticipation	K1	CO1
d)	Zoetrope	K1	CO1
e)	Traditional Animation	K1	CO1
2.	**Fill in the blanks**	**(5 x 1 = 5 Marks)**	
a)	_____is the preparation for the main action.	K1	CO1
b)	The *praxinoscope* was invented by _____	K1	CO1
c)	_____is the traditional, hand-drawn animation technique that involves drawing and painting objects on celluloid	K1	CO1
d)	FPS Stands for_____	K1	CO1
e)	The *exposure sheet*, also known as _____	K1	CO1
3.	**Match the following**	**(5 x 1 = 5 Marks)**	
a)	Steamboat Willie optical illusion	K2	CO1
b)	*Georges* Melies 1877	K2	CO1
c)	Praxinoscope flexibility	K2	CO1
d)	Persistence of vision Trip to moon	K2	CO1
e)	Squash and Stretch 1922	K2	CO1
4.	**TRUE or FALSE**	**(5 x 1 = 5 Marks)**	
a)	Animation is a simulation of movement created by displaying a series of pictures or frames.	K2	CO1
b)	Multimedia is combination of animation, text, audio and video	K2	CO1
c)	2D Animation is a vector based animation	K2	CO1
d)	3D Animation was first produced in Europe	K2	CO1
e)	Finding Nemo is the first 3D Animated movie.	K2	CO1
SECTION B			
	Answer any TWO of the following in 150 words	**(2 x 10 = 20 Marks)**	
5.	Explain the features of exposure sheet used in animation	K3	CO2
6.	Illustrate and explain the following in reference to the principle of animation	K3	CO2

	a. Bouncing Ball Animation b. Walk Cycle		
7.	Prepare a storyboard for PSA	K3	CO2
8	Write short note on the following with examples a. Traditional Animation b. Stop motion Animation	K3	CO2
SECTION C			
	Answer any TWO of the following in 150 words	**(2 x 10 = 20 Marks)**	
9.	Analyse the growth and development of animation in India	K4	CO3
10.	Explain the pre-production procedure in 2D Animation	K4	CO3
11.	Illustrate 4 different types of camera shots.	K4	CO3
12.	Compare and contrast Traditional animation and Stop Motion Animation	K4	CO3
SECTION D			
	Answer any TWO of the following in 250 words	**(2 x 20 = 40 Marks)**	
13.	Evaluate the role CGI in 3D cartoon films.	K5	CO4
14.	Summarise the steps in pre-production, production and post-production process in 3D animation.	K5	CO4
15.	Create a character and demonstrate the effect of foreshortening using it	K6	CO5
16.	Write short note on the following a. Lip Sync b. Character Animation c. Facial Expression d. Motion Graphics	K6	CO5

COGNITIVE LEVEL (CL) AND COURSE OUTCOME (CO) BASED
CIA QUESTION PAPER FORMAT FOR VISCOM, MM ANIMATION, 3D ANIMATION, DIGITAL JOURNALISM LAB COURSES (UG/PG)

	SECTION A (1 Mark/Question)		SECTION B (10 Marks/Question)	SECTION C (10 Marks/Question)	SECTION D (20 Marks/Question)	
	K1	**K2**	**K3**	**K4**	**K5**	**K6**
UNIT I	2 (1)	2 (1)	-	1 (10)	-	
UNIT II	2 (1)	2 (1)	1 (10)	1 (10)	1 (20)	-
UNIT III	2 (1)	2 (1)	1 (10)	1 (10)	1 (20)	-
UNIT IV	2 (1)	2 (1)	1 (10)	1 (10)	-	1 (20)
UNIT V	2 (1)	2 (1)	1 (10)	-	-	1 (20)
No. of CL based Questions with Max. Marks	**10 (10)**	**10 (10)**	**2 (20)**	**2 (20)**	**2 (40)**	**2 (40)**
No. of CO based Questions with Max. Marks	**CO1**		**CO2**	**CO3**	**CO4**	**CO5**
	20 (20)		**2 (20)**	**2 (20)**	**2 (40)**	**2 (40)**

MC-Major Core, **AR**–Allied Regular, **AO**–Allied Optional, **MS**-Major Special, **ME**-Major Elective, **GL**-General Languages. In **Section D** students have choice between K5 and K6.

CL AND CO BASED MARKS DISTRIBUTION FOR DIRECT ASSESSMENTS OF UG COURSES
MC, AR, AO, MS, ME and GL

SECTION	CL	CO	CIA I	CIA II	III Component	Semester	Total (200)	CL and CO %
A	K1, K2	CO1	6	6	20	20	52	26%
B	K3	CO2	6	6	10	20	42	21%
C	K4	CO3	6	6	10	20	42	21%
D	K5, K6	CO4, CO5	12	12	-	40	64	32%

MC-Major Core, **AR**–Allied Regular, **AO**–Allied Optional, **MS**-Major Special, **ME** -Major Elective, **GL**-General Languages.

COGNITIVE LEVEL (CL) AND COURSE OUTCOME (CO) BASED

SEMESTER QUESTION PAPER FORMAT FOR VISCOM / MULTIMEDIA LAB COURSES

(UG/PG)

SECTION		Q. NO	COGNITIVE LEVEL (CL)					
			K1	K2	K3	K4	K5	K6
A	(2 x 10 = 20)	1	+					
		2		+				
B	(1 x 20 = 20)	3			+			
C	(2 x 10 = 20)	4 - 5				+		
							+	
D	(1 x 40 = 40)	6						+
No. of CL based Questions with Max. marks			1(10)	1(10)	1(20)	1 (10)	1 (10)	1 (40)
No. of CO based Questions with			CO		CO	CO 3, CO 4		CO
Max. marks			2 (20)		1 (20)	2 (20)		1 (40)

No Comp III for Lab Courses and total marks assigned to CIA is 50

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI 60034
B.Sc. VISUAL COMMUNICATION / BMM ANIMATION,
FIRST CONTINUOUS ASSESSMENT TEST, SEPTEMBER, 2021
19UMM3MC01 - 3D SET MODELING

II UG BMM 22.09.2021

Time: 09.00 A.M to 12.00 P.M/ 01.30 P.M to 04.30 P.M Max. Marks: 100

SECTION A			
Define the following:		**(20 Marks)**	
1	Name some of standard and extended primitives	K1	CO1
2	Explain the steps involved in setting up the units for set modelling	K2	CO1
SECTION B			
Answer the following in 100 words:		**(20 Marks)**	
3	Organise the 3d tools and choose respective splines to plan the structure for an Architecture model.	K3	CO2
SECTION C			
Answer the following in 100 words:		**(20 Marks)**	
4	Examine the given reference image and setup set design outline	K4	CO3
5	Evaluate the set structure and design the properties for the same.	K5	CO4
SECTION D			
Draw/ Design/ Write/Create the following:		**(40 Marks)**	
6	Create an set model design with suitable properties to enhance the 3d view with lights with roper composition.	K6	CO5

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034
B.Sc. VISUAL COMUNICATION / BMM ANIMATION,
SEMESTER EXAMINATION - NOVEMBER 2021
UMM 5501 - 3D ANIMATION (MC)

BMM ANIMATION,

10.11.2021

Time : 01.30pm to 04.30pm Max. Marks : 100

SECTION A			
Give Short answers for the following:			**(20 Marks)**
1	Identify Content , Logic and selecting a proper Rigged Character	K1	CO1
2	Knowledge of content + Viva	K2	CO1
SECTION B			
Answer the following:			**(20 Marks)**
3	Employ Principals of animation for the given theme	K3	CO2
SECTION C			
Design/Draw/Write/Study the following:			**(20 Marks)**
4	Analyze the given timing and spacing for the given theme	K4	CO3
5	Dissect, display and evaluate good visualization, Technical & Artistic quality	K5	C04
SECTION D			
Final Project/Record work:			**(40Marks)**
6	Generalize Graph Editing for smooth Animation and the characters/objects have fairly natural movements. All frames are in focus and presentation of Content.	K6	CO5

COMPONENT III ASSESSMENTS AND RUBRICS

Mini Project

The project work is included as part of the curriculum to impart research skills. It is optional for UG and mandatory for PG students. Students can select any staff from the department as their research guide. They are encouraged to select research problems relevant to society and environment. The project report of UG with Reflective Visual Journal (RVJ) and Dissertation of PG students will be evaluated by external examiners and the students will present their work in viva voce.

Rubrics for evaluation

S. No	Criteria	Max. Marks
1.	Planning (Brainstorming to pre-production) - RVJ	30
2.	Materials, Layout Implementation and References - RVJ	10
3.	Animation Final Output (2D/3D/VFX/Stop Motion/Game)	40
4.	Presentation & VIVA	20

Seminar/Assignment

Seminars are optional to UG and mandatory to PG. Topics for the seminar are suggested by the course teacher and the students are encouraged to collective exhaustive information on the chosen topic, arrange them in order and make a presentation. They are expected to use visual aids, models, tools for the presentation and circulate relevant literature to the students.

Rubrics for evaluation

S. No	Criteria	Max. Marks
1.	Topic introduction	10
2.	Collection of literature (primary, secondary and tertiary)	10
3.	Presentation methodology	20
4.	Articulation and Communication skills	10
5.	Time management	10
6.	Discussion and Interaction	20
7.	Summary and Conclusion	20

Internship/Field visit

Internship allows the students to gain hands on experience and industry exposure. The internship for UG is conducted during the March - April for minimum of 30

days. The UG students will be sent to industries/organization the department signed MoU with. The PG students are free to select industry/organization of their choice and minimum period of internship is 30 days.

Rubrics for evaluation of Internship

S. No	Criteria	Max. Marks
1.	Industry/Organization profile	10
2.	Thrust areas and specialization	10
3.	Internship module and participation	20
4.	Expertise of the industry/organization	10
5.	Regularity and hands on training	10
6.	Presentation/Demonstration	20
7.	Report writing	20