DEPARTMENT OF MASS COMMUNICATION

Sharda School of Media, Film & Entertainment

Bachelor of Science (Hon. /Hon. with Research)

(Animation, VFX & Gaming Design)

Academic Year 2024-28

Programme Code: SMF0119

General Guidelines and Terminology of Various Academic Programmes Under Sharda School of Media, Film & Entertainment

General Guidelines:

These guidelines are framed to enable the various departments in SSMFE of Sharda University to run academic programmes in a structured manner. The main aim of these guidelines is to bring about a certain degree of uniformity in the programs running in various departments of the school. This would ultimately help in improving the quality of academic structure and delivery within the school. The guidelines would help all those who teach courses under various programmes to meet the basic requirements to teach the course. The guidelines also list the various templates required for this purpose.

Definition of Terms:

The following terminology would be used for the purpose of academic delivery within SSMFE. All departments have to follow these terminologies:

Programme: An educational programme is an integrated, organized experience that culminates in the awarding of a degree. The programme will have programme educational objectives, student outcomes, a curriculum, faculty and facilities. For instance, Sharda School of Media, Films and Entertainment is offering 05 programmes, i.e., BA (Journalism & Mass Communication), BA (Film & Television Production), B.Sc (Animation, VFX & Gaming Design), MA (Journalism &Mass Communication), MA (Advertising & Public Relations)and Ph.D (Journalism &Mass Communication).

Programme Educational Objectives (PEOs): Every programme stipulates educational objectives along with the curriculum. This is extremely essential for any running programme because a systematic process needs to be followed for stating PEOs which should also align with the mission of the school. It is based on the need analysis of the programme. It is also periodically reviewed to keep with changing trends.

Objectives are focused on performances that all students are expected to demonstrate at the end of instruction. Objectives define the key elements that must be taught every time the course is delivered.

Programme Outcomes (POs): Programme outcomes of SSMFE provide general information about the focus of student learning and are broadly stated. Student Learning Outcomes are statements that specify what students will know, be able to do or be able to demonstrate when they have completed or participated in a programme. PO's specify an action by the student that is observable, measurable and able to be demonstrated. These are also synonymous with student learning outcomes.

Courses: Courses in SSMFE is a subject run for the purpose of conducting of any programme.

Course Code: SSMFE course code provided to subjects as entered in PeopleSoft for the purpose of identification of the subject as well as for the purpose of examinations. It is a unique identifying code. It generally represented as a "XYZ123" wherein XYZ is related to the programme and 123 is the serial no based on the year. In case there is a change of 20% or more in the syllabus, a new code has to be assigned to the course through proper approvals.

C**ourse Title:** It is the expanded full form of a subject against a given course code. No short forms are permitted in the course title. E.g., in the Department of Mass Communication, the course tile, Understanding Media in 1st Semester of BA (J&MC) programme.

Contact Hour: It is equivalent to 50 mins for one lecture/studio hour.

Credit: It is the weightage offered against a course. The student will obtain the credit against the course when he successfully obtains the minimum passing marks. Further description may be obtained from Examinations cell, SHARDA UNIVERSITY.

Course Objectives: Course objectives are clear and concise statements that describe what SSMFE intend our students to learn by the end of the course. It describes an intended state on what we hope our students will learn.

Course Outcomes: It expresses a present and observed state (what our students will learn) through the course. These are synonymous with programme specific outcomes (PSOs), course outcomes and any other similar terms as desired for respective accreditation processes.

The purpose of Course Objectives and Learning Outcomes is to:

- Align objectives with course content and evaluation methods
- Clearly communicate our expectations of students
- Establish a logical sequence of learning milestones
- Provide an opportunity for students to make connections across courses and institutional goals

Unit: The syllabus is to be divided into five units 1,2,3,4 and 5 with each unit having 3 subunits -a, b and c. This is the method for recording attendance as well in iCloud app.

Structure:

There are three elements essential for running SSMFE programme:

Programme Structure (Required for the programme)
Course syllabus required for each course in one of the following formats:

Template A1– for Theory subjects Template A2 – for Practical subjects
Template A3 – for Jury subjects/studios/projects/dissertations

Instructional Plan-
Template B1 -- for Theory subjects Template B2 -- for Practical subjects
Template B3 -- for Jury subjects/studios/projects/dissertations

Template D provides additional in the case of Jury subjects/studios/projects/dissertations with a list of Project with description, studio work, and dissertation topic with scope of work and precise deliverables.

Accordingly, the following are formulated for each course:

Sr. No	Course	Syllabus Template	Instructional Plan template	Additional
1	Theory	B1	C1	PPTs, GDs, Seminars & Lecture series
2	Practical	B2	C2	Media Labs, Computer Labs & Assignments
3	Jury subjects/Studios/ Projects/Dissertations	B3	C3	D: List of Project with description, studio work, dissertation topic with scope of work and precise deliverables(to be uploaded on LMS)

Vision, Mission and Core Values of the University

Vision of the University

To serve the society by being a global University of higher learning in pursuit of academic excellence, innovation and nurturing entrepreneurship.

Mission of the University

- Transformative educational experience
- Enrichment by educational initiatives that encourage global outlook
- Develop research, support disruptive innovations and accelerateentrepreneurship
- Seeking beyond boundaries

Core Values

- Integrity
- Leadership
- Diversity
- Community

Vision & Mission
of
The Sharda School of Media, Film & Entertainment
Department of Mass Communication

Vision of the School

To serve the society by being an internationally recognized school of higher learning in field of media, films and entertainment by means of academic excellence, innovation, outcome based learning and nurturing entrepreneurship

Mission of the School

- To create a stimulating, flexible and application-based learning environment for students as well as faculty.
- To provide the necessary platform to impart skills and knowledge related to journalism and mass communication.
- To create brilliant professionals by imparting a blend of theory and more practical lessons through state-of-the-art infrastructure.
- To Leverage research to form strong industry-academia linkages.

Core Values

- Innovation
- Awareness
- Information
- Ethics

Program Educational Objectives (PEO) for B.Sc. Animation, VFX & Gaming Design Program

PEO 1:- Demonstrate Professional, Social and Entrepreneurial skills related to Animation & VFXand Gaming industry.

PEO 2:- Support the Animation & VFX and Gaming industry as competent, trained and qualifiedworkforce.

PEO3: Prove themselves as competent, trained and qualified Artist & Designer in the Animation, Visual Effects & Gaming Industry

PEO4: Mark a difference in the Concept Design, Visual Communication, Storytelling, Graphics,Animation, and VFX and Gaming Industry as competent, trained and qualified Artist.

Mapping PEOs with Mission Statements:

PEO Statements	School Mission-1	School Mission-2	School Mission-3	School Mission-4
PEO1:	**3**	**3**	**3**	**2**
PEO2:	**3**	**3**	**3**	**2**
PEO3:	**3**	**3**	**3**	**3**
PEO4:	**3**	**3**	**3**	**3**

Enter correlation levels 1, 2, or 3 as defined below:

1. **Slight (Low)** **2. Moderate (Medium)** **3. Substantial (High)**

Program Outcomes (PO's)

PO1: Domain Knowledge in Graphics, Animation & VFX Apply the knowledge of Storytelling, Script Writing, Storyboarding, Concept Design, Editing & Compositing, Visual effects and other disciplines ofAnimation & VFX.

PO2: Communication Skills: Exhibit high levels of verbal and non-verbal forms of contemporarycommunication skills along with Creative skill of creating new narratives.

PO3: Modern Tool Usage: Demonstrate skilled usage of modern tools and techniques to effectivelycommunicate with the target audience.

PO4: Problem Solving Skills: Identify, formulate, research, and analyze the problems and reach logicalconclusions and solutions to solve real-life problems and challenges.

PO5: Values, Ethics and Contribution to Society: Understand the importance of Values and Ethics in thefield of Animation & VFX Production and the morals of serving the society and community for sustainabledevelopment.

PO6: Leadership, Management and Entrepreneurial Traits: Display Team spirit and Inculcate Leadership Traits to contribute individually as well as in a team or group of Creative professionals.

PO7: Innovation and Research Related Skills: Identify, formulate, research, and analyse the literature andproblems and reach logical and innovative solutions and conclusions.

PO8:-Lifelong Learning: Develop into lifelong learner and consistently updating with current knowledge,skills and technologies.

PSO1: Expertise in the field of Creative Development, Visualization, Animation, VFX & Gaming.

PSO2: Applied proficiency in the disciplines related to Media & Entertainment Industry.

Mapping of Program Outcome viz. Program Educational Objectives

	PEO1	PEO2	PEO3	PEO4
PO1	3	3	3	2
PO2	1	1	1	1
PO3	3	3	3	3
PO4	2	2	2	2
PO5	1	1	1	1
PO6	1	1	1	1
PO7	1	1	1	1
PO8	3	3	3	3
PSO1	3	3	3	2
PSO2	3	3	3	2

1. Slight (Low) ***2.Moderate (Medium)*** ***3. Substantial (High)***

Program Outcome V/s Courses Mapping Table*

Bachelor of Science (Hon. /Hon. with Research)

(Animation, VFX & Gaming Design)

Course Structure

Semester	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PSO 1	PSO 2
SEM I	**Digital Art Techniques***	1.00	-	0.33	0.50	-	-	-	1.00	-	-
	2D Game Design Development*	1.17	-	0.33	0.33	-	-	-	0.83	-	-
	2D Animation Techniques*	1.17	-	0.33	0.33	-	-	-	0.83	-	-
	Audio & Visual Production Process (OPE) (For students of other schools than SSMFE)	0.50		0.50	0.00	-	-	-	0.33	-	-
	UI & UX Design Tools	1.17	0.33		1.00	-	-	-	0.33	-	-
	Foundation Art Techniques	0.67	-	-	-	-	-	-	0.67	-	-
	Game Programming Fundamentals	1.00	-	-	-	-	-	-	1.33	-	-
	Communicative English I	3.00	3.00	0.33	1.67	1.00	0.83		1.33	0.50	0.67
	Script writing, Storyboard & Animatic	1.00	-	-	0.50	-	-	-	0.83	-	-
	Environmental management	1.0	-	-	0.5	-	-	-	0.8	-	-
SEM II	**Hard Surface Modeling & Texturing***	1.17	-	-	-	-	-	-		1.00	-
	3D Animation Fundamentals*	1.17	-	-	-	-	-	-	1.20	-	-
	Material Animation Techniques (OPE) (For students of other schools than SSMFE)	1.17		0.17					1.33	-	
	Drawing & Painting	0.50	-	-	-	-	-	0.17	0.83	-	-
	Basics of Editing & Compositing	1.17	-	-	-	-	-	-	1.17	-	-
	3D Lighting & Rendering	1.00	-	-	-	-	-	-	0.83	-	-
	Communicative English-II	3.00	0.50		0.33	0.33	0.67		1.00		1.75
	Indian Culture and Art Forms	2.0	0.83	-	1.0	1.17	-	1.17	1.34	-	-
	Stress and Time Management	3.0	1.0	0.16	-	-	-	-	1.6	3.0	1.0
SEM III	**VFX Compositing-I**	1.00	-	1.00	-	-	-	-	2.00	-	-
	Anatomy Drawing	1.5	-	0.5	-	-	-	-	1.83	-	-
	3D Game Design & Development*	1.67	-	0.5	-	-	-	-	1.83	-	-
	Character Animation*	1.83	-	0.67	-	-	-	-	1.83	-	-
	Radio Jockeying, Podcast & Program Production Technique (OPE) (For students of other schools than SSMFE)	0.33	0.33						0.17		
	Texture Painting Tools	1.50	-	0.83	-	-	-	-	1.17	-	-

	Character Modelling & Sculpting Techniques	1.17	-	-	-	-	-	-	1.50	-	-
	Communicative English-III- Logical Skill Building and Soft Skills	0.33	-			0.50					
	Gaming Devices	1.17	-	0.50	-	-	-	-	1.33	-	-
	Photography & VFX	1.00	-	-	-	-	-	-	1.83	-	-
	Motion Graphics & TVC	1.67	-	-	-	-	-	-	1.67	0.50	0.50
	Research Based Learning I	-	0.50	-	1.33	0.83		2.00	-	-	-
SEM IV	**VFX Compositing-II**	-	-	0.7	-	-	-	-	2.0	-	-
	AR VR For Gaming *	*1.6*	-	*0.8*	-	-	-	*0.5*	*1.6*	*0.3*	*0.3*
	Game Testing*	1.2	-	-	-	-	-	-	1.3	0.2	1.0
	Particles & FX *	1.7	-	0.3	-	-	-	-	1.3	0.7	0.8
	Basics of Still Photography (OPE)	1.5	-		-	-	-	-	0.7		
	VFX & Gaming Animation	1.7	-	1.0	-	-	-	-	1.5	0.5	0.5
	Visual Scripting for Game Development	1.7	-	0.5	-	-	-	-	1.7	0.3	0.3
	Game Architecture Development	1.3	-	0.2	-	-	-	-	1.5	0.2	0.2
	3D Walk-Through	1.8	-	0.7	-	-	-	-	2.0	0.7	0.7
	Innovation & Entrepreneurship	*3.0*	1.0	*0.6*	-	-	-	-	1.6	3	1
	Research Based Learning II	0.7		0.7		0.3		1.8	-	-	-
	Communicative English-IV-Campus To Corporate	0.5	3.0	-	-	-	0.3		-	-	-
SEM V	**Introduction to Game Engine***	1.3	-	1.8	-	-	-	0.2	-	0.8	0.7
	Artificial Intelligence *	*0.8*	-	*0.1*	*0.5*	-	-	-	*1.3*	*0.1*	*0.1*
	Camera Tracking & Match-Moving*	1.8	-	0.8	-	-	-	-	-	0.8	0.8
	Web & E-Business and Game Development*	1.5	-	0.7	-	-	-	-	1.8	0.3	0.3
	Rotoscopy, Paint & Comping *	0.8	-		-	-	-	-	1.8	-	-
	3D Lighting & Rendering and Photorealism	2.3	-	1.0	-	-	-	-	1.7	0.5	0.5
	Sound Design Techniques	1.3	-	0.3	-	-	-	-	1.7	-	-
	Creative Computing in Game Development.	1.2	-		-	-	-	-	1.5	-	-
	Fluid Dynamics & Plugins	1.3	-	1.0	-	-	-	-	1.8	0.7	0.7
	Research Based Learning -III		-		0.3	0.3		1.3			
	Industry Connect	2.7	-	2.7			1.0			1.7	1.7
	On Job Training	3.0	1.0	3.0	-	1.0	-	-	3.0	3.0	3.0
	Portfolio-3D Animation	3.0	1.0	3.0	-	1.0	-	-	3.0	3.0	3.0
	Portfolio-VFX	3.0	1.0	3.0	-	1.0	-	-	3.0	3.0	3.0

SEM VI	**Portfolio-Gaming**	3.0	1.0	3.0	-	1.0	-	-	3.0	3.0	3.0
	Smart Phone Mobile Film Making	0.3	-	-	-	-	-	-	0.7	-	-
	Research Based Learning - IV	-	-	-	0.3	0.3	-	1.3	-	-	-
	Community Connect	1.2			0.8	1.3					
SEM VII	**Qualitative Research Methods**	2.50	2.50	2.50	2.50	2.50	2.50	2.17	2.33	2.33	2.17
	Quantitative Research Methods	2.50	2.50	2.67	2.17	2.33	2.17	2.33	2.50	2.50	2.33
	Communication Research Methods & Tools	**2.5**	**2**	**2**	**2.5**	**2.5**	**2.1**	**2.5**	**2**	**2**	**2**
	Statistics for Research	2.6	2.5	2.5	2.5	2.5	2.5	2.3	2.5	2.5	2.5
	Qualitative Research Lab	2.1	2.5	2.5	2.5	2.3	2.5	2.5	2.5	2.3	2.5
	Quantitative Research Lab	**2.8**	**2.5**	**2.2**	**2.5**	**2.2**	**2.8**	**3**	**2.4**	**2.1**	**2.4**
	Anchoring for Different Media (OPE)	2.00	2.33	2.33	2.00	2.50	2.50	2.67	2.67	2.50	2.50
	Project portfolio on constructing tools for Media & Communication	2.50	2.83	2.50	2.67	2.83	2.67	3.00	2.33	2.83	2.50
SEM VIII	**Ethics in Media & Communication Research**	2.50	2.67	2.33	2.67	2.67	2.67	3.00	2.17	2.83	2.67
	Research Writing Techniques	3.00	2.00	2.50	2.67	2.67	2.67	3.00	2.50	2.67	2.67
	Digital Marketing (OPE)	2.83	2.50	2.67	2.50	2.67	2.83	2.83	2.50	2.33	2.67
	Media & Communication Dissertation	3.00	2.00	2.50	2.67	2.67	2.67	3.00	2.50	2.67	2.67

1-Slight (Low) **2- Moderate (Medium)** **3-Substantial (High)**

Program Structure Template
Name of School: Sharda School of Media, Film & Entertainment
Bachelor of Science (Hon. /Hon. with Research)
(Animation, VFX & Gaming Design)
TERM: I
Batch-2024-28

S. No.	Subject Code	Subjects	Teaching Load			Credits	Type of Course: CC AECC SEC DSE
			L	T	P		
THEORY SUBJECTS							
1	AVG121	Digital Art Techniques*	2	2	0	4	CC
2	VAC103	Environmental Management	0	2	2	3	AECC
3	AVG122	2D Game Design Development*	1	2	0	3	DSE
	AVG123	2D Animation Techniques*					
JURY SUBJECTS							
4	OPE	Audio & Visual Production Process	0	2	2	3	AECC
5	AVG 124	UI & UX Design Tools	0	0	2	1	CC
6	AVG 125	Foundation Art Techniques	0	0	2	1	DSE
	AVG 126	Game Programming Fundamentals					
7	ARP101	Communicative English-I	1	0	2	2	AECC
8	VOF105	Script writing, Storyboard & Animatic	0	2	2	3	SEC
TOTAL CREDITS						**20**	

* Evaluation is to be done as Jury Subject.

Program Structure Template
Name of School: Sharda School of Media, Film & Entertainment
Bachelor of Science (Hon. /Hon. with Research)
(Animation, VFX & Gaming Design)
TERM: II
Batch-2024-28

S.No.	Subject Code	Subjects	Teaching Load			Credits	Type of Course: CC AECC SEC DSE
			L	T	P		
THEORY SUBJECTS							
1	AVG129	Hard Surface Modeling & Texturing*	2	2	0	4	CC
2	AVG130	3D Animation Fundamentals*	1	2	0	3	CC
JURY SUBJECTS							
3	OPE	Material Animation Techniques	0	2	2	3	AECC
4	AVG131	Drawing & Painting	0	0	2	1	SEC
5	AVG132	Basics of Editing & Compositing	0	0	2	1	SEC
6	VOF106	3D Lighting & Rendering	0	2	2	3	SEC
7	ARP102	Communicative English-II	1	0	2	2	AECC
8	BCJ111	Indian Culture and Art Forms	0	2	2	3	AECC
9	VAF006	Stress and Time Management	-	-	-	-	AECC
TOTAL CREDITS						**20**	

* Evaluation is to be done as Jury Subject.

Program Structure Template
Name of School: Sharda School of Media, Film & Entertainment
Bachelor of Science (Hon. /Hon. with Research)
(Animation, VFX & Gaming Design)
TERM: III
Batch-2024-28

S.No.	Subject Code	Subjects	Teaching Load			Credits	Type of Course: CC AECC SEC DSE
			L	T	P		
THEORY SUBJECTS							
1	AVG221	Character Modeling & Sculpting Techniques*	2	2	0	4	CC
2	AVG222	VFX Compositing-I*	1	2	0	3	CC
3	AVG223	3D Game Design & Development*	1	2	0	3	DSE
	AVG224	Character Animation*					
JURY SUBJECTS							
4	OPE	Radio Jockeying & Program Production*	0	2	2	3	AECC
5	AVG225	Texture Painting Tools	0	0	2	1	CC
6	AVG226	Anatomy Drawing	0	0	2	1	AECC
7	ARP207	Communicative English-III Logical Skill Building and Soft Skills	1	0	2	2	AECC
8	AVG227	Gaming Devices	0	0	2	1	DSE
	AVG228	Photography and VFX					
9	RBL001	Research Based Learning – I	0	0	4	0	AECC
10	VOF206	Motion Graphics & TVC	0	2	2	3	SEC
TOTAL CREDITS						**21**	

* Evaluation is to be done as Jury Subject.

Program Structure Template
Name of School: Sharda School of Media, Film & Entertainment
Bachelor of Science (Hon. /Hon. with Research)
(Animation, VFX & Gaming Design)
TERM: IV
Batch-2024-28

S.No.	Subject Code	Subjects	Teaching Load			Credits	Type of Course: CC AECC SEC DSE
			L	T	P		
THEORY SUBJECTS							
1	AVG230	VFX Compositing-II*	2	2	0	4	CC
2	**AVG239**	**AR VR ***	**1**	**2**	**0**	**3**	**CC**
3	AVG232	Game Testing*	1	2	0	3	DSE
	AVG233	Particles & FX *					
JURY SUBJECTS							
4	OPE	Basic Still Photography*	0	2	2	3	AECC
5	AVG234	VFX & Gaming Animation	0	0	2	1	CC
6	AVG235	Visual Scripting for Game Development	0	0	2	1	AECC
7	ARP306	Communicative English-IV- Campus To Corporate	1	0	2	2	AECC
8	AVG236	Game Architecture Development	0	1	2	2	DSE
	AVG237	3D Walk-Through					
9	RBL002	Research Based Learning – II	0	0	4	0	AECC
10	**VAF008**	**Innovation & Entrepreneurship**	**-**	**-**	**-**	**-**	**AECC**
TOTAL CREDITS						**19**	

*** Evaluation is to be done as Jury Subject.**

Program Structure Template
Name of School: Sharda School of Media, Film & Entertainment
Bachelor of Science (Hon. /Hon. with Research)
(Animation, VFX & Gaming Design)
TERM: V
Batch-2024-28

S.No.	Subject Code	Subjects	Teaching Load			Credits	Type of Course: CC AECC SEC DSE
			L	T	P		
THEORY SUBJECTS							
1	AVG321	Introduction to Game Engine*	1	2	0	3	CC
2	**AVG340**	**Artificial Intelligence ***	**1**	**2**	**0**	**3**	**CC**
3	AVG323	Camera Tracking & Match-moving*	1	2	0	3	CC
4	AVG324	Web & E-Business and Game Development*	1	2	0	3	DSE
	AVG325	Rotoscopy, Paint & Comping *					
JURY SUBJECTS							
5	AVG326	Lighting & Rendering and Photorealism	0	1	2	2	Core
6	AVG327	Sound Design Techniques	0	1	2	2	Core
7	AVG328	Creative Computing	0	0	2	1	DSE
	AVG329	Fluid Dynamics & Plugins					
8	RBL003	Research Based Learning – III	0	0	2	1	AECC
9	INC001	Industry Connect	0	2	0	2	AECC
TOTAL CREDITS						**20**	

*** Evaluation is to be done as Jury Subject.**

Program Structure Template
Name of School: Sharda School of Media, Film & Entertainment
Bachelor of Science (Hon. /Hon. with Research)
(Animation, VFX & Gaming Design)
TERM: VI
Batch-2024-28

S.No.	Subject Code	Subjects	Teaching Load			Credits	Type of Course: CC AECC SEC DSE
			L	T	P		
JURY SUBJECTS							
1	**AVG341**	**On Job Training**	0	0	28	14	CC
2	**AVG342**	**Portfolio 3D Animation**					CC
3	**AVG343**	**Portfolio VFX**					CC
4	**AVG344**	**Portfolio Gaming**					AECC
5	OPE	Smartphone Mobile Film Making	0	2	2	3	AECC
6	RBL004	Research Based Learning-4	0	0	2	1	CC
7	CCU108	Community Connect	0	2	0	2	CC
TOTAL CREDITS						**20**	

*** Evaluation is to be done as Jury Subject.**

Program Structure Template
Name of School: Sharda School of Media, Film & Entertainment
Bachelor of Science (Hon. /Hon. with Research)
(Animation, VFX & Gaming Design)
TERM: VII
Batch-2024-28

S.No.	Course Code	Subjects	Teaching Load			Credits	Type of Course: CC AECC SEC DSE
			L	T	P		
THEORY SUBJECTS							
1	BCJ 412	Qualitative Research Methods	3	0	0	3	CC
2	BCJ 413	Quantitative Research Methods	3	0	0	3	CC
3	BCJ 414	Communication Research Methods & Tools	3	0	0	3	CC
4	BCJ 415	Statistics for Research	2	1	0	3	CC
JURY SUBJECTS							
5	BCJ 416	Qualitative Research Lab	0	1	2	2	CC
6	BCJ 417	Quantitative Research Lab	0	1	2	2	CC
7	BCJ 418	Project on constructing tools for Media & Communication Research	0	2	2	3	CC
8	OPE	Anchoring for Different Media – OPE	0	3	2	4	AECC
Total						**23**	

*** Evaluation is to be done as Jury Subject.**

Program Structure Template
Name of School: Sharda School of Media, Film & Entertainment
Bachelor of Science (Hon. /Hon. with Research)
(Animation, VFX & Gaming Design)

TERM: VIII
Batch-2024-28

S.No.	Course Code	Subjects	Teaching Load			Credits	Type of Course: CC AECC SEC DSE
			L	T	P		
THEORY SUBJECTS							
1	BCJ 419	Ethical Perspective of Media & Communication Research	3	0	0	3	CC
JURY SUBJECTS							
2	BCJ 420	Research Writing Techniques	0	0	2	1	CC
3	OPE	Digital Media Marketing – OPE	0	3	2	4	AECC
4	BCJ 421	Media & Communication Dissertation - Project	0	3	12	9	CC
Total						**17**	

* Evaluation is to be done as Jury Subject.

Semester I

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**	
Branch: Mass Communication		**Semester: 1**	
1	**Course Code**	**AVG121**	
2	**Course Title**	**Digital Art Techniques***	
3	**Credits**	**4**	
4	**Contact Hours (L-T-P)**	**2-2-0**	
5	**Course Type**	**Core Compulsory**	
6	**Course Objective**	The purpose of this subject is to provide the students with training methodologiesand specific industry skills that will assist them in developing creative ideas into digital art with emphasis on image manipulation, matte painting and image creation and editing. The students will receive information that will enable them to: • Understand the design principles used in the creation of digital art. • Familiarize with the terminologies and concepts for creating and manipulatingdigital images.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Explain Digital Art & Industry Application
		CO2	Understand Digital Color Theory & Design Fundamentals
		CO3	Use raster graphics and vector graphics tools
		CO4	Illustrate the Typography
		CO5	Develop background composition
		CO6	Design Photo bashing Techniques
8	**Course Description**	Students will learn the core basic of digital image editing & manipulation, creating digital art work & textures for future use in 3d look development. They will also learn design principles and how to create info-graphics.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Digital Color, Ink and Painting**	
1		Digital Color mixing, Custom Brushes, Custom Palette for painting	CO1,CO2
2		Digital Concept Art, Environment & Character Painting	CO1,CO2
3		Colorizing & Artistic Filters	CO1,CO2
Unit 2		**Typography Fundamentals**	
1		Fonts & Designing Type	CO4
2		Typography Design and Art	CO4
3		Special Effects for Typography.	CO4
Unit 3		**Introduction to Raster Graphics Tools**	
1		Introduction of Unit	CO3
2		Layers	CO3
3		Adjustment Tools	CO3
4		Painting	CO3
5		Creating raster artworks.	CO3
6		Image Manipulation.	CO3
7		Color Manipulation.	CO3
8		Layer Blending, Masking, Export Parameters.	CO3
Unit 4		**Introduction to Vector Graphics Tools**	
1		Introduction of Unit	CO3
2		Creating Vector Arts	CO3
3		Paths and Shapes	CO3
4		Vector brushes and colors	CO3

5	Layers, Transparency, Grouping, Blending Modes, Managing Artwork, Single and Multipage Illustrations.		CO3
Unit 5	**Background**		
1	Digital Ink and Paint		CO5,CO6
2	Background Composition		CO5,CO6
3	Art of Collages, Creating Digital Collages		CO5,CO6
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	Blum, M. Rosen. How to Build Better Vocabulary. London:Bloomsbury Publication		
Other References	• Adobe Photo shop Cs6 Bible: The Comprehensive, Tutorial Resource, Lisa Danae Dayley, Brad Dayley • Adobe Photoshop CC Classroom in a Book with Access Code, ADOBE CREATIVE TEAM Principles of Form and Design by Wucius Wong		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-
CO3	1	-	-		-	-	-		-	-
CO4	1	-	-	1	-	-	-	2	-	-
CO5	2	-	-	1	-	-	-	2	-	-
CO6	2	-	1	1	-	-	-	2	-	-
Average	**1.5**	**-**	**1**	**1**	**-**	**-**	**-**	**2**	**-**	**-**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**		
Branch: Mass Communication		**Semester: 1**		
1	**Course Code**	**AVG122**		
2	**Course Title**	**2D Game Design Development***		
3	**Credits**	**3**		
4	**Contact Hours (L-T-P)**	**1-2-0**		
5	**Course Type**	**Core Elective**		
6	**Course Objective**	To explore 2D platform requirements. To identify the resources for game development. To learn techniques for setting up a game. To understand the game mechanism. To understand game optimization techniques.		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Explain the overview of unity Game engine for 2D game organization	
		CO2	Classify the required assets for the game development.	
		CO3	Relate the game engine and their project set up techniques for game development.	
		CO4	Contrast the optimization techniques using the game engine	
		CO5	Design the required game visuals for the 2D Game	
		CO6	Develop the prototype for the 2D Game	
8	**Course Description**	The course is about the understanding the principle of 2D Game Development and Plan the resources for a 2D game development		
9	**Outline Syllabus**			**CO Mapping**
	Unit 1	**Overview of 2D Platform**		
	1	Introduction to unity2d, Downloading and installing, Project Wizard - Component, Game object, creating a scene, setting up a new project, Project Structure.		CO1
	2	Asset Workflow – Folder Organization – File Naming Conventions, Unity Interface.		CO1
	3	Creating Gameplay, Editor features, Asset bundles.		CO1
	4	Android SDK, player setting, Import, File formats, Sounds, performance, Stats panel, Mesh and Geometry, MonoDevelop, the profiler.		CO1
	Unit 2	**Game Resources Overview**		
	1	Creating Raster & Vector design, Vector Illustration, Modular Design, File formats.		CO2
	2	Importing – Assets – Packages - Game Objects -Components, working in 2D – behaviors – Workspace.		CO2
	3	Building Sprites – Sprite Packaging - Main Character – Sprites, Environment –Design, Sprites, Enemy –Design, Sprites.		CO2
	4	Props –Design- Sprites, Sprite editor, Using External Files, sprite render, Props Design - Sprites, Conclusion.		CO2
	Unit 3	**Game World**		
	1	Level design 101, Level editor, Scene, Manipulating Objects, Layered sorting, Tilemap.		CO3
	2	First Level prefabs, Coding, Player – controller, camera, physics, colliders.		CO3
	3	Animation Timeline, Animation – rules, creating animation – States, State machine.		CO3

4	Camera Setup, Game hierarchy, Asset Management.	CO3
Unit 4	**Visualization for 2D games**	
1	Physics - 2D vs. 3D - 2D Settings, Rigid Bodies, Colliders, Joints 2D, Effectors 2D.	CO4
2	Gameplay, Trigger, Checkpoints, Collectibles, Player Stats, Raycast, Scoring Setup.	CO4
3	Challenging Gameplay, Enemy, Controller, Game object, Collision, Animation, and Damage.	CO4
4	Expanding on plat forming, scrolling Backgrounds, Prototyping, Path finding.	CO4
Unit 5	**Game Finalizing Techniques**	
1	UI Design, GUI, HUD.	CO5,CO6
2	Touch controls.	CO5, CO6
3	Particle System, Audio System.	CO5, CO6
4	Organization and Optimization, Building and deploying, UGUI.	CO5, CO6
Evaluations	CA 25% | CE(Viva) 25% | ETE 50%	
Text Book/s	Learning 2D Game Development with Unity: A Hands-On Guide to Game Creation – by Matthew Johnson (Author), James A. Henley (Author) - Addison-Wesley Professional; 1 edition (December 24, 2014) - ISBN-10: 0321957725, ISBN-13: 978-0321957726. Learning Unity 2D Game Development by Example - by Venita Pereira (Author) - Packt Publishing (August 25, 2014) - ASIN: B00N1X68Z4. Unity Game Development Blueprints Kindle Edition - by John P. Doran (Author) - Packt Publishing (November 11, 2014) - ASIN: B00PITJRQ6	
Other References	Learn Unity for Android Game Development: A Guide to Game Design, Development, and Marketing - by Adam Sinicki (Author), Apress; 1st ed. edition (July 22, 2017) - ISBN-10: 9781484227039, ISBN-13: 978-1484227039. Mastering Unity 2D Game Development -: Using Unity 5 to develop a retro RPG - by Ashley Godbold (Author), Simon Jackson (Author), Packt Publishing Limited; 2nd edition (14 October 2016) - ISBN-10: 1786463458,ISBN-13: 978-1786463456. Unity 2d game development: Beginner's Guide to 2D game development with Unity, - by MemLnc (Editor), Moaml Mohmmed (Translator), John Bach (Author); Independently Published (27 June 2020) - ISBN-13: 979-8657626209.	

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-
CO2	1	-	-	-	-	-	-	-	-	-
CO3	1	-	-	-	-	-	-	-	-	-
CO4	1	-	-	-	-	-	-	1	-	-
CO5	2	-	-	1	-	-	-	2	-	-
CO6	2	-	2	1	-	-	-	2	-	-
Average	***1.1***	**-**	***0.3***	***0.3***	**-**	**-**	**-**	***0.8***	**-**	**-**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**			
Branch: Mass Communication		**Semester: 1**			
1	**Course Code**	**AVG123**			
2	**Course Title**	**2D Animation Techniques***			
3	**Credits**	**3**			
4	**Contact Hours (L-T-P)**	**1-2-0**			
5	**Course Type**	**Core Elective**			
6	**Course Objective**	Understand the basics of creating 2D digital animation. Creating Key frame and Twining animation. Understand the workflow to create layered 2D digital animation Creating Background design and animation.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Identify various tools, settings and interfaces CO2:- Describe the methods of tween animation.		
		CO2	Describe the methods of tween animation.		
		CO3	Understand the principles of background animation in scene.		
		CO4	Apply scene management.		
		CO5	Analyze 2D Animation workflow.		
		CO6	Develop key frame animation.		
8	**Course Description**	Students will learn the different techniques and rules of 2D Digital Animation. Students will learn key frame full and limited animation. This course enables a student to create his or her Animated Movies, Web Graphics etc.			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Tools and Interface**			
1		Workflow Introduction and Settings			CO1
2		Drawing and Shape Manipulation Animation			CO1
3		Drawing and Shape Manipulation Animation			CO1
Unit 2		**Tween Animation**			
1		Motion and Shape Tween			CO2
2		Path animation using Guide Layer			CO2
3		Masking and Effects using Gradients			CO2
Unit 3		**Staging and Timing**			
1		Static Background Scenes			CO3
2		Animated Background Scenes			CO3
3		Animated Background Scenes			CO4
Unit 4		**Exporting Movie**			
1		Rendering			CO5
2		Compressions Settings			CO5
Unit 5		**Applications**			
1		Key Frame Animation - Principles of Animation			CO6
2		Key frame Animation – Simple Character Animation			CO6
3		Creating Scenes for Animation			
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		Adobe Flash Professional CS6 Classroom in a Book 1st Edition from Adobe Creative Team			
Other References		How to Cheat in Adobe Flash CS5: The Art of Design and Animation Publications from Chris Georgenes			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-
CO2	1	-	-	-	-	-	-	-	-	-
CO3	1	-	-	-	-	-	-	-	-	-
CO4	1	-	-	-	-	-	-	1	-	-
CO5	2	-	-	1	-	-	-	2	-	-
CO6	2	-	2	1	-	-	-	2	-	-
Average	***1.1***	***0.0***	***0.3***	***0.3***	***0.0***	***0.0***	***0.0***	***0.8***	***0.0***	***0.0***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**		
Branch: Mass Communication		**Semester: 1**		
1	**Course Code**	**OPE**		
2	**Course Title**	**Audio and Visual Production Process**		
3	**Credits**	**3**		
4	**Contact Hours (L-T-P)**	**0-2-2**		
5	**Course Type**	**Elective**		
6	**Course Objective**	The objective of this course is to: To explore basic principles relations to the (re) production of sound and image To understand the basic methods of audio recording and (re)generation To understand basic methods of image (re)generation and photographic capture To understand interactivity between sound, image and context		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Define the basic principles related to production and editing of different kinds of Sounds	
		CO2	Summarize microphones and different audio accessories	
		CO3	Explain the fundamentals of digital image production using different equipment	
		CO4	Apply the knowledge of sound and image to create basic audio-visuals	
		CO5	Examine basic methods of audio recording and re-generation	
		CO6	Demonstrate projects using sound-recording technology	
8	**Course Description**	This course is designed to offer the students, a primary level understanding of sound and image production and how both can be juxtaposed for the purpose of story-telling using audio visuals.		
9	**Outline Syllabus**			**CO Mapping**
	Unit 1	**Principles of Sound**		
	1	What is photography? The role & importance of photography.		CO1
	2	Brief History of photography		CO1, CO2
	3	Working principle of a still Camera, Principles of Camera Obscura Types of Cameras		CO1, CO2
	Unit 2	**Principles of Photographic composition**		
	1	Concepts of composition		CO1, CO2
	2	Digital Capture, Types of Graphics (Vector and Raster), Various types of Digital Capture and Image, Basic Software for Production of Vector & Raster Graphics		CO1, CO3,CO4
	3	Practical Applications of Image Editing, Mobile Applications for image editing, Online Tools for Image Processing and Editing		CO3, CO4
	Unit 3	**Basic Lighting Concept**		
	1	Sources of light : Natural & Artificial Correct exposure		CO3
	2	Nature and physical properties of light Direction & angle of light : Front, side, top & back		CO3
	3	Lighting contrast and its control by fill in lights One, two & three point lighting : Key, fill and back light		CO3
	Unit 4	**Sound Recording and Mixing**		
	1	Sound Recording & Mixing, Nature of Sound, its Properties and Dimensions, Microphones, Audio Accessories for Sound Production		CO3, CO4
	2	Digital Audio Formats		CO3, CO4
	3	Sound Recording & Reproduction		CO3
	Unit 5	**Audio Visual Production**		
	1	Basics of Audio-Visual Mixing		CO5

2	AV Creation using different Software		CO5, CO6
3	Final AV production		CO6
Mode of examination	Jury Examination		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	Mastering Audio: The Art and the Science by Bob Katz		
Other References	Master Handbook of Acoustics by F. Alton Everest & Ken Pohlmann The Sound Book: The Science of the Sonic Wonders of the World by Trevor Cox		

Course Articulation Matrix

POs **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	-	-	-	-	-	-	-	-	-	-
CO2	1	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	1	-	-
CO5	-	-	1	-	-	-	-	-	-	-
CO6	2	-	2	-	-	-	-	1	-	-
Average	***0.5***	***0.0***	***0.5***	***0.0***	***0.0***	***0.0***	***0.0***	***0.3***	***0.0***	***0.0***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**	
Branch: Mass Communication		**Semester: 1**	
1	**Course Code**	**AVG124**	
2	**Course Title**	**UI & UX Design Tools**	
3	**Credits**	**1**	
4	**Contact Hours (L-T-P)**	**0-0-2**	
5	**Course Type**	**AVG124**	
6	**Course Objective**	To understand principles behind Human Computer interaction (HCI) To understand User Interface requirements To recognize the importance of User Experience Design (UXD or UED) To understand various methods of User Centered Design To demonstrate effective UI / UX designs with case studies.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1 Define the principles behind HCI (Human Computer Interaction)	
		CO2 Interpret the models and theories to evaluate Usability Standard	
		CO3 Sketch User Experience Design	
		CO4 Take apart in User Centered Design	
		CO5 Modify User Interface Design	
		CO6 Develop the problem solving techniques.	
8	**Course Description**	The course is about the understanding the principle of HCI, usability standards, UX design and UCD	
9	**Outline Syllabus**		**CO Mapping**
	Unit 1	**Introduction to HCI**	
	1	Introduction of Unit.	CO1
	2	Human-Computer Interaction Foundations.	CO1
	3	Roots of HCI.	CO1
	4	Meteoric rise of HCI.	CO1
	5	The multidisciplinary field of HCI.	CO1
	6	Models & Theories.	CO2
	7	Usability Evaluation.	CO2
	8	Programming interactive systems.	CO2
	9	Conclusion of the Unit.	CO2
	Unit 2	**User Experience Design (UXD or UED)**	
	1	Overview of UX.	CO3
	2	Elements of UX.	CO3
	3	UX Design Process – Research – Design – Prototyping –Testing – Measurements.	CO3
	4	UX Analysis, Design Thinking – Thinking out of box – Empathy – Design Thinking Process.	CO3
	5	Importance of Information Architecture.	CO3
	6	Wireframing.	CO3
	7	User research.	CO3
	8	Planning.	CO3
	Unit 3	**User Centered Design**	
	2	Introduction.	CO4
	3	Principles.	CO4
	4	Research.	CO4
	5	Elements of UCD.	CO4
	6	Usability and Accessibility.	CO4

7	User Centered Design Process – Analysis – Design – Implementation – Deployment.		CO4
8	Benefits of user centered process.		CO4
Unit 4	**User Interface Design (UI)**		
1	Overview of UI – Importance of UI – Characteristics.		CO5
2	Design Process.		CO5
3	Three cognitive levels of emotional design.		CO5
4	Attractiveness Vs Usability.		CO5
5	Visual design Concepts.		CO5
6	Graphical User interface.		CO5
7	Design Tools.		CO5
8	Navigation and structure.		CO5
9	Composition and Layout Design.		CO5
10	Design Icons.		CO5
11	Iconography.		CO5
12	Graphic symbols – typography – color theory.		CO5
13	Design Patterns and Style guides, Interaction Styles, Naming & Abbreviations.		CO5
Unit 5	**Case Studies**		
1	Introduction of Unit.		CO6
2	Effective UI Design examples.		CO6
3	UX Design examples.		CO6
4	Common Errors.		CO6
5	Complete case study of any existing application development.		CO6
6	Conclusion.		CO6
Mode of examination	Jury		
Weightage Distribution	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s*	Human-computer Interaction- by Alan Dix and Janet Finlay (Author) – Pearson Education (2004) - ISBN-10: 9788131717035. The Elements of User Experience: User-Centered Design for the Web and Beyond - Voices That Matter Paperback – by Jesse James Garrett (Author) - New Riders; 2 edition (16 December 2010) - ISBN-10: 0321683684,ISBN-13: 978-0321683687. UX Design for Mobile - Pablo Perea (Author), Pau Giner (Author)- Packt Publishing - ebooks Account (July 28, 2017)- ISBN- 10: 1787283429, ISBN-13: 978-1787283428.User-Centered Design: A Developer's Guide to Building User- Friendly Applications - by Travis Lowdermilk (Author) - O'Reilly Media; 1 edition (29 March 2013) - ASIN: B00C3NX1BW UI/UX Design Basic and Fundamentals - by Nathan Clark		
Other References	Lean UX: Designing Great Products with Agile Teams - by Jeff Gothelf (Author), Josh Seiden (Author); Shroff/O'Reilly; Second edition (1 November 2016)- ISBN-10: 9352134567,ISBN-13: 978-9352134564. Fundamentals of User-Centered Design: A Practical Approach Paperback – 20 Dec 2016 - by Brian Still (Author), CRC Press; 1 edition (20 December 2016) - ISBN-10: 1498764363,ISBN-13: 978-1498764360. The Essential Guide to user Interface Design: An Introduction to GUI Design Principles and Techniques, - by Wilbert O.Galitz (Author) - Wiley; Second edition (2002) - ISBN-10: 8126502800,ISBN-13: 978-8126502806.		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	-	-	-
CO2	1	-	-	-	-	-	-	-	-	-
CO3	2	-	-	3	-	-	-	-	-	-
CO4	-	1	-	-	-	-	-	-	-	-
CO5	-	1	-	2	-	-	-	1	-	-
CO6	3	-	-	1	-	-	-	1	-	-
Average	***1.1***	***0.3***	***0.0***	***1.0***	***0.0***	***0.0***	***0.0***	***0.3***	***0.0***	***0.0***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**	
Branch: Mass Communication		**Semester: 1**	
1	**Course Code**	**AVG125**	
2	**Course Title**	**Foundation Art Techniques**	
3	**Credits**	**1**	
4	**Contact Hours (L-T-P)**	**0-0-2**	
5	**Course Type**	**Core Elective**	
6	**Course Objective**	It enables the students to learn the medium of Drawing and its importance in visualization. Allows students to learn, observe, analyze and visualize. Guides the student to strengthen the drawing skills to support later part of Animation design.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Identify the role of different medium and materials
		CO2	Compare different pencil shading style
		CO3	Teach the importance of Perspective
		CO4	Sketch poses from real life & strong storytelling poses for animation
		CO5	Create Light and shade in Art
		CO6	Develop Gesture Drawing
8	**Course Description**	Students will learn basic fundamentals of drawing & materials to be used and visualization. They will understand the significance of Perspective Drawing and Sketching for Animation, VFX & Gaming Pre-Production.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Introduction to Drawing Materials**	
1		Introduction Materials	CO1
2		Papers-Different pencils	CO1
3		Color pencils-Crayons and poster colors	CO1
4		Introduction to drawing the objects, figures from the surroundings	CO2
5		To learn, observe, analyzing, and drawing the mechanical objects, utensils, and objects from everyday life.	CO2
Unit 2		**Environment Drawing**	
1		Introduction Perspective Drawing	CO3
2		To learn the importance of Perspective	CO3
3		Rules of perspectives – To learn one point – two-point perspectives- Learn to draw from different eye levels and different angles	CO3
Unit 3		**Sketching**	
1		Introduction Sketching	CO4
2		Sketching from Reference/Live with Shape, Line of Action & Balance	CO4
3		Sketch a Sequential Poses	CO4
Unit 4		**Lighting and Shading**	
1		Introduction of Unit	CO5
2		To introduce to the concept of light in visualization	CO5
3		To study objects in Lighting and learn to draw them with proper shading	CO5
Unit 5		**Gesture Drawing**	
1		Introduction to Gesture Drawing	CO6
2		Capturing Gesture Poses of Group Poses	CO6

3	Sequential Gesture poses of any action with memory/Observation		CO6
Mode of Examination	Jury		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Perspective Drawing Handbook, JosephD'Amelio • Fun with the Pencil,Loomis		
Other References	• Dynamic Figure Drawing, BurneHogarth • Complete Book of Drawing Technique, Peter Stanyer		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-
CO2	1	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-
CO4	1	-	-	-	-	-	-	-	-	-
CO5	1	-	-	-	-	-	-	2	-	-
CO6	1	-	-	-	-	-	-	2	-	-
Average	***0.6***	-	-	-	-	-	-	***0.6***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**	
Branch: Mass Communication		**Semester: 1**	
1	**Course Code**	**AVG126**	
2	**Course Title**	**Game Programming Fundamentals**	
3	**Credits**	**1**	
4	**Contact Hours (L-T-P)**	**0-0-2**	
5	**Course Type**	**Core Elective**	
6	**Course Objective**	To understand the basics of C#. To describe methods of decision making in C#. To explain importance of arrays & classes. To understand development of windows & graphics. To understand implementation C# for game compiling.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Describe the basics of C# programming
		CO2	Compare various methods of decision making in C#
		CO3	Use the fundamental concepts of programming in gaming
		CO4	Illustrate the concepts of arrays & classes
		CO5	Correlate the concept of windows & graphics development in C#.
		CO6	Write the game controls scripting implementation in C#.
8	**Course Description**	The course is designed to equip students, who are at a very basic level of programming, to design and develop programs with ease in varied workplace environment. The course begins with basic programming structure with OOPs concepts and ends with developing gaming applications.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Introduction C#**	
1		Introductions, Features, OOPs concept.	CO1
2		Program structure, comments, data types, Variables and constants, operators.	CO1
3		Exception Handling, Try-Catch block, Try-catch-finally block.	CO1
4		Errors and Debugging, Unit Testing.	CO1
Unit 2		**Decision Making**	
1		Control statements, if, if-else, switch-case.	CO2, CO3
2		Looping statements, while, do-while, for, nested loops, Break, Continue.	CO2,CO3
3		Encapsulation and Functions.	CO2,CO3
Unit 3		**Arrays & Classes**	
1		Introduction, Array definition, Array declaration.	CO4
2		For each loop, multi-dimensional arrays, Classes and objects.	CO3,CO4
3		Class declaration, Object creation, Namespaces, this Operator, Properties, Constructors and Destructors.	CO4,CO5
4		Structure, Enumerators.	CO4
Unit 4		**Inheritance, polymorphism & File I/O**	
1		Inheritance, Types of inheritance.	CO5
2		Polymorphism, Strings.	CO5
3		Exception Handling, File I/O, File Reading and Writing.	CO5
Unit 5		**Delegates & Interfaces**	
1		Delegates, Multicasting Delegates, Events, Using events in Delegates.	CO6
2		Dictionary, Interfaces.	CO6

3	List, Threads, Object Pooling, Singleton Class.		CO6
Mode of Examination	**Jury**		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Andy Harris, 'Microsoft C# Programming for the Absolute Beginner', PRENTICE-HALL OF INDIA PVT LTD, 2002 • Programming in C# by E Balagurusamy (Author) - McGraw Hill Education; 4th edition (1 July 2017) - ISBN-10: 9351343189, ISBN-13: 978-9351343189. • Beginning C# Game Programming (Game Development) - by Ron Penton (Author) - Premier Press; Pap/Cdr edition (22 October 2004) - ISBN-10: 1592005179, ISBN-13: 978- 1592005178. • C# Programming in easy steps - by Mike McGrath (Author) - In Easy Steps Limited (11 December 2016) - ASIN: B01MXXGZAJ.		
Other References	• Learning 2D Game Development with Unity®: A Hands-On Guide to Game Creation by James A. Henley, Matthew Johnson Publisher: Addison- Wesley Professional Release Date: December2014 • Beginning Visual C# 2015 Programming (WROX) - by Benjamin Perkins (Author), Jacob Vibe Hammer (Author), Jon D. Reid (Author) - Wiley (2016) - ISBN-10: 8126559691, ISBN- 13: 978-8126559695. • C#: 2 BOOKS IN 1 - The Ultimate Beginner's & Intermediate Guide to Learn C# Programming Step By Step - by Ryan Turner (Author), N.B.L Publishing (7 December 2019) -ISBN-10: 1647710200,ISBN-13: 978-1647710200.		

Course Articulation Matrix

POs / **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	1	-	-	-	-	-	-	1	-	-
CO2	-	-	-	-	-	-	-	1	-	-
CO3	1	-	-	-	-	-	-	1	-	-
CO4	-	-	-	-	-	-	-	-	-	-
CO5	2	-	-	-	-	-	-	2	-	-
CO6	2	-	-	-	-	-	-	3	-	-
Average	***1.0***	-	-	-	-	-	-	***1.3***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**		
Branch: Mass Communication		**Semester: 1**		
1	**Course Code**	**ARP101**		
2	**Course Title**	**Communicative English-I**		
3	**Credits**	**2**		
4	**Contact Hours (L-T-P)**	**1-0-2**		
5	**Course Type**	**Co-Requisite**		
6	**Course Objective**	To minimize the linguistic barriers that emerge in varied sociolect-linguistic environments through the use of English. Help students to understand different accents and standardize their existing English. Guide the students to hone the basic communication skills - listening, speaking, reading and writing while also uplifting their perception of themselves, giving them self-confidence and building positive attitude		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	At the end of the course a student will be able to interpret and apply correct sentence structure and punctuation as well as different parts of speech	
		CO2	At the end of the course a student will be able to analyze one's self and abilities through language learning and personality development	
		CO3	At the end of the course a student will be able to interpret and analyze self-strengths, evaluate weaknesses, utilize opportunities, and counter threats	
		CO4	At the end of the course a student will be able to evaluate people and situations and apply the knowledge to describe the same.	
		CO5	At the end of the course a student will be able to examine and apply digital literacy platforms meaningfully for improving their social and professional lives	
		CO6	At the end of the course a student will be able to relate the significance of Social and cultural etiquette along with leadership, management and entrepreneurial skills	
8	**Course Description**	The course is designed to equip students, who are at a very basic level of language comprehension, to communicate and work with ease in varied workplace environment. The course begins with basic grammar structure and pronunciation patterns, leading up to apprehension of oneself through written and verbal expression as a first step towards greater memorability.		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Sentence Structure**		
1		Subject Verb Agreement		CO1
2		Parts of speech		CO1
3		Writing well-formed sentences		CO1
Unit 2		**Vocabulary Building & Punctuation**		
1		Homonyms/ homophones, Synonyms/Antonyms		CO1
2		Punctuation/ Spellings (Prefixes-suffixes/Unjumbled Words)		CO1
3		Conjunctions/Compound Sentences		CO1, CO2
Unit 3		**Writing Skills**		
1		Picture Description – Student Group Activity		CO3
2		Positive Thinking - Dead Poets Society-Full-length feature film - Paragraph Writing inculcating the positive attitude of a learner through the movie | SWOT Analysis – Know yourself		CO3, CO2, CO3
3		Story Completion Exercise –Building positive attitude - The Man from Earth (Watching a Full length Feature Film)		CO2, CO3, CO4
4		Digital Literacy | Effective Use of Social Media		CO3

Unit 4	**Speaking Skill**		
1	Self-introduction/Greeting/Meeting people – Self branding		CO2, CO3
2	Describing people and situations - To Sir With Love (Watching a Full length Feature Film)		CO3, CO4
3	Dialogues/conversations (Situation based Role Plays)		CO2, CO4
Unit 5	**Professional Skills | Career Skills**		
1	Exploring Career Opportunities		CO5
2	Brainstorming Techniques & Models		CO5
3	Social and Cultural Etiquettes		CO6
4	Internal Communication		CO6
Unit 6	**Leadership and Management Skills**		
1	Managerial Skills		CO6
2	Entrepreneurial Skills		CO6
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	Blum, M. Rosen. How to Build Better Vocabulary. London: Bloomsbury Publication		
Other References	Comfort, Jeremy (et.al). Speaking Effectively. Cambridge University Press		

Course Articulation Matrix

POs / **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	3	3	-	2	-	-	-	2	2	2
CO2	3	3	-	2	-	1	-	2	-	-
CO3	3	3	-	3	-	1	-	1	-	-
CO4	3	3	-	2	2	-	-	1	-	-
CO5	3	3	2	1	1	-	-	1	1	2
CO6	3	3	-	-	3	3	-	1	-	-
Average	***3.0***	***3.0***	***0.3***	***1.6***	***1.0***	***0.8***	***0.0***	***1.3***	***0.5***	***0.6***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**			
Branch: Mass Communication		**Semester: 1**			
1	**Course Code**	**VOF105**			
2	**Course Title**	**Script writing, Storyboard & Animatic**			
3	**Credits**	**3**			
4	**Contact Hours (L-T-P)**	**0-2-2**			
5	**Course Type**	**Co-Requisite**			
6	**Course Objective**	To Describe the dramatic structure of a story, explain formats in script, the act structure, characterization and the scene creation.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Define the dramatic structure of a story		
		CO2	List out different formats in script		
		CO3	Explain a story with three act structure		
		CO4	Outline the importance of characterization in script		
		CO5	Create a scene with a sequence		
		CO6	Elaborate visual storytelling		
8	**Course Description**				
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**The Principles of Dramatic Wring**			CO1
1		Introduction to Screenwriting			CO1
2		The Basics: Character, Story, Structure			CO1
3		The Premise: Story Spine			CO1
Unit 2		**Finding the Story**			CO2
1		How to Format a Script			CO2
2		How to Write a Short Outline			CO2
Unit 3		**Three Act Structure: Putting It All Together**			CO3
1		"The Godfather": Beginnings, Middles, and Ends			CO3
2		Treatment: 5 Key Moments			CO3
Unit 4		**Exploring Character**			CO4
1		Dramatizing Character			CO4
2		Proper Script Formatting			CO4
Unit 5		**Scene**			
1		Scene defined.			CO5
2		Length of scene. Tenets of a good scenes—importance, desire/conflict, structure, compression			CO5
3		Sequences, Making a step outline			CO5
4		Visual Storytelling			CO6
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		The Art and Science of Digital Compositing, SecondEdition			
Other References		Techniques for Visual Effects, Animation and MotionGraphics (The Morgan Kaufmann Series in Computer Graphics) - Ron Brinkmann (Author)			

Course Articulation Matrix

Pos / Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1									
CO2										
CO3	1							1		
CO4										
CO5	2			1				3		
CO6	2			2				1		
Average	***1.00***			***0.50***				***0.83***		

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**	
Branch: Mass Communication		**Semester: 1**	
1	**Course Code**	**VAC103**	
2	**Course Title**	**Environmental Management**	
3	**Credits**	**03**	
4	**Contact Hours (L-T-P)**	**3-0-0**	
5	**Course Type**	**Compulsory**	
6	**Course Objective**	Enable students to learn the concepts, principles and importance of environmental science. Provide students an insight of various causes of natural resource depletion and its conservation. Provide detailed knowledge of causes, effects and control of different types of environmental pollution and its effect on climate change, global warming and ozone layer depletion. Provide knowledge of different methods of water conservation. Provide and enrich the students about sustainable practices and environmental management	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Develop a better understanding of the principles and scope of environmental science
		CO2	Acquire to learn various pollution causes, effects and control and solid waste management.
		CO3	Interpret the effect of global warming and ozone layer depletion
		CO4	Comprehend about various types of natural resources and its conservation
		CO5	Develop a better understanding about sustainable practices and environmental management
		CO6	Function effectively on overall understanding of various environmental components, its protection and management.
8	**Course Description**	Environmental Science emphasises on various factors as Importance and scope of environmental science, Natural resource conservation, Pollution causes, effects and control methods , Sustainable and Environmental environment	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Natural resource management**	CO1
1		Air pollution Control and Water Pollution treatment Methods	CO2
2		Soil and Noise Pollution Management	CO2
3		Solid waste management	CO2
Unit 2		**Environmental Pollution Management**	
1		Air pollution Control and Water Pollution treatment Methods	CO2
2		Soil and Noise Pollution Management	CO2
3		Solid waste management	CO2
Unit 3		**Climate Change Mitigation**	
1		Concept of Global Warming and greenhouse effect	CO3/CO6
2		Ozone layer Depletion and its consequences	CO3/CO6
3		Climate change, its effect on ecosystem and its mitigation. Kyoto protocol and IPCC concerns on changing climate.	CO3/CO6
Unit 4		**Biodiversity Management**	
1		Hot spots, Endangered and endemic species of India	CO4/CO6
2		Threats to biodiversity: habitat loss, poaching of wildlife, man-	CO4/CO6

	wildlife conflicts, biological invasions		
3	Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.		CO4/CO6
Unit 5	**Sustainable practices and environmental management**		
1	Sustainable development and sustainable consumption		CO5/CO6
2	Environmental Issues and Management in India		CO5/CO6
3	Environmental Management System (EMS)		CO5/CO6
Evaluations	CA 15%	CE(Viva) 10%	ETE 75%
Text Book/s	Textbook of Environmental Studies for Undergraduate Courses by Erach Bharucha, Pub: Orient Blackswan Pvt Ltd		
Other References	Environmental Science by G. Tyler Miller, JR. and Scott E. Spoolman; Broks/Cole.		

Course Articulation Matrix

POs / **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	1	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-
CO3	1	-	-		-	-	-	1	-	-
CO4	-	-	-		-	-	-	-	-	-
CO5	2	-	-	1	-	-	-	3	-	-
CO6	2	-	-	2	-	-	-	1	-	-
Average	**1.0**	**-**	**-**	**0.5**	**-**	**-**	**-**	**0.8**	**-**	**-**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

Semester II

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**			
Branch: Mass Communication		**Semester: 2**			
1	**Course Code**	**AVG129**			
2	**Course Title**	**Hard Surface Modeling & Texturing***			
3	**Credits**	**4**			
4	**Contact Hours (L-T-P)**	**2-2-0**			
5	**Course Type**	**Core**			
6	**Course Objective**	To understand Assets development requirements. To develop a design brief for a 3d model To understand the tools and techniques to UV wrapping To identify texturing techniques To explain the creation and integration of rigging To understand animation requirements.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Describe Hard Surface Modeling Concept		
		CO2	Define a model for Animation & Game development		
		CO3	Use seamless UV texture techniques		
		CO4	Illustrate Texturing Tools to get realistic output		
		CO5	Create Virtual Lighting Setup to develop Photo realistic Surface		
		CO6	Design a Weapon/ Vehicle/Aircraft 3D Models		
8	**Course Description**	This course offers introductory knowledge of 3D Asset creation process to make students familiar with designing computer graphics			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Overview of 3D Assets**			
1		Topology & Mesh flow			CO1
2		Edge Flow & Bevel			CO1
3		Deformers			CO1
Unit 2		**Modelling**			
1		Interface and Concept of 3D Modeling			CO2
2		Understanding 3D space, Difference between 2D and 3D			CO2
3		Discover the user interface of Maya software and various elements			CO2
4		Game modeling & Optimization			CO2
Unit 3		**UV Unwrapping Tools & Techniques**			
1		Concepts of UV un-wrapping			CO3
2		Creation of UV and texture for different objects			CO3
3		Understanding of UV Editor and techniques in it, including the optimization and clean up			CO3
Unit 4		**Digital Sculpting for Hard Surface**			
1		Principles of Sculpting			CO4
2		Interface & Navigation			CO4
3		Subdivision			CO4
Unit 5		**Rendering**			
1		Preparation			CO6
2		Render Setup			CO6
3		Material Setup			CO6
Mode of Examination		**Jury**			
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		• Unity 4 Fundamentals: Get Started at Making Games with Unity by Alan			

	Thorn • Understanding 3D Animation Using Maya -John Edgar Park Basics Animation: Digital Animation - Andrew Chong • The Animator's Survival Kit--Revised Edition: A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Interne - Richard Williams
Other References	• Hybrid Animation Integrating 2D and 3D Assets, 2nd Edition By Tina O'Hailey • Getting Started with Unity By Patrick Felicia Unity 5.x Cookbook by Matt Smith, Chico Queiroz

Course Articulation Matrix

POs / **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-
CO3	2	-	-	-	-	-	-	-	1	-
CO4		-	-	-	-	-	-	-		-
CO5	2	-	1	-	-	-	-	-	2	-
CO6	3	-	2	-	-	-	-	-	3	-
Average	***1.1***	-		-	-	-	-	-	***1.0***	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**	
Branch: Mass Communication		**Semester: 2**	
1	**Course Code**	**AVG130**	
2	**Course Title**	**3D Animation Fundamentals***	
3	**Credits**	**3**	
4	**Contact Hours (L-T-P)**	**1-2-0**	
5	**Course Type**	**Core**	
6	**Course Objective**	To provide a detailed introduction to Autodesk Maya Software and helps the student understand the concepts of object in 3D space, Object creation (modelling and texturing), its observation, timing, and motion in the real art of animation and helps in creating strong and believable animation. The students will also understand the importance and application of Basic Rigging and Skinning. This course also emphasizes artistic and aesthetic creativity, intending to push the boundaries of the imagination and to familiarize students with acting, developing different kind of personality of characters and to explore character rigging for animation. The Course ensures that the students will be familiarized with the Maya interface and tools.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Explain Polygons, NURBS and Sub-division modeling tools & techniques
		CO2	Summarize working with unwrapping model UVs
		CO3	Use texturing techniques to realistically shade objects
		CO4	Illustrate Rigging of props, using deformer, and basic understanding of joints and control types
		CO5	Write the Significance of Skinning and its techniques for various objects (prop, character, vehicles etc.)
		CO6	Create an Animation by applying its techniques, Graph editors, Spreadsheet
8	**Course Description**	This subject will provide a detailed introduction to Autodesk Maya Software, Different techniques to create 3D model, about UV process and how does it help in texturing, the importance and application of Basic Rigging and helps the student understand the concepts of observation, timing, and motion in the real art of animation and helps in creating strong and believable animation pieces. This subject will provide the basic understanding of 3D dynamics and particle effects.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Interface and Concept of 3D Modelling**	
1		Difference between 2D and 3D	CO1
2		Understanding 3D space	CO1
3		Discover the user interface of Maya software and variouselements	CO1
Unit 2		**Introduction to Modelling Tools**	
1		Tools and technique in modelling	CO1
2		Different types of geometry	CO1
3		Nature of different meshes, advantage and disadvantage of different geometry.	CO1
Unit 3		**Concepts of UV UN-wrapping**	
1		Concepts of UV	
2		Creation of UV	CO2
3		Texture for different objects	CO2
Unit 4		**Working with UV tools and Techniques**	
1		Understanding of UV Editor and techniques in it	CO2

2	UV unwrapping techniques for Objects		CO2
3	Creation of textures for Objects		CO3
Unit 5	**Animation**		
1	Applying principles of animation in 3D		CO6
2	Using of Graph Editor and Dope sheet and techniques in it		CO6
3	Expressions, Constraints and parenting in animation, object character interactions.		CO5
4	Character Interaction and story telling		CO6
5	Walk cycles, Personality and Appeal, Acting and staging		CO6
Unit 6	**Rigging**		
1	Introduction to Deformers, Nonlinear Deformers		CO5
2	Types of deformers, Editing, Painting, membership and its significance		CO5
3	Rigging Basics- Joints, Skin, IK and FK, Model and UV requirement		CO5
Unit 7	**Skinning**		
1	Introduction to Smooth Binding and its concepts		CO5
2	Introduction to Rigid Binding and its concepts		CO5
3	Editing skin weights, pruning, normalizing		CO5
4	Creation and editing of joints for props and simple character		CO5
Mode of Examination	**Jury/Practical/Viva**		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	Story: Substance, Structure, Style and the Principlesof Screenwriting RobertMcKee		
Other References	The Way of theStorytellerby RuthSawyer Facial Expressions: A Visual Reference for Artists Mark Simon The Animation Book: A Complete Guide toAnimated Filmmaking--From Flip-Books to Sound Cartoons to 3-D		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-
CO3	2	-	-	-	-	-	-	1	-	-
CO4	2	-	-	-	-	-	-	2	-	-
CO5		-	-	-	-	-	-		-	-
CO6	3	-	-	-	-	-	-	3	-	-
Average	***1.1***	-	-	-	-	-	-	***1.2***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**			
Branch: Mass Communication		**Semester: 2**			
1	**Course Code**	**OPE**			
2	**Course Title**	**Material Animation Techniques**			
3	**Credits**	**3**			
4	**Contact Hours (L-T-P)**	**0-2-2**			
5	**Course Type**	**Elective**			
6	**Course Objective**	To introduce various techniques and styles of Animation. To provide the students hands on experience of simple ideas for Animation using the materials available in the immediate surroundings.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Define the significance of Material Animation		
		CO2	Explain technique available in Material Animation		
		CO3	Analyze the process and methods of Material Animation		
		CO4	Develop and understanding of the phases of Material Animation		
		CO5	Outline Storyboard & Layout Design		
		CO6	Create of Material Animation film from preferred medium		
8	**Course Description**	Students Will Learn The workflow for Story Development, Elements of script writing, and 3Acts Structure & Development of the Characters.			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Introduction to Material Animation**			
1		Introduction to Material Animation			CO1
2		Different Styles in material animation			CO2
3		Popular material animation and other techniques			CO2
Unit 2		**Different Techniques**			
1		Different Techniques			CO2
2		Exploring Different Material			CO2
3		Rig & Installation.			CO2
Unit 3		**Process and methods of Material Animation**			
1		Visualization of Material Animation.			CO3
2		Production process for Method.			CO3
3		Rough Test			CO3
Unit 4		**Material Animation in Action**			
1		Story and Preproduction for Material Animation Film			CO4, CO5
2		Identification and Execution of Material			CO4, CO5
3		Animation Film-Post Production of Material Animation Film			CO4, CO5
Unit 5		**Material Animation in Action**			
1		Story and Preproduction for Material Animation Film			CO6
2		Identification and Execution of Material			CO6
3		Animation Film-Post Production of Material Animation Film			CO6
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		• The Animator's Survival Kit: A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Internet Animators (FARRAR, STRAUS) by Richard Williams			
Other References		• The Advanced Art of Stop-Motion Animation by Ken A. Priebe • Stop Motion: Craft Skills for Model Animation, Second Edition (Focal Press Visual Effects and Animation) by Susannah Shaw			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-
CO2	1	-	-	-	-	-	-	2	-	-
CO3	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-
CO5	3	-	-	-	-	-	-	3	-	-
CO6	3	-	1	-	-	-	-	3	-	-
Average	***1.1***	-	***0.1***	-	-	-	-	***1.3***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**	
Branch: Mass Communication		**Semester: 2**	
1	**Course Code**	**AVG131**	
2	**Course Title**	**Drawing & Painting**	
3	**Credits**	**1**	
4	**Contact Hours (L-T-P)**	**0-0-2**	
5	**Course Type**	**Co-requisite**	
6	**Course Objective**	Understand the basics of Drawing and Painting. Familiarize with the tools and techniques of Drawing and Painting. To introduce the creative skill through Drawing and Painting. To improve the ability of visualization. To Explore and create creative visual through Drawing and Painting.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Understand the use of different types of tools for Drawing & Painting
		CO2	Demonstrate creative sketches through pencil and charcoal
		CO3	Explore the technique of landscape design using water color
		CO4	Understand the techniques of dry color medium
		CO5	Understand the basics of perspective drawing
		CO6	Utilizing Drawing and Painting in graphic designing
8	**Course Description**	The goal of this course is to explore fundamental techniques of Drawing and Painting, design, and illustration. Ideal for students eager to explore Paintings, Web Comics, Storybooks. Students will learn to create environment from real life references and gain an understanding of how to design landscape, illustrations with colors. Students will learn how to compose painting through photographs.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Introduction of Drawing and Painting**	
1		History of visual art and design	CO1
2		Indian Art (Ajanta Caves to Contemporary art)	CO1
3		Introduction of Indian Painting Masters	CO1
4		Introduction of art Materials	CO1
Unit 2		**Understanding of pencils and charcoal**	
1		Introduction of different types of pencils	CO2
2		Basic Charcoal drawings	CO2
3		Basic Shapes and forms through pencil	CO2
4		Introduction to drawing the objects, figures from the surroundings	CO2
Unit 3		**Art of Water-coloring**	
1		Introduction of water color and Paper	CO3
2		Nature Drawing through water color	CO3
3		Landscape design using water color medium.	CO3
4		Landscape design using real life references	CO3
Unit 4		**Introduction of different dry color mediums**	
1		Introduction of different dry color mediums	CO4
2		Drawing and sketching using dry color medium	CO4
3		Still Life painting using soft pastels	CO4
4		Landscape through dry medium	CO4
Unit 5		**Final Projects**	
1		Introduction of using perspective drawing technique	CO5
2		Different types of perspectives	CO5
3		Poster Design using traditional method	CO6

4	Book Cover Designing in traditional style		CO6
Mode of Examination	**Jury**		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	Charcoal by Richard Rochester, Publisher: Guild of Master Craftsman Publications Ltd (28 February 2020), ISBN-10: 1784945528 ISBN-13: 978-1784945527 The Perspective Drawing Guide by Spencer Nugent, Publisher: Rocky Nook; Reprint edition (6 January 2023), ISBN-10: 1681989034 ISBN-13: 978-1681989037 Watercolour Landscapes Step by Step by Milind Mulick, Publisher: Jyotsna Prakashan; Second edition (1 December 2008); Jyotsna Prakashan Girgaon Mumbai 400004, ISBN-10: 8179252175 ISBN-13: 978-8179252178		
Other References	20th Century Indian Art: Modern, Post-Independence, Contemporary by Rakhee Balaran and Partha Mitter, Publisher: Thames and Hudson (24 May 2022); Thames and Hudson Ltd, ISBN-10: 0500023328 ISBN-13: 978-0500023327		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	2	-	-
CO2	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	-	-	-	-	-	-
CO6	2	-	-	-	-	-	1	3	-	-
Average	***0.5***	-	-	-	-	-	***0.1***	***0.8***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**		
Branch: Mass Communication		**Semester: 2**		
1	**Course Code**	**AVG132**		
2	**Course Title**	**Basics of Editing & Compositing**		
3	**Credits**	**1**		
4	**Contact Hours (L-T-P)**	**0-0-2**		
5	**Course Type**	**Co-requisite**		
6	**Course Objective**	Familiarize the tools and techniques to create standard VFX shots. Learn Problem solving techniques to rectify the errors during compositing. Create content for broadcast, feature film and web animation.		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Describe Compositing & its throughout Development	
		CO2	Define Projection, Exposure & Visual Information	
		CO3	Summarize Practice Digital Imaging & Manipulation	
		CO4	Teach Layer & Node System, Keying & Matting	
		CO5	Categorize Live & Virtual Camera and 3D Compositing	
		CO6	Design Evaluate video art, tools and techniques	
8	**Course Description**	Students will learn core concepts of 2D & 3D Digital Compositing, Historical development, Creating Virtual Realm & Video Art		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**History of Compositing**		
1		Terminologies		CO1
2		Physical Compositing, Multiple exposure,		CO2
3		Background Projection, Matting,		CO1&CO2
4		Digital Compositing,		CO1&
5		Node based and Layer Based Compositing.		CO2
6		Visual information and the camera,		CO1&CO2
Unit 2		**Digital Image**		
1		Digital Image Generation, Pixels, Components and Channels,		CO3
2		Bit Depth, Floating point and High Dynamic Range Imagery,		CO3
3		HSV Color, YUV color, Digital Image file formats, Channels, Compression.		CO3
4		Color Manipulation, Levels, Variations, Multiply, Add,		CO3
5		Gamma Correction, Exposure Correction, Invert, Contrast, HSV manipulations		CO3
Unit 3		**Layers**		
1		Layer and Node based compositing.		CO3&CO4
2		Blending layers, Matte Image, Masking, Morphing - Chroma Keying, Garbage Mattes, Edge Mattes, Luminance Keying, Chrominance Keying, Difference Matting, Plug-ins and tools for keying.		CO3&CO4
3		Tracking and Stabilization, tracking an element, 2D tracking, Perspective tracking, Stabilizing footage.		CO4
4		Limitations of tracking and stabilizing tools.		CO3
5		Tools for advanced tracking and match moving.		CO3&CO4
6		Digital Imagery, Color Correction		CO3
Unit 4		**Lighting and Composition**		
1		Creating elements, Lighting in compositing tool, Matching live and virtual cameras.		CO5

2	3D Compositing, vanishing point conversion, creating 3D compositing using 2D images,		CO5
3	Working with camera and lighting, effects, Working with Multi pass Rendering, Alpha and Luma mattes, Z depth maps, Blending passes and effects.		CO5
4	Animation, 2D and 3D transformation, Temporal and spatial interpolation, speed graph, optimizing key frames, expressions for animation, Time Remapping		CO6
Unit 5	**Theory and Practice of Video Art**		
1	History of Video Art, Contemporary video style, culture and emotion reference -		CO6
2	Video synthesizer, real-time video art, tools and techniques, applications -		CO6
3	Music visualization and media art, automation to music, applications and tools		CO6
4	Video art as art form, Interactive film, display and projection, case studies.		CO6
5	Learning Lab: Create 2.5D Animation of an exterior and interior scene. Animate a slideshow using images imported into compositing Track and composite chroma footage to a background, color correct the scene for film. Animate and composite 3D rendered passes with 2D footages.		CO6
Mode of Examination	**Jury**		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	Compositing Digital Images - T. Porter and T. Duff I Proceedings of SIGGRAPH '84, 18 (1984) The Art and Science of Digital Compositing - Ron Brinkman		
Other References	Wright's Compositing Visual Effects: Essentials for the Aspiring Artist [Paperback]2007) - Paperback (2007) - Wright Compositing Visual Effects – Essentials for aspiring artists - Steve Wright		

Course Articulation Matrix

POs / COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	-	-	-	-	-	-	-	1	-	-
CO2	-	-	-	-	-	-	-		-	-
CO3	1	-	1	-	-	-	-	1	-	-
CO4	1	-	-	-	-	-	-	2	-	-
CO5	2	-	3	-	-	-	-	-	-	-
CO6	3	-	2	-	-	-	-	3	-	-
Average	***1.1***	-	***1.2***	-	-	-	-	***1.1***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**		
Branch: Mass Communication		**Semester: 2**		
1	**Course Code**	**VOF106**		
2	**Course Title**	**3D Lighting & Rendering**		
3	**Credits**	**1**		
4	**Contact Hours (L-T-P)**	**0-0-2**		
5	**Course Type**	**Co-requisite**		
6	**Course Objective**	It enables the students to learn the 3d Tool to Create a Virtual Environment with 3d Lighting. Allows students to learn, observe, analyze, and visualize the virtual world Guides the student to strengthen the Three Point Lighting & Cinematic		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Identify the role of Environment Lighting	
		CO2	Compare the difference source of Lighting	
		CO3	Teach the importance of Cinematic Lighting	
		CO4	Illustrate the Rendering Tools & Techniques	
		CO5	Create 3 Point Lighting	
		CO6	Develop a Final Render	
8	**Course Description**	Students will learn the use of different types of 3D Lighting, How to create Real Lighting Effects in Virtual World and create final rendered output.		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Introduction to Lighting and Shading**		
1		The theory of light & Various Concepts of light		CO1, CO2
2		Intro of Standard Lights & Exploring Standard Lights		CO1, CO2
3		Shadow types & Studying shadow controls		CO1, CO2
4		Studying light effects with various shading techniques		CO1, CO2
Unit 2		**Types of camera & Lights**		
1		Concept of 3-Point lighting & Fundamentals of Product Lighting		CO3, CO4
2		Seen setup using standard lights & Uses of Photo metric lights		CO3, CO4
3		Sunlight and Daylight System, Fundamental of environmental		CO3, CO4
4		Illumination & Lighting setup of an environment		CO3, CO4
5		Basics of camera & Types of cameras		CO3, CO4
6		Camera Setup for a seen & Camera correction techniques		CO3, CO4
Unit 3		**Rendering Basics & Types of Renderers**		
1		Introduction of Rendering		CO5, CO6
2		Explaining Various rendering techniques		CO5, CO6
3		Rendering a Scene		CO5, CO6
4		Render Effect		CO5, CO6
5		Exposure Control		CO5, CO6
6		Studying ART		CO5, CO6
7		Renderer		CO5, CO6
8		Intro of Arnold		CO5, CO6
9		Exploring Arnold Lights and Camera		CO5, CO6
10		Basic scene set up with Arnold		CO5, CO6
11		Exploring Rendering with Arnold		CO5, CO6
Unit 4		**Materials, Texturing**		
1		Standard Maps and material browser		CO5, CO6
2		Arnold Materials		CO5, CO6
3		Projection-Mapping		CO5, CO6
4		UV Editor Interface		CO5, CO6

Unit 5	**Lighting and rendering in Maya**			
1	Types of Standard Lights, Sunlight system & HDRI Lighting			CO5, CO6
2	Rendering Interface, Saving render files and their type			CO5, CO6
3	Rendering an Interior Scene			CO5, CO6
4	Rendering an Exterior Scene (Day Light/ Night/Evening view			CO5, CO6
5	Post Production in Adobe Photoshop			CO5, CO6
Mode of examination	**Jury**			
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s	• The Art and Technique of Matchmoving Solutions for the VFX Artist By Erica Hornung, 1st Edition (First Published 2010)			
Other References	• Compositing Visual Effects: Essentials for the Aspiring Artist Paperback– 11 August 2011by Steve Wright (Author)			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-
CO4	1	-	1	-	-	-	-	1	-	-
CO5	2	-	1	-	-	-	-	2	-	-
CO6	3	-	2	-	-	-	-	2	-	-
Average	***1.0***	-	***0.6***	-	-	-	-	***0.8***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**		
Branch: Mass Communication		**Semester: 2**		
1	**Course Code**	**ARP102**		
2	**Course Title**	**Communicative English-II**		
3	**Credits**	**2**		
4	**Contact Hours (L-T-P)**	**1-0-2**		
5	**Course Type**	**Co-requisite**		
6	**Course Objective**	To Develop LSRW skills through audio-visual language acquirement, creative writing, advanced speech et al and MTI Reduction with the aid of certain tools like texts, movies, long and short essays.		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	At the end of the course, a student will be able to create a larger goal and vision statement for goal setting	
		CO2	At the end of the course, a student will be able to adapt a positive attitude towards life	
		CO3	At the end of the course, a student will be able to apply advanced writing skills in English like full length essays, Precis, Executive Summary etc.	
		CO4	At the end of the course, a student will be able to utilize the science of speech and correct pronunciation through the accent-neutralization program followed by reading sessions	
		CO5	At the end of the course, a student will be able to apply Innovative Leadership and Design Thinking skills and practices along with Ethics and Integrity	
		CO6	At the end of the program, a student will be able to demonstrate Love, Compassion, Non-Violence, Truth, Righteousness, Peace, Service and Renunciation (Sacrifice).	
8	**Course Description**	The course takes the learnings from the previous semester to an advanced level of language learning and self-comprehension through the introduction of audio-visual aids as language enablers. It also leads learners to an advanced level of writing, reading, listening and speaking abilities, while also reducing the usage of L1 to minimal in order to increase the employability chances.		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Acquiring Vision, Goals and Strategies through Audio-visual Language Texts**		
1		Pursuit of Happiness / Goal Setting & Value Proposition in life		CO1
2		12 Angry Men / Ethics & Principles		CO1
3		The King's Speech / Mission statement in life | strategies & Action Plans in Life		CO1
Unit 2		**Creative Writing**		
1		Story Reconstruction - Positive Thinking		CO2
2		Theme based Story Writing - Positive attitude		CO2
3		Learning Diary Learning Log – Self-introspection		CO2
Unit 3		**Writing Skills 1**		
1		Precis		CO3
2		Paraphrasing		CO3
3		Essays (Simple essays)		CO3
Unit 4		**MTI Reduction/Neutral Accent through Classroom Sessions & Practice**		
1		Vowel, Consonant, sound correction, speech sounds, Monothongs, Dipthongs and Tripthongs		CO4

2	Vowel Sound drills, Consonant Sound drills, Affricates and Fricative Sounds	CO4
3	Speech Sounds | Speech Music| Tone | Volume| Diction |Syntax |Intonation | Syllable Stress |	CO4
Unit 5	**Gauging MTI Reduction Effectiveness through Free Speech**	CO5
1	Jam sessions	
2	Extempore	
3	Situation-based Role Play	
Unit 6	**Leadership and Management Skills**	
1	Innovative Leadership and Design Thinking	CO5
2	Ethics and Integrity	CO5
Unit 7	**Universal Human Values**	
1	Love & Compassion, Non-Violence & Truth	CO6
2	Righteousness, Peace	CO6
3	Service, Renunciation (Sacrifice)	CO6
Unit 8	**Introduction to Quantitative aptitude & Logical Reasoning**	
1	Analytical Reasoning & Puzzle Solving	CO6
2	Number Systems and its Application in Solving Problems	CO6
Evaluations	CA 25% | CE(Viva) 25% | ETE 50%	
Text Book/s	Wren, P.C.&Martin H. High English Grammar and Composition, S.Chand& Company Ltd, New Delhi. Blum, M. Rosen. How to Build Better Vocabulary. London: Bloomsbury Publication Comfort, Jeremy(et.al). Speaking Effectively. Cambridge University Press The Luncheon by W.Somerset Maugham - http://mistera.co.nf/files/sm_luncheon.pdf	

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	-	-	-	-	-	-	1	-	1
CO2	3	-	-	1	-	-	-	1	-	-
CO3	3	-	-	-	-	-	-	1	-	2
CO4	3	-	-	-	-	-	-	1	-	2
CO5	3	-	-	-	-	3	-	1	-	-
CO6	3	-	-	1	2	1	-	1	-	2
Average	***3.0***	-	-	***0.3***	***0.3***	***0.6***	-	***1.0***	-	***1.7***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**		
Branch: Mass Communication		**Semester: 2**		
1	**Course Code**	**BCJ111**		
2	**Course Title**	**Indian Culture and Art Forms**		
3	**Credits**	**3**		
4	**Contact Hours (L-T-P)**	**0-2-2**		
5	**Course Type**	**Compulsory**		
6	**Course Objective**	**The objective of pursuing this course is:** **To debate on various aspects of Indian history, art and culture** **To critically engage on various socio-economic and political issues in India** **To utilize knowledge gained to influence the social fabric of the country**		
7	**Course Outcomes**	After completing the course, the student will be able to:		
		CO1	List the various aspects of Indian history, art, and culture	
		CO2	Explain the concept of diversity and underlying unity in Indian culture	
		CO3	Demonstrate critical thinking abilities to analyze and suggest alternatives describe salient features of Indian Constitution and politics system	
		CO4	Apply knowledge in restructuring the system by developing positive, differentiative and analytical capabilities towards Indian Art and Architecture.	
		CO5	Classify Indian Art, and understand Classic Performing Arts.	
		CO6	Examine various socio-economic and political issues in India.	
8	**Course Description**	The course is aimed to impart knowledge of Indian history, art, and culture among students. The course will also help the student to critically examine the socio-economic and political aspects and issues of the country		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Indian History: An Introduction**		
1		Society in India through Ages- Ancient period- Varna and Jati, Family and Marriage in India,		CO1
2		Religion and Philosophy in India: Ancient Period, Pre- Vedic and Vedic Religion, Buddhism and Jainism, Indian Philosophy – Vedanta and Mimansa School of Philosophy		CO1
3		Indian Freedom Movement (1857-1947) Landmarks		CO1
Unit 2		**Indian Culture: An Introduction**		
1		Socio-cultural Configuration of Contemporary India: Unity, Diversity, Multi-Culturalism		CO2
2		Art and Culture: Contemporary Issues and Debates		CO2
3		Scientific Temper: Concept, Relevance and Practice		CO2
Unit 3		**Indian Polity**		
1		Indian Constitution: Preamble; Fundamental Rights and Duties; Directive Principles		CO3
2		Presidential System and Parliamentary Democracy		CO3
3		General Elections and Electoral Reforms		CO3
Unit 4		**Indian Art & Architecture:**		
1		Gandharva School and Mathura School of Art; Hindu Temple Architecture, Buddhist Architecture, Medieval Architecture and Colonial Architecture		CO4
2		Indian Painting Tradition: Ancient, Medieval, Modern Indian Painting and Regional Painting Tradition		CO4

3	Performing Arts: Divisions of Indian Classical Music: Hindustani and Carnatic, Dances of India: Various Dance forms: Classical and Regional, Rise of Modern Theatre and Indian Cinema. Contemporary Indian Art and Artists		CO4
Unit 5	**Social Movements & Activism**		
1	Marginalization, Socio-Economic Equality and Reservation		CO5
2	Judicial Activism & Women Safety, Gender Equality and Activism		CO5
3	Public Health, Hygiene & Sanitation: Swachh Bharathidasan		CO6
Mode of examination	**Theory**		
Evaluations	**CA 25%**	**CE(Viva) 25%**	**ETE 50%**
Text Book/s	Basham, A. L. (2007). The Illustrated Cultural history of India. New Delhi: Oxford University Press. Ed. 1		
Reference	Nehru, J. (1946). The Discovery of India. New York: The John Day Company. Thapar, R. (2003). The History of Early India: From the Origins to AD 1300. London: Penguin. Dhingra, I. C. (1986). Indian Economics and Development. New Delhi: Sultan Chand & Sons. Verma, N., & Bhalla, A. (200 0). India and Europe: Selected Essays. Shimla: Centre for the Study of Indian Civilization and Indian Institute of Advanced Study.		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	2	-	-	-	3	-	3	-	-	-
CO2	3	3	-	-	-	-	-	3	-	-
CO3	-	-	-	2	1	-	2	-	-	-
CO4	3	2	-	2	2	-	1	2	-	-
CO5	1	-	-	-	-	-	-	3	-	-
CO6	3	-	-	2	1	-	1	-	-	-
Average	2.0	0.83	-	1.0	1.17	-	1.17	1.34	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2024-25**		
Branch: Mass Communication		**Semester: 2**		
1	**Course Code**	**VAF006**		
2	**Course Title**	**Stress and Time Management**		
3	**Credits**	**Audit**		
4	**Contact Hours (L-T-P)**	**30 Hrs**		
5	**Course Type**	**Compulsory**		
6	**Course Objective**	To understand the nature of stress Comprehend the psychological and physiological effects of stress To access the risk factors related to stress. To understand intricacies of time management		
7	**Course Outcomes**	After completing the course, the student will be able to:		
		CO1	Outline the basics nature of stress	
		CO2	Review the strategies of stress management	
		CO3	Adapt strategies of stress management prevention	
		CO4	Explain fundamental aspects of time management	
		CO5	Examine productive time management system	
		CO6	Elaborate the techniques of stress and time management	
8	**Course Description**	The course is designed to inculcate the basic understanding of the relationship between the stress management and time management skills with the academic achievement of the students.		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Understanding the Nature of Stress**		
1		Meaning of Stress		CO1
2		Reactions to Stress, Sources of Stress		CO1
3		Individual and Cultural Differences		CO1
Unit 2		**Strategies of Stress Management**		
1		Stressful thinking		CO2
2		Psychological and Spiritual Relaxation Methods		CO2
3		Physical Methods of Stress Reduction		CO2
Unit 3		**Strategies of Stress Management Prevention**		
1		Self Care: Nutrition and Lifestyle		CO3
2		Stress & Conflict in relationships, Resilience and Stress		CO3
3		Apply stress management prevention technique		CO6
Unit 4		**Fundamental Aspects of Time Management**		
1		Planning & Goal Setting		CO4
2		Focus on time and resources		CO4
3		Pre-Analysis of performance		CO6
Unit 5		**Productive Time Management System**		
1		Busy vs Productive		CO5
2		Indecision and Delay, Urgency vs Importance		CO5
3		Apply time management technique		CO6
Text Book/s		Stress and Time Management by Brian Lomas		
Reference		Time and Stress Management for Rookies by Kay Frances		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	1	-	-	-	-	-	1	3	1
CO2	3	1	-	-	-	-	-	1	3	1
CO3	3	1	-	-	-	-	-	2	3	1
CO4	3	1	-	-	-	-	-	2	3	1
CO5	3	1	-	-	-	-	-	2	3	1
CO6	3	1	1	-	-	-	-	2	3	1
Average	**3.0**	**1.0**	**0.16**	**-**	**-**	**-**	**-**	**1.6**	**3.0**	**1.0**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

Semester III

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**		
Branch: Mass Communication		**Semester: 3**		
1	**Course Code**	**AVG221**		
2	**Course Title**	**Character Modeling & Sculpting Techniques***		
3	**Credits**	**4**		
4	**Contact Hours (L-T-P)**	**2-2-0**		
5	**Course Type**	**Core**		
6	**Course Objective**	This Course is extension of 3D Modelling and allows to create like clay handling in traditional sculpting in digital format. This advanceapplication allows a student to create hyper realistic character, textures with minor details, how to develop basic mesh within or outside of application and develop that into highly creative, expressive and realistic character.		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Identify Advanced Digital Sculpting tools & techniques	
		CO2	Summarize working with Gizmos	
		CO3	Use Sub Tools & Subdivisions	
		CO4	Discover Types of Digital Brushes & Attributes	
		CO5	Illustrate the use of Alpha & Masking	
		CO6	Design Character using Dynamesh & Sculptris Pro	
8	**Course Description**	This subject will provide a detailed introduction to Digital Sculpting Tools Different techniques to create 3D model, about UV process and how does it help in texturing photo realistic		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Introduction**		
1		Setting a project		CO1
2		Interface & Navigation.		CO1
3		Tools & Techniques		CO1
Unit 2		**Digital Sculpting Basic**		
1		Gizmo		CO2
2		Move, Scale & Rotation		CO2
3		Symmetry		CO2
Unit 3		**Tools & Sub Tools**		
1		Importing		CO3
2		Spitting & Merging		CO3
3		Multimesh		CO3
Unit 4		**Sculpting Brushes**		
1		Settings & Size		CO4
2		Combining Meshes		CO4
3		Alpha		CO4
Unit 5		**DynaMesh**		
1		Starting the Sculpting		CO5
2		Symmetry & Smoothness		CO5
3		Sculptris		CO6
Mode of examination		**Jury**		
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s		• ZBrush Character Creation: Advanced Digital SculptingBook by Scott Spencer		

Other References	• 3D Sculpting for Beginners: Amazing Guide To Sculpting Book by Scott Redhed

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	1	-	-	-	-	1	-	-
CO2	-	-	-	-	-	-	-	1	-	-
CO3	1	-	2	-	-	-	-	2	-	-
CO4	-	-	-	-	-	-	-	2	-	-
CO5	1	-	-	-	-	-	-	3	-	-
CO6	3	-	3	-	-	-	-	3	-	-
Average	***1.0***	-	***1.0***	-	-	-	-	***2.0***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**	
Branch: Mass Communication		**Semester: 3**	
1	**Course Code**	**AVG222**	
2	**Course Title**	**VFX Compositing I***	
3	**Credits**	**3**	
4	**Contact Hours (L-T-P)**	**1-2-0**	
5	**Course Type**	**Core**	
6	**Course Objective**	Familiarize the tools and techniques to create standard VFX shots. Learn Problem solving techniques to rectify the errors during compositing. Create content for broadcast, feature film and web animation.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Describe Compositing & its throughout Development
		CO2	Define Projection, Exposure & Visual Information
		CO3	Summarize Practice Digital Imaging & Manipulation
		CO4	Teach Layer & Node System, Keying & Matting
		CO5	Categorize Live & Virtual Camera and 3D Compositing
		CO6	Design Evaluate video art, tools and techniques
8	**Course Description**	Students will learn core concepts of 2D & 3D Digital Compositing, Historical Development, Creating Virtual Realm & Video Art.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**History of Compositing**	
1		Terminologies	CO1
2		Physical Compositing, Multiple exposure,	CO2
3		Background Projection, Matting,	CO1&CO2
4		Digital Compositing,	CO1&
5		Node based and Layer Based Compositing.	CO2
6		Visual information and the camera,	CO1&CO2
Unit 2		**Digital Image**	
1		Digital Image Generation, Pixels, Components and Channels,	CO3
2		Bit Depth, Floating point and High Dynamic Range Imagery,	CO3
3		HSV Color, YUV color, Digital Image file formats, Channels, Compression.	CO3
4		Color Manipulation, Levels, Variations, Multiply, Add,	CO3
5		Gamma Correction, Exposure Correction, Invert, Contrast, HSV manipulations	CO3
Unit 3		**Layers**	
1		Layer and Node based compositing. Blending layers, Matte Image, Masking, Morphing - Chroma	CO3&CO4
2		Keying, Garbage Mattes, Edge Mattes, Luminance Keying, Chrominance Keying, Difference Matting, Plug-ins and tools for keying.	CO3&CO4
3		Tracking and Stabilization, Tracking an element, 2D tracking, Perspective tracking, Stabilizing footage.	CO4
4		Limitations of tracking and stabilizing tools. Tools for advanced tracking and match moving. Digital Imagery, Color Correction	CO3
5		Lighting and Composition	CO3&CO4
6		Creating elements, lighting in compositing tool, Matching live and virtual cameras.	CO3

Unit 4	**Compositing using 2D images,**	
1	Working with camera and lighting, effects, Working with Multipass Rendering, Alpha and Luma mattes, Z depth maps, Blending passes and effects .	CO5
2	Animation, 2D and 3D transformation, Temporal and spatial interpolation, speed graph, optimizing key frames, expressions for animation, Time Remapping	CO5
3	Theory and Practice of Video Art History of Video Art, Contemporary video style, culture and emotion reference	CO5
4	Video synthesizer, real-time video art, tools and techniques, applications	CO5
Unit 5	**Music visualization and media art, automation to music, applications and tools**	
1	Video art as art form, Interactive film, display and projection, case studies.	CO6
2	Learning Lab	CO6
3	Create 2.5D Animation of an exterior and interior scene. Animate a slideshow using images imported into compositing.	CO6
4	Track and composite croma footage to a background, color correct the scene for film.	CO6
5	Animate and composite 3D rendered passes with 2D footages.	CO6
Method of examination	**Jury**	
Evaluations	CA 25% | CE(Viva) 25% | ETE 50%	
Text Book/s	• Compositing Digital Images - T. Porter and T. Duff I Proceedings of SIGGRAPH '84, 18 (1984) I • The Art and Science of Digital Compositing - Ron Brinkman • Wright's Compositing Visual Effects: Essentials for the Aspiring Artist [Paperback]2007) - Paperback (2007) - Wright	
Other References	• Compositing Visual Effects – Essentials for aspiring artists - Steve Wright	

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	1	-	-
CO2	1	-	-	-	-	-	-	1	-	-
CO3	1	-	-	-	-	-	-	1	-	-
CO4	1	-	-	-	-	-	-	2	-	-
CO5	2	-	1	-	-	-	-	3	-	-
CO6	3	-	2	-	-	-	-	3	-	-
Average	***1.5***	-	***0.5***	-	-	-	-	***1.8***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**	
Branch: Mass Communication		**Semester: 3**	
1	**Course Code**	**AVG223**	
2	**Course Title**	**3D Game Design & Development**	
3	**Credits**	**3**	
4	**Contact Hours (L-T-P)**	**1-2-0**	
5	**Course Type**	**Core Elective**	
6	**Course Objective**	To understand the overview of 3D game platform To identify the resources for a 3D game development To learn techniques essential for setting up a 3D game To understand the game mechanism and its interface To explain 3D game workflow and optimization techniques	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1 Define the workflow of game engine for 3D game	
		CO2 Describe the resources for a 3D game development	
		CO3 Summarize techniques of setting up a 3D game	
		CO4 Teach the game mechanism and its interface	
		CO5 Illustrate game prototype	
		CO6 Invent game management and optimization techniques	
8	**Course Description**	The course is about the understanding the principle of 3D Game Development and Plan the resources for a 3D game development	
9	**Outline Syllabus**		**CO Mapping**
	Unit 1	**Overview of 3D Platform**	
	1	Introduction to unity 3D, Loading or creating a New project or scene	CO1,CO2
	2	Layout, Toolbar, Menu, Simple Objects, selecting and focus, Transforming, Snaps	CO1,CO2
	3	Scene, Lights, Particle, 3D Objects, Materials, Environment, Player Character, Interactions	CO1,CO2
		Concepts of unity 3d, Interface, Terrain Editor, Camera, GUI and HUD	CO1,CO2
	Unit 2	**Game Assets Overview**	
	1	Pro builder - Game 3d models – Environment - Terrain - Character – Vehicles- Props- particles and other assets,	CO3
	2	Importing – model packages, Costumes, Fog, Setting up materials, Architecture, Skybox, shaders, Lighting and shadows	CO3
	3	Assets Management, Package Manager, Timeline Editor	CO3
	Unit 3	**3D Game World**	
	1	Navigation and functionality- Characters - Inspector setup - Prefabs –controller – Graphics - Camera Setup,	CO4
	2	Culling Mask, Occultation Culling	CO4
	3	Cursor control – GUI cursor , Action Objects -Interaction – Collision – collision detection – Trigger –Raycasting – camera follow	CO4
	4	Rigid Bodies, Instantiation, physics, Input controllers.	CO4
	Unit 4	**Visualization for 3D game**	
	1	Cinemachine, Post Processing,	CO5
	2	Managing State – State Machine – Object lookup,	CO5
	3	Exploring Transition – object visibility – player focus,	CO5

4	Unity Animation view, Animator, Mecanim and characters,		CO5
5	Setting up.		CO5
Unit 5	**Game Testing & Finalizing**		
1	Menu and Levels, UGUI, Message text- GUI skin- text,		CO6
2	Inventory Logic – Layers – screen – icons –cursor, Managing the Inventory – object- layout-overflow – limits, Dialogue tree,		CO6
3	Special effects, Particle System, Audio System, Device simulators, 3D Sounds		CO6
4	Debugging and Optimization, Building – Settings – Game (Web / PC & Android) – Quality Settings, Testing.		CO6
Mode of examination	**Jury**		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Beginning 3D Game Development with Unity 4: All-in-One, Multi- Platform Game Development, Second Edition by- sue-Blackman Publisher: A press • Learn Unity3D Programming with Unity Script: Unity's JavaScript for Beginners by Janine Suvak • Unity Game Development Essentials by Will Goldstone Game Development with Unity by Michelle Menard • 3D Game Textures: Create Professional Game Art Using Photoshop / 3D Game Environments: Create Professional 3D Game Worlds by Luke Ahearn		
Other References	• Unity Game Development in 24 Hours, Sams Teach Yourself by Ben Tristem, Mike Geig • Getting Started with Unity By Patrick Felicia 3- Unity 3D UI Essentials by Simon Jackson		

Course Articulation Matrix

POs / COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	1	-	1	-	-	-	-	1	-	-
CO2	1	-	-	-	-	-	-	1	-	-
CO3	1	-	-	-	-	-	-	2	-	-
CO4	1	-	-	-	-	-	-	2	-	-
CO5	3	-	2	-	-	-	-	2	-	-
CO6	3	-		-	-	-	-	3	-	-
Average	***1.6***	-	***0.5***	-	-	-	-	***1.8***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**	
Branch: Mass Communication		**Semester: 3**	
1	**Course Code**	**AVG224**	
2	**Course Title**	**Character Animation***	
3	**Credits**	**3**	
4	**Contact Hours (L-T-P)**	**1-2-0**	
5	**Course Type**	**Core Elective**	
6	**Course Objective**	The purpose of this subject is to provide simulated hands-on experience of Character Animation and Rigging pipeline. It will help in: Understanding the workflows involved in actual productions. Knowledge of planning and organizing projects. Learning artistic techniques to create high quality Rigs and Animations.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Arrange the pre-plan and prepare references for Animation
		CO2	Explore the tools to create Complex Rig Systems for Animation
		CO3	Develop advanced features to Rig for enhancing Facial Animation performance
		CO4	Apply a reference to create refined and appealing body animation
		CO5	Express realistic emotion through Facial Animation performance
		CO6	Visualize work through cinematic techniques
8	**Course Description**	Students will learn the core concepts of creating High Functioning Character Rigsand using them for creating appealing Animations	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Project Preparation**	
1		Introduction of Unit	CO1
2		Choosing Character Topic (Stylized / Realistic)	CO1
3		Collecting References	CO1
4		Planning	CO1
5		Preparing Scenes and Resources	CO1
Unit 2		**Body Rigging**	
1		Introduction of Unit	CO2
2		Creating Joints	CO2
3		Attaching Controls	CO2
4		Adding Constraints	CO2
5		Painting Weights	CO2
6		Adding Deformers	CO2
Unit 3		**Facial Rigging**	
1		Introduction of Unit	CO3
2		Sculpting Poses	CO3
3		Generating Blend Shapes	CO3
4		Attaching Controls	CO3
5		Organizing Heirarchy	CO3
Unit 4		**Body Animation**	
1		Introduction of Unit	CO4
2		Blocking Out Animation	CO4
3		Creating Key Poses from Reference	CO4
4		Adding in-betweens	CO4
5		Cleaning up Graph Editor	CO4

6	Refining Animation			CO4
Unit 5	**Facial Animation**			
1	Introduction of Unit			CO5
2	Blocking Out Animation			CO5
3	Creating Key Poses from Reference			CO5
4	Adding in-betweens			CO5
5	Cleaning up Graph Editor			CO6
6	Refining Animation			CO6
Mode of examination	**Jury**			
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s	• Learning Maya 5: Character Rigging and Animation by Alias Wave front			
Other References	• The Advanced Art of Stop-Motion Animation by Ken A. Priebe • Understanding 3-D animation using Maya by John Edgar Park			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	1	-	-
CO2	1	-	1	-	-	-	-	1	-	-
CO3	2	-	1	-	-	-	-	2	-	-
CO4	1	-	0	-	-	-	-	2	-	-
CO5	3	-	2	-	-	-	-	2	-	-
CO6	3	-		-	-	-	-	3	-	-
Average	***1.8***	-	***0.6***	-	-	-	-	***1.8***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**		
Branch: Mass Communication		**Semester: 3**		
1	**Course Code**	**OPE**		
2	**Course Title**	**Radio Jockeying, Podcast and Programme Production (OPE)**		
3	**Credits**	**3**		
4	**Contact Hours (L-T-P)**	**0-2-2**		
5	**Course Type**	**Minor Elective**		
6	**Course Objective**	The objective of this course is to: Familiarize the students with different aspects of Radio Programming & Radio Production Understand how to conceptualize and deliver radio programs. To understand the importance of Voice, punctuation & vocabulary in Radio Programming Understand the difference between outdoor and studio-based Radio production		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Define Radio as a medium, its working & the audio equipment involved in programming.	
		CO2	Explain sound and its importance in radio programming	
		CO3	Outline and develop different kinds of radio programs	
		CO4	Demonstrate the basic techniques of presenting the radio programs in an effective manner	
		CO5	Develop an understanding of creativity in audio medium and learn different techniques of audio recording and editing	
		CO6	Elaborate their practical knowledge & produce their own projects.	
8	**Course Description**	This course is specially designed to deal with various elements of radio production process. Beginning with conceptualization of the radio programs, various stages of the production process keeping in view the nature of audience and the zone of broadcast will also be dealt with.		
9	**Outline Syllabus**			**CO Mapping**
	Unit 1	**Radio: An Introduction**		
	1	Introduction to radio, its development as a medium of mass communication.		CO1
	2	Functions, Characteristics & limitations of Radio. Different types of Radio: Commercial Radio, Community Radio, Satellite Radio & Internet Radio		CO1
	3	Introduction to Sound, Importance of Sound in Producing Radio Programs, Doppler Effect		CO1, CO2, CO3
	Unit 2	**Radio Format & different stages**		
	1	Stages of Radio Production • Pre-Production – (Idea, research, script) • Production–Creative use of Sound; Listening, Recording, using archived sounds, (execution, requisite, challenges), Podcast • Post Production		CO2, CO3
	2	Different formats of radio programs		CO 2,CO3
	3	Program format V/s Station format: Music and Non music formats, different formats- talk, discussion, interviews, magazine show, fillers documentary, features etc.		CO1, CO2, CO3
	Unit 3	**Radio Jockeying**		

1	Voice Modulation Pitch, Tempo, Phonetics, the art of proper articulation and pronunciation, voice projecting.	CO4, CO3
2	Use of microphones & Console handling	CO1, CO3, CO4, CO6
3	OB recordings & Live shows.	CO1, CO3, CO4, CO6
Unit 4	**Radio: Writing & Editing**	
1	Writing for Radio- Styles & Structure	CO3, CO4
2	Art of taking Interview for Radio	CO3, CO4
3	Radio Editing: Tools & Techniques	CO3, CO4, CO5, CO6
Unit 5	**Radio Programmes Production**	
1	Producing Radio Interviews, Talks, Magazine Show, Phonos	CO3, CO4, CO5, CO6
2	Producing Public Service Announcement, Promo and Jingles	CO3, CO4, CO5, CO6
3	Final Project Submission and Presentation	CO3, CO4, CO5, CO6
Evaluations	CA 25% / CE(Viva) 25% / ETE 50%	
Text Book/s	Keith, Michael C & Krause, Joseph M. (1989) — "The Radio Station".	
Other References	• Aspinall, R. (1971) Radio Production, Paris: UNESCO. • Flemming, C. (2002) The Radio Handbook, London: Routledge. Keith, M. (1990) • Radio Production, Art & Science, London: Focal Press McLeish, R. (1988) • Techniques of Radio Production, London: Focal Press • Chatterji, P.C. (1993) — "Indian Broadcasting".	

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-
CO2	1	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-
CO5	1	1	-	-	-	-	-		-	-
CO6	-	1	-	-	-	-	-	1	-	-
Average	***0.3***	***0.3***	-	-	-	-	-	***0.1***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**	
Branch: Mass Communication		**Semester: 3**	
1	**Course Code**	**AVG225**	
2	**Course Title**	**Texture Painting Tools**	
3	**Credits**	**1**	
4	**Contact Hours (L-T-P)**	**0-0-2**	
5	**Course Type**	**Core**	
6	**Course Objective**	The purpose of this subject is to provide simulated hands-on experience of being able to create complete high quality 3D Assets for Films and Game Productions. This subject will help in: Understanding the workflows involved in actual productions. Knowledge of planning and organizing projects. Learning artistic techniques to create high quality assets.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Recognize a pre-plan and prepare references for topic
		CO2	Illustrate the Visual Development & Design Elements
		CO3	Assign tools to create high quality models for production
		CO4	Design organization and optimization of Models and UVs for effective use
		CO5	Apply photorealistic material properties through texturing using advanced tools
		CO6	Use Lighting and Rendering techniques to present the project
8	**Course Description**	Students will learn the core concepts of creating High Quality 3D Assets for Film and Game Productions. They will gain the knowledge of planning and organizing projects in a Simulated production environment.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Project Preparation**	CO1
1		Introduction of Unit	CO1
2		Choosing Topic (Environment / High Quality Asset)	CO1
3		Collecting References	CO1
4		Planning	CO1
Unit 2		**Modeling and Sculpting**	
1		Introduction of Unit	CO2, CO3
2		Creating Base Model	CO2, CO3
3		Modeling Hard Surfaces	CO2, CO3
4		Optimizing Topology	CO2, CO3
5		Organic Sculpting	CO4
6		Preparing LODs	CO3, CO4
Unit 3		**Creating UV's and Base Materials**	
1		Assigning Materials	CO4, CO5
2		UV Projection and Cutting	CO4, CO5
3		Unwrapping	CO4, CO5
4		UV Layouts	CO4, CO5
5		Utilizing UDIM Workflow	CO4, CO5
6		Optimizing UV Spaces	CO4, CO5
7		Creating UV's and Base Materials	CO4, CO5
8		Assigning Materials	CO4, CO5
Unit 4		**Texturing and Shading**	
1		Introduction of Unit	CO5
2		Baking LOD Details to Material	CO5
3		Matching Material Properties	CO5

4	Painting organic details		CO5
5	Generating PBR Textures		CO5
6	Plugging-in Textures to Materials		CO5
7	Texturing and Shading		CO5
Unit 5	**Rendering and Presentation**		
1	Introduction of Unit		CO6
2	Setting up Camera		CO6
3	Lighting Scene		CO6
4	Rendering		CO6
5	Post-Processing and Touch up		CO6
6	Rendering and Presentation		CO6
Mode of examination	**Jury**		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Beginning PBR Texturing: Learn Physically Based Rendering with Allegorithmic's Substance Painter Perfect Paperback – 1 January 2022 by Kumar (Author)		
Other References	• Creating Games with Unity, Substance Painter, & Maya (English, Paperback, Li Jingtian)		

Course Articulation Matrix

POs / **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	-	-	-	-	-	-	-	-	-	-
CO2	1	-	-	-	-	-	-	-	-	-
CO3	2	-	-	-	-	-	-	-	-	-
CO4	1	-	-	-	-	-	-	2	-	-
CO5	2	-	2	-	-	-	-	2	-	-
CO6	3	-	3	-	-	-	-	3	-	-
Average	***1.5***	-	***0.8***	-	-	-	-	***1.1***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**			
Branch: Mass Communication		**Semester: 3**			
1	**Course Code**	**AVG226**			
2	**Course Title**	**Anatomy Drawing**			
3	**Credits**	**1**			
4	**Contact Hours (L-T-P)**	**0-0-2**			
5	**Course Type**	**Core Compulsory**			
6	**Course Objective**	Impart knowledge on Human body and its structural function. Apply the knowledge in creating characters in 3D and2D Understanding Rigging in Anatomy Study.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Describe the fundamentals of anatomy		
		CO2	Understand human muscles using pencil sketches		
		CO3	Sketch and learn hand and leg movements		
		CO4	Use human anatomy and create different poses		
		CO5	Illustrate human head in proportion		
		CO6	Create human facial parts		
8	**Course Description**	This subject will provide an overview of Artistic Human Anatomy, Deformation of human form during various activity. It helps in 3D modeling in more realistic way and rigging as well.			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Anatomy Study**			
1		Size and proportion of human body			CO1
2		Bone structure			CO1
3		Stick poses			CO1
4		Action poses in stick drawing			CO1
Unit 2		**Understanding of Human Muscles**			
1		Types of muscles			CO2
2		Muscles in human torso			CO2
3		Muscles in hand and leg			CO2
4		Basic sketches of human muscles			CO2
Unit 3		**Hand and Leg study**			
1		Proportion of Hand and Leg			CO3
2		Hand movement study			CO3
3		Leg Movement study			CO3
4		Full moving pose study			CO3
Unit 4		**Study of Human poses**			
1		Basic human pose study			CO4
2		Action pose study			CO4
3		Group Pose study			CO4
4		Foreshortening poses			CO4
Unit 5		**Study of Human Head**			
1		Basic proportion of human head			CO5
2		Different angles of human head			CO5
3		Separate study of human facial parts			CO6
4		Study of human expression			CO6
Mode of examination		Jury			
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		• Human anatomy for artist by Gyorgy Feher, Publisher: Ullmann Publishing			

	(3 May 2012) ISBN-10: 3833162562, ISBN-13: 978-3833162565 • Drawing the head, hands & figure drawing by- Andrew Loomis, Publisher: TITAN; Reprint edition (10 November 2020), ISBN-10: 1789095344 ISBN-13: 978-1789095340
Other References	• Constructive Anatomy by George B Bridgman, Publisher: Martino Fine Books; Illustrated edition (2 October 2018) ISBN-10: 1684222648 ISBN-13: 978-1684222643

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	1	-	-
CO2	-	-	-	-	-	-	-	1	-	-
CO3	-	-	-	-	-	-	-	1	-	-
CO4	3	-	-	-	-	-	-	3	-	-
CO5	2	-	-	-	-	-	-	2	-	-
CO6	2	-	-	-	-	-	-	1	-	-
Average	***1.1***	-	-	-	-	-	-	***1.5***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**		
Branch: Mass Communication		**Semester: 3**		
1	**Course Code**	**ARP207**		
2	**Course Title**	**Communicative English-III- Logical Skill Building and Soft Skills**		
3	**Credits**	**2**		
4	**Contact Hours (L-T-P)**	**1-0-2**		
5	**Course Type**	**Co-Requisite**		
6	**Course Objective**	To enhance holistic development of students and improve their employability skills. To provide a 360 degree exposure to learning elements of Business English readiness program, behavioral traits, achieve softer communication levels and a positive self-branding along with augmenting numerical and altitudinal abilities. To step up skill and upgrade students' across varied industry needs to enhance employability skills. By the end of this semester, a student will have entered the threshold of his/her 1st phase of employability enhancement and skill building activity exercise.		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Ascertain a competency level through Building Essential Language and Life Skills	
		CO2	Build positive emotional competence in self and learn GOAL Setting and SMART Goals techniques	
		CO3	Apply positive thinking, goal setting and success-focused attitudes, time Management, which would help them in their academic as well as professional career	
		CO4	Acquire satisfactory competency in use of aptitude, logical and analytical reasoning	
		CO5	Develop strategic thinking and diverse mathematical concepts through building number puzzles	
		CO6	Demonstrate an ability to apply various quantitative aptitude tools for making business decisions	
8	**Course Description**	This Level 1 blended training approach equips the students for Industry employment readiness and combines elements of soft skills and numerical abilities to achieve this purpose		
9	**Outline Syllabus**			**CO Mapping**
	Unit 1	**BELLS (Building Essential Language and Life Skills)**		
	1	Know Yourself: Core Competence. A very unique and interactive approach through an engaging questionnaire to ascertain a student's current skill level to design, architect and expose a student to the right syllabus as also to identify the correct TNI/TNA levels of the student		CO1
	2	Techniques of Self Awareness | Self Esteem & Effectiveness| Building Positive Attitude | Building Emotional Competence		CO1, CO2
	3	Positive Thinking & Attitude Building | Goal Setting and SMART Goals – Milestone Mapping | Enhancing L S R W G and P (Listening Speaking Reading Writing Grammar and Pronunciation) |		CO1, CO2,CO3
	Unit 2	**Introduction to APTITUDE TRAINING- Reasoning- Logical/Analytical**		
	1	Syllogism |Letter Series | Coding, Decoding , Ranking & Their Comparison Level-1		CO4
	2	Number Puzzles		CO5
	3	Selection Based On Given Conditions		CO5
	Unit 3	**Quantitative Aptitude**		

1	Number Systems Level 1 | Vedic Maths Level-1	CO6
2	Percentage ,Ratio & Proportion | Mensuration - Area & Volume |Algebra	CO6
Unit 4	**Verbal Abilities – 1**	
1	Reading Comprehension	CO1
2	Spotting the Errors	CO2
Unit 5	**Time & Priority Management**	
1	Steven Covey Time Management Matrix	CO3
2	Creating Self Time Management Tracker	CO3
Weightage Distribution	Class Assignment/Free Speech Exercises / JAM – 60% | Group Presentations/Mock Interviews/GD/ Reasoning, Quant & Aptitude – 40%	
Text Book/s	Wiley's Quantitative Aptitude-P Anand | Quantum CAT – Arihant Publications | Quicker Maths- M. Tyra | Power of Positive Action (English, Paperback, Napoleon Hill) | Streets of Attitude (English, Paperback, Cary Fagan, Elizabeth Wilson) The 6 Pillars of self-esteem and awareness – Nathaniel Brandon | Goal Setting (English, Paperback, Wilson Dobson	

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	1	-	-	-	-	-
CO2	-	-	-	-	1	-	-	-	-	-
CO3	-	-	-	-	1	-	-	-	-	-
CO4	-	-	-	-	-	-	-	-	-	-
CO5	1	-	-	-	-	-	-	-	-	-
CO6	1	-	-	-	-	-	-	-	-	-
Average	***0.3***	-	-	-	***0.5***	-	-	-	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**			
Branch: Mass Communication		**Semester: 3**			
1	**Course Code**	**BSA228**			
2	**Course Title**	**Photography & VFX**			
3	**Credits**	**1**			
4	**Contact Hours (L-T-P)**	**0-0-2**			
5	**Course Type**	**Core Elective**			
6	**Course Objective**	Impart knowledge in Photography as an artistic medium. Understand the tools and techniques of Photography Create effective storytelling through photography			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Describe and Demonstrate the camera to capture artistic imagery		
		CO2	Relate and Apply techniques to create a unique photography style		
		CO3	Articulate to Analyze the photography through technical information		
		CO4	Use effective storytelling through photography		
		CO5	Categorize and Define Photography for VFX		
		CO6	Plan the Modern Accessories for VFX Photography		
8	**Course Description**	Students Will Learn The Core Basic of Digital Photography, effects of lights and its artistic arrangement. It will helpful for them in creating VFX environment, Matte painting, etc.,			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**History of Photography**			
1		Principle of Camera Obscura			CO1
2		Photography artist study			CO1
3		Aesthetics study of photography in documentary and creative photography			CO1
Unit 2		**Characteristics of Light**			
1		Light Spectrum and color Temperature			CO2
2		Camera structure and their functions			CO2
3		Camera Lenses and their types			CO2
Unit 3		**Lighting Techniques**			
1		Indoor and Outdoor light study			CO3
2		Light Kits and Reflectors			CO3
3		Light study through Black and White Photography			CO3
Unit 4		**Accessories used in Photography**			
1		Exposure and Controls			CO3
2		Flash and Lighting			CO3
3		Reflectors			CO3
Unit 5		**Creative Photography**			
1		Macro Photography			CO4, CO6
2		Light Painting and Freeze Frame Photography			CO6
3		DRI and Panoramas			CO5, CO6
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		Digital Photography Step by Step - Tom, Ang			
Other References		The Complete Digital SLR Handbook: Master Your Camera to Take Pictures Like a Pro			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	1	-	-
CO2	-	-	-	-	-	-	-	1	-	-
CO3	1	-	-	-	-	-	-	2	-	-
CO4	1	-	-	-	-	-	-	2	-	-
CO5	2	-	-	-	-	-	-	2	-	-
CO6	2	-	-	-	-	-	-	3	-	-
Average	***1.0***	-	-	-	-	-	-	***1.8***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**	
Branch: Mass Communication		**Semester: 3**	
1	**Course Code**	**AVG227**	
2	**Course Title**	**Gaming Devices**	
3	**Credits**	**1**	
4	**Contact Hours (L-T-P)**	**0-0-2**	
5	**Course Type**	**Core Elective**	
6	**Course Objective**	To understand Hand held device eco systems To understand the basics of android gaming To explore game development requirement in android To identify troubleshooting techniques and best practices To explore various build / publishing platforms	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Describe more about the hand held devices / consoles and android versions including the publishing platforms
		CO2	Summarize the specialties and functionality required for the mobile devices
		CO3	Compare the process of game development techniques for the android
		CO4	Use game development technique for the android
		CO5	Relate the android troubleshooting methods and best practices
		CO6	Collaborate various optimization techniques and develop games in various platforms
8	**Course Description**	The course is designed to equip students with the fundamentals of handheld devices and its concepts. The course begins with basic concepts and ends with optimization techniques used in game development.	
9	**Outline Syllabus**		**CO Mapping**
	Unit 1	**Overview of Handled Device**	
	1	Introduction,	CO1
	2	Types of handled devices & OS,	CO1
	3	Types of API and SDK	CO1
	4	Android Versions, Google play Services,	CO1
	5	Unity build Platform & Settings	CO1
	Unit 2	**Android Game**	
	1	Understanding,	CO2
	2	Setting up the development environment – connecting to a device	CO2
	3	Specialties of the mobile device	CO2
	4	Android Components – Unity Remote-	CO2
	5	API Level Settings- Functionality – High-end-graphics	CO2
	6	Android profiler – debugging, Android SDK	CO2
	Unit 3	**Android setup**	
	1	Multiplayer and Networking	CO3,CO4
	2	Running the app on the device / emulator/ simulator,	CO3,CO4
	3	Android developer console,	CO3,CO4
	4	Adding achievements in the game ,	CO3,CO4
	5	Saving game stats	CO3,CO4
	6	Unity Services, Google API	CO3,CO4
	7	Adding social media integration, User Touch Input – Single & Multi, summary	CO3,CO4
	Unit 4	**Troubleshooting and Best Practices**	
	1	Measuring performance Android profiler – GPU activity –	CO5

2	Unity Player Statistics – Script Statistics – Memory allocated by scripts ,	CO5
3	Debugging android devices – Profiler timeline – CPU area –	CO5
4	Rendering area – memory area – audio area – physics area – GPU area,	CO5
5	Real practice techniques – high speed – off-screen particle technique in unity – pool technique,	CO5
6	Scriptable profile tool.	CO5
7	Occlusion culling, Light mapping	CO5
Unit 5	**Building & Publishing**	
1	Optimizing the APK,	CO6
2	Unity build Settings window , Add scene , Switching platforms, PC or Mac Standalone build ,	CO6
3	Standalone –Rendering and optimization – Quality	CO6
Mode of examination	**Jury**	
Evaluations	CA 25% / CE(Viva) 25% / ETE 50%	
Text Book/s	• Mastering Android Game Development with Unity –Siddharth Shekar, Wajahat Karim – Packt Publishing Limited (25 May 2017) - ISBN-10: 9781783550777,ISBN-13: 978-1783550777,ASIN: 1783550775 • Unity 5 for Android Essentials - Valera Cogut – Packt Publishing; 1 edition (5 August 2015) - ASIN: B00YSILC66	
Other References	• Mobile Game Development with Unity: Build Once, Deploy Anywhere - Jonathon Manning (Author), Paris Buttfield-Addison (Author) - O'Reilly Media; 1 edition (September 4, 2017) - ISBN-10: 1491944749,ISBN-13: 978-1491944745	

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	1	-	-	-	-	1	-	-
CO2	-	-	-	-	-	-	-	1	-	-
CO3	-	-	-	-	-	-	-	1	-	-
CO4	2	-	-	-	-	-	-	1	-	-
CO5	1	-	-	-	-	-	-	2	-	-
CO6	3	-	2	-	-	-	-	2	-	-
Average	***1.1***	-	***0.5***	-	-	-	-	***1.3***	-	-

1- Slight (Low) 2- Moderate (Medium) 3- Substantial (High)

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**			
Branch: Mass Communication		**Semester: 3**			
1	**Course Code**	**RBL001**			
2	**Course Title**	**Research Based Learning – I**			
3	**Credits**	**-**			
4	**Contact Hours (L-T-P)**	**0-0-4**			
5	**Course Type**	**-**			
6	**Course Objective**	The objective of this course is to: Strengthen the academic research ability of the students. Evolve the inquisitiveness of the students towards society and various factors affecting media and society at a large. Enhance the problem solving skills of the students			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Selecting the research topics related to media research		
		CO2	Demonstrate understanding of research and apply it		
		CO3	Enhance their problem solving skills through research on the topics related to media and communication which directly impacts the society.		
		CO4	Analyzing and appraising research topic/ project		
		CO5	Evaluating the research topic/ project		
		CO6	Write and present their research topic/ project with proper ethics of research.		
8	**Course Description**	The course is designed to inculcate the research value and skills among the students.			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		Start of Project/ Dissertation			CO1
Unit 2		List of Project/ Dissertation proposal area shall be floated to the students			CO1
Unit 3		Mutual Agreement signed between Supervisor & Student			CO1
Unit 4		Submission of proposal form by student to the Dissertation/ Project coordinator of the Department after approval from the Supervisor			CO2, CO3
Unit 5		First Review of Topic Second Review of Topic Approval of Topic Mapping of Dissertation/ Projects to PO-PSO			CO4, CO5,C06
Mode of examination		Only An Audit course			
Evaluations		CA 100%	MTE 0%	ETE 0%	

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	1	-	-	1	-	-	-
CO2	-	-	-	1	3	-	1	-	-	-
CO3	-	3	-	1	-	-	2	-	-	-
CO4	-	-	-	1	-	-	2	-	-	-
CO5	-	-	-	1	2	-	3	-	-	-
CO6	-	-	-	3	-	-	3	-	-	-
Average	-	***0.5***	-	***1.3***	***0.8***	-	***2.0***	-	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**		
Branch: Mass Communication		**Semester: 3**		
1	**Course Code**	**VOF206**		
2	**Course Title**	**Motion Graphics & TVC**		
3	**Credits**	**3**		
4	**Contact Hours (L-T-P)**	**0-2-2**		
5	**Course Type**	**Co-Requisite**		
6	**Course Objective**	Familiarize the tools and techniques to create standard VFX shots Learn Problem solving techniques to rectify the errors during compositing. Create content for broadcast, feature film and web animation		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Describe Compositing & its throughout Development	
		CO2	Define Projection, Exposure & Visual Information	
		CO3	Summarize Practice Digital Imaging & Manipulation	
		CO4	Teach Layer & Node System, Keying & Matting	
		CO5	Categorize Live & Virtual Camera and 3D Compositing	
		CO6	Design Evaluate video art, tools and techniques	
8	**Course Description**	Students will learn core concepts of 2D & 3D Digital Compositing, Historical Development, Creating Virtual Realm & Video Art.		
9	**Outline Syllabus**			**CO Mapping**
	Unit 1	**History of Compositing**		
	1	Terminologies		CO1
	2	Physical Compositing, Multiple exposure,		CO2
	3	Background Projection, Matting,		CO1&CO2
	4	Digital Compositing,		CO1&
	5	Node based and Layer Based Compositing.		CO2
	6	Visual information and the camera,		CO1&CO2
	Unit 2	**Digital Image**		
	1	Digital Image Generation, Pixels, Components and Channels,		CO3
	2	Bit Depth, Floating point and High Dynamic Range Imagery,		CO3
	3	HSV Color, YUV color, Digital Image file formats, Channels, Compression.		CO3
	4	Color Manipulation, Levels, Variations, Multiply, Add,		CO3
	5	Gamma Correction, Exposure Correction, Invert, Contrast, HSV manipulations		CO3
	Unit 3	**Layers**		
	1	Layer and Node based compositing.		CO3&CO4
	2	Blending layers, Matte Image, Masking, and Morphing - Chroma Keying, Garbage Mattes, Edge Mattes, Luminance Keying, Chrominance Keying, Difference Matting, Plug-ins and tools for keying.		CO3&CO4
	3	Tracking and Stabilization, Tracking an element, 2D tracking, Perspective tracking, Stabilizing footage.		CO4
	4	Limitations of tracking and stabilizing tools.		CO3
	5	Tools for advanced tracking and match moving.		CO3&CO4
	6	Digital Imagery, Color Correction		CO3
	Unit 4	**Lighting and Composition**		
	1	Creating elements, Lighting in compositing tool, Matching live and virtual cameras.		CO5

2	3D Compositing, Vanishing point conversion, creating 3D compositing using 2D images,		CO5
3	Working with camera and lighting, effects, Working with Multipass Rendering, Alpha and Luma mattes, Z depth maps, Blending passes and effects.		CO5
4	Animation, 2D and 3D transformation, Temporal and spatial interpolation, speed graph, optimizing key frames, expressions for animation, Time Remapping		CO6
Unit 5	**Theory and Practice of Video Art**		
1	History of Video Art, Contemporary video style, culture and emotion reference -		CO6
2	Video synthesizer, real-time video art, tools and techniques, applications -		CO6
3	Music visualization and media art, automation to music, applications and tools		CO6
4	Video art as art form, Interactive film, display and projection, case studies.		CO6
5	Learning Lab: Create 2.5D Animation of an exterior and interior scene. Animate a slideshow using images imported into compositing. Track and composite chroma footage to a background, color correct the scene for film. Animate and composite 3D rendered passes with 2D footages.		CO6
Mode of examination	**Jury**		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Compositing Digital Images - T. Porter and T. Duff I Proceedings of SIGGRAPH '84, 18 (1984) I • The Art and Science of Digital Compositing - Ron Brinkman • Wright's Compositing Visual Effects: Essentials for the Aspiring Artist [Paperback]2007) - Paperback (2007) - Wright		
Reference Book	• Compositing Visual Effects – Essentials for aspiring artists - Steve Wright		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	2	-	-
CO2	1	-	-	-	-	-	-	2	-	-
CO3	1	-	-	-	-	-	-	2	-	-
CO4	2	-	-	-	-	-	-	1	-	-
CO5	3	-	2	-	-	-	-	-	1	1
CO6	3	-	2	-	-	-	-	3	2	2
Average	***1.6***	-	***0.6***	-	-	-	-	***1.6***	***0.5***	***0.5***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

Semester IV

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**		
Branch: Mass Communication		**Semester: IV**		
1	**Course Code**	**AVG230**		
2	**Course Title**	**VFX Compositing -II**		
3	**Credits**	**4**		
4	**Contact Hours (L-T-P)**	**2-2-0**		
5	**Course Type**	**Core Compulsory**		
6	**Course Objective**	Familiarize the Concepts and techniques used in compositing To familiarize in Advanced In-Depth Compositing		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Define Compositing & Channels System	
		CO2	Contrast the core fundamentals of Color Correction	
		CO3	Solve and Exercise In-depth Compositing	
		CO4	Solve and Exercise In-depth Compositing	
		CO5	Take apart Advanced In-Depth Compositing	
		CO6	Design Camera Projection	
8	**Course Description**	Students will learn core concepts of 2D & 3D Digital Compositing, Historical Development, Creating Virtual Realm & Video Art.		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Channels**		
1		Pass Management,		CO1
2		Bit Depth Allocation		CO1
3		Finding The Best Depth Channels		CO1
4		Color Channels for the Project		CO1
Unit 2		**Color Correction**		
1		The LUT use and Specifications		CO2
2		Finding the Black's and White's Node reusing to Maintain Color Correction		CO2
3		Use of Plugin's in 3D Channels		CO2
Unit 3		**Advanced In-Depth Compositing,**		
1		Concepts and Techniques to Compositing Foliage		CO3
2		Learn to Composite Hair and Fur		CO3
4		Creating and Merging Horizon Lines		CO3
5		Using Vector Blur For Quicker Results		CO3
Unit 4		**Layer, Node & Projection**		
1		Creating Macro's and Dummies,		CO4
2		3D Layers / Nodes in Brief,		CO4
3		3D Camera Projection and Tracking,		CO5
4		3D Channels and Depth Creation,		CO5
5		RGB Mattes and Rotoscopy Solutions.		
Unit 5		**Compositing Lab**		CO5
1		Compositing a Cityscape with Live Footage.		CO5
2		Compositing an Explosion Accident.		CO6
3		Compositing a Live scene with Multiple CG Characters.		CO6
4		Compositing a natural Disaster scene.		CO6
Mode of examination		**Jury**		
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%

Text Book/s	• Compositing Digital Images - T. Porter and T. Duff I Proceedings of SIGGRAPH '84, 18 (1984) • The Art and Science of Digital Compositing - Ron Brinkmann • Wright's Compositing Visual Effects: Essentials for the Aspiring Artist [Paperback]2007) - Paperback (2007) - S.Wright • Compositing Visual Effects – Essentials for aspiring artists -Steve Wright
Reference Book	• Compositing Visual Effects – Essentials for aspiring artists - Steve Wright

Course Articulation Matrix

POs / **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	1	-	-	-	-	-	-	1	-	-
CO2	1	-	-	-	-	-	-	1	-	-
CO3	2	-	-	-	-	-	-	2	-	-
CO4	2	-	1	-	-	-	-	2	-	-
CO5	3	-	2	-	-	-	-	3	-	-
CO6	3	-	1	-	-	-	-	3	-	-
Average	***2.0***	-	***0.6***	-	-	-	-	***2.0***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE			**Batch 2024-28**	
Programme: B.Sc. Animation, VFX & Gaming Design			**Current Academic Year: 2025-26**	
Branch: Mass Communication			**Semester: 4**	
1	**Course Code**		**AVG239**	
2	**Course Title**		**AR VR**	
3	**Credits**		**3**	
4	**Contact Hours (L-T-P)**		**2-2-0**	
5	**Course Type**		**Core**	
6	**Course Objective**	• Understand key Augmented Reality (AR) concepts and develop and create a functional prototype • Identify VR hardware components, Implement VR interaction in Unity and develop a basic VR environment. • Utilize AR Foundation and VR SDKs in Unity. Implement advanced scripting for interactivity and optimize AR and VR applications for performance.		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Understand the fundamental concepts and distinctions between Augmented Reality (AR) and Virtual Reality (VR) technologies in the context of gaming.	
		CO2	Develop practical skills in utilizing Unity, covering scene setup, asset management, scripting in C#, and implementing both AR and VR components.	
		CO3	Apply AR development principles, including marker-based tracking, integration in Unity, and creation of a simple AR application.	
		CO4	Apply VR development techniques, encompassing hardware and device familiarity, interaction implementation, and the creation of a basic VR environment in Unity.	
		CO5	Explore Unity's AR Foundation, various VR SDKs, advanced scripting, user interface implementation, and performance optimization for AR and VR experiences.	
		CO6	Design and develop a capstone AR or VR game project, integrating all learned concepts, and showcase their projects to peers, gaining valuable experience in project presentation and refinement based on feedback.	
8	**Course Description**	This course introduces students to the exciting world of Augmented Reality (AR) and Virtual Reality (VR) with a focus on creating immersive gaming experiences using the Unity Game Engine. Students will gain hands-on experience in developing AR and VR projects, understanding the fundamentals of these technologies, and applying them to game development.		

9	**Outline Syllabus**	**CO Mapping**
Unit 1	**Introduction to AR and VR**	
1	Overview of AR and VR	CO1
2	Unity Basics	CO1
3	Fundamentals of AR Development	CO1
Unit 2	**Basic VR Development in Unity**	
1	VR Hardware and Devices	CO2
2	VR Interaction Techniques	CO2
3	Building a Basic VR Environment	CO2
Unit 3	**Advanced AR and VR Development**	
1	Unity's AR Foundation and VR SDKs	CO3
2	Advanced Scripting for AR and VR	CO3
3	User Interfaces in AR and VR	CO4
Unit 4	**Optimization and Performance**	

1	Capstone Project Overview		CO4
2	Testing and Profiling AR and VR Applications		CO5
3	Strategies for Improving Frame Rates		CO5
Unit 5	**Final Project and Showcase**		
1	Project Presentation and showcase		CO6
2	Project Development		CO6
3	Final Project Showcase		CO6
Mode of examination	**Jury**		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Augmented Reality with Unity AR Foundation: A Practical Guide to cross-platform AR development with Unity 2020 and later versions, Author: Jonathan Linowes, Publisher: Packt Publishing Ltd, 2021, ISBN- 1838982965, 9781838982966 • Unity 2020 Virtual Reality Projects - Third Edition, Author: Jonathan Linowes, Released July 2020, Publisher(s): Packt Publishing, ISBN: 978183921733		
Other References	• Unity 2018 Augmented Reality Projects: Build four immersive and fun AR applications using ARkit, ARCore, and Vuforia - Jesse Glover (Author) - Packt Publishing - ebooks Account (July 30, 2018) - ISBN-10: 9781788838764,ISBN-13: 978-1788838764. • Learning Virtual Reality: Developing Immersive Experiences and Applications for Desktop, Web, and Mobile - by Tony Parisi (Author) - O'Reilly Media; 1 edition (November 20, 2015) - ISBN-10:9781491922835, ISBN-13: 978-1491922835, ASIN: 1491922834.		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	1	-	-
CO2	1	-	-	-	-	-	-	1	-	-
CO3	1	-	-	-	-	-	-	1	-	-
CO4	2	-	1	-	-	-		2	-	-
CO5	2	-	2	-	-	-	1	2	1	1
CO6	3	-	2	-	-	-	2	3	1	1
Average	***1.6***	**-**	***0.8***	**-**	**-**	**-**	***0.5***	***1.6***	***0.3***	***0.3***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**	
Branch: Mass Communication		**Semester: 4**	
1	**Course Code**	**AVG232**	
2	**Course Title**	**Game Testing***	
3	**Credits**	**3**	
4	**Contact Hours (L-T-P)**	**1-2-0**	
5	**Course Type**	**Core Elective**	
6	**Course Objective**	To explain game testing methodologies. To discuss test phases, process and plan. To assess various like ADHOC, combinatorial and other testing techniques. To summarize game testing procedures for handled devices. To explore game publishing platforms and their process.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Describe importance of sound design in AV production
		CO2	Summarize fundamentals and procedures for testing
		CO3	Teach different testing techniques for games which include white box, black box and other compatibility issues
		CO4	Categorize various publishing platforms
		CO5	Develop test cases
		CO6	Publishing techniques for various platforms
8	**Course Description**	The course is designed to equip students with Game Publishing and Testing concepts and to apply these concepts and techniques in game development.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Overview of testing**	
1		Introduction	CO1
2		Two rules of game testing.	CO1
3		Being a game tester.	CO1
4		Types of game testing.	CO1
5		Why testing is important.	CO1
6		Testing strategy.	CO1
7		Testing vs. debugging, and Testing coverage.	CO1
Unit 2		**Testing Fundamentals**	
1		Software quality.	CO2
2		Test phases.	CO2
3		Test process.	CO2
4		Testing by numbers.	CO2
5		Test plan.	CO2
Unit 3		**Testing Techniques**	
1		Combinatorial testing.	CO3
2		Test Flow Diagrams.	CO3
3		Clean room testing.	CO3
4		Test trees.	CO3
5		Play testing and ADHOC Testing.	CO3
6		Defect Triggers.	CO3
7		Game test Automation.	CO3
8		Capture / playback testing.	CO3
9		Software testing processes.	CO3
Unit 4		**Game Testing Procedures**	

1	Game Components and breakdown structure.		CO4,CO5
2	Game Testing Techniques.		CO4,CO5
3	Special considerations for game testing.		CO4,CO5
4	Android Game testing, Bug spotting.		CO4,CO5
Unit 5	**Unity Game Publishing**		
1	Introduction		CO6
2	Type of game publishing platforms. Fundamentals.		CO6
3	How to build for various platforms like pc, mobile, web platforms using the variety of tools.		CO6
4	Build features.		CO6
5	Packing up assets.		CO6
6	Game Aspects.		CO6
Mode of examination	Jury		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	Cengage Learning; New edition edition (22 June 2009) - ISBN-10: 1435439473 , ISBN-13: 978- 1435439474 Unity 2018 By Example: Learn about game and virtual reality development by creating five engaging projects - by Alan Thorn (Author) - Packt Publishing; 2 edition (July 31, 2018) - ASIN: B0789J4DVP. Mastering Unity 2017 Game Development with C# - by Alan Thorn (Author) – Packt Publishing Limited; 2nd Revised edition edition (30 October 2017) - ISBN-10: 1788479831, ISBN-13: 978- Game Testing: All in One - by Charles P. Schultz (Author), Robert Bryant (Author) - Mercury Learning & Information; 3rd edition edition (20 October 2016) - ISBN-10: 1942270763, ISBN-13: 978-1942270768. Game Development Essentials: Game QA & Testing - by Levy (Author), Jeannie Novak (Author) - Delmar 1788479837.		
Other References	Getting Started with Unity 2018: A Beginner's Guide to 2D and 3D game development with Unity - by Dr. Edward Lavieri (Author) - Packt Publishing; 3 edition (March 22, 2018) - ASIN: B07BP9Y7RB. Mobile Game Design Essentials - Dr. Claudio Scolastici (Author), David Nolte (Author) - Packt Publishing (November 21, 2013) - ISBN-10: 184969298X, ISBN-13: 978-1849692984.		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	1	-	-
CO2	-	-	-	-	-	-	-	1	-	-
CO3	2	-	-	-	-	-	-	1	-	-
CO4	1	-	-	-	-	-	-	1	-	-
CO5	1	-	-	-	-	-	-	2	-	-
CO6	3	-	-	-	-	-	-	2	1	1
Average	***1.1***	-	-	-	-	-	-	***1.3***	***0.1***	***1.0***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**			
Branch: Mass Communication		**Semester: 4**			
1	**Course Code**	**AVG233**			
2	**Course Title**	**Particles & FX ***			
3	**Credits**	**3**			
4	**Contact Hours (L-T-P)**	**1-2-0**			
5	**Course Type**	**Core Compulsory**			
6	**Course Objective**	Understand and formulate the dynamic simulations to be created. To create simple dynamic simulations of object collisions and destructions. To create particle simulations for simulating liquids and gas. To understand and implement scripting for creating dynamic simulations.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Define Maya Dynamics & physics behind it.		
		CO2	Compare the tools and workflow to create 3D effects.		
		CO3	Extract scenes for simulation		
		CO4	Use the technique of Active & Passive Bodies & Collision		
		CO5	Relate the Creation & Behaviors of Particle systems		
		CO6	Modify Fields like Air, Gravity, Drag, Vortex, Turbulence etc.		
8	**Course Description**	Students Will Learn the Core Basic of 3D effects creation in Autodesk Maya. They will explore the Physics behind effects creation, attributes & various tools.			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Introduction to Maya Dynamics**			
1		Introduction to Applied Physics and Quantum mechanics			CO1
2		Kinetic Motion			CO1
3		Energy Conversion			CO1
Unit 2		**Rigid Bodies**			
1		Introduction to special effects			CO2
2		Rigid bodies – Active and passive rigid bodies			CO2
3		Physics based procedural animation using rigid bodies			CO2
4		Collisions			CO4
Unit 3		**Emitters**			
2		Particles			CO6
3		Emitter types and Attributes			CO6
4		Deflectors and its attributes			CO3
5		Simulating particle effects			CO3
Unit 4		**Fields**			
1		Goals			CO5
2		Soft Bodies			CO4
3		Animating soft bodies			CO4
4		Fields and its attributes			CO5
5		Simulation of fields			CO5
Unit 5		**Constraints**			
1		Introduction			CO6
2		Types & Attributes			CO6
3		Nail & Pin			CO6
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		Beginning VFX with Autodesk Maya: Create Industry-Standard Visual Effects from Scratch by Abhishek Kumar			
Other References		Maya Visual Effects The Innovator's Guide: Autodesk Official Press, 2nd Edition			

	Eric Keller

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	1	1	1
CO2	1	-	-	-	-	-	-	1	-	-
CO3	2	-	-	-	-	-	-	1	-	-
CO4	1	-	-	-	-	-	-	1	-	-
CO5	2	-	-	-	-	-	-	2	1	2
CO6	3	-	1	-	-	-	-	2	2	2
Average	***1.6***	***0.0***	***0.3***	***0.0***	***0.0***	***0.0***	***0.0***	***1.3***	***0.6***	***0.8***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**			
Branch: Mass Communication		**Semester: 4**			
1	**Course Code**	**OPE**			
2	**Course Title**	**Basic Still Photography**			
3	**Credits**	**3**			
4	**Contact Hours (L-T-P)**	**0-2-2**			
5	**Course Type**	**Core Elective**			
6	**Course Objective**	Describe photography, types of photography, and their purpose Different composition technique Elaborate on basics of visual literacy and composition Lens and its functions			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Define and read visual correctly		
		CO2	Illustrate basic sense of lens and its functions		
		CO3	Outline basic sense of lighting & controlling exposure		
		CO4	Identify and use of different parts of camera		
		CO5	Explain, Understand and apply the fundamentals relating to composition		
		CO6	Discuss and apply basic image editing techniques		
8	**Course Description**	This course provides an introduction to basic visual composition and Photography techniques			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Introduction to Photography**			
1		What is photography? The role & importance of photography.			CO1
2		Brief History of photography and how Camera works?			CO1
3		Principles of Camera Obscura and types of Cameras			CO1
Unit 2		**Principles of Photographic composition**			
1		Concepts of composition			CO2,CO5
2		Digital Capture			CO2,CO6
3		Various types of Digital Capture and Image			CO2,CO6
Unit 3		**Lighting**			
1		Sources of light: Natural & Artificial Correct exposure.			CO3
2		Nature and physical properties of light Direction & angle of light: Front, side, top & back			CO3
3		Lighting contrast and its control by fill in lights, one-, two- & three-point lighting: Key, fill and back light			CO2,CO3
Unit 4		**Photography Composition**			
1		Rule of 3rd, How to shoot buildings, monuments and portrait			CO3,CO5
2		Importance of lens in photography			CO6,CO5
3		Different types of camera lenses			CO3,CO5
Unit 5		**Introduction to image editing software Photoshop**			CO6
1		Basic image editing technique			CO3,CO2,CO6
2		Understanding common terms like Resolution, Depth, Cropping, Scaling, Hue, Saturation, vibrance, Sharpness, etc.			CO3,CO2,CO6
3		Final Project			CO3,CO5,CO2
Mode of examination		Jury			
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		• Michael Langford Basic Photography, Focal Press			

	• James A. Folts Ronald P. Lovell Handbook of Photography, Fred C. Zwahlen, Jr. Delmal Thomsan learning
Other References	• Lee Frost Photography, Hodder Headline • Audio – Vision – Sound on Screen by Michael Chion

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	-	-	-
CO2	1	-	-	-	-	-	-	-	-	-
CO3	1	-	-	-	-	-	-	-	-	-
CO4	2	-	-	-	-	-	-	1	-	-
CO5	2	-	-	-	-	-	-	1	-	-
CO6	2	-	-	-	-	-	-	2	-	-
Average	***1.5***	-	-	-	-	-	-	***0.6***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**	
Branch: Mass Communication		**Semester: 4**	
1	**Course Code**	**AVG234**	
2	**Course Title**	**VFX & Gaming Animation**	
3	**Credits**	**1**	
4	**Contact Hours (L-T-P)**	**0-0-2**	
5	**Course Type**	**Core Compulsory**	
6	**Course Objective**	It enables the students to learn the basis of photogrammetry explaining what this form of scanning consists of. Allows students to learn technique relates to photography and what you should do to capture a real 3D object. Guides the student to create 3D by using techniques behind 3D scanning to create models based on real objects.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Identify the attributes of VFX Animation
		CO2	Compare the Real & Fantasy Characters Locomotion
		CO3	Teach the Animation for Games
		CO4	Illustrate the Loop Animation for Various Action Sequences
		CO5	Create Baked Animation Sequence.
		CO6	Develop a final Game Animation.
8	**Course Description**	Students will learn the use of 2D & 3D Application to create Various kinds of Animation for VFX & Games.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Animation for VFX**	
1		Understanding the VFX Animation & Simulation	CO1
2		Rotomation & Mo-Cap	CO1
3		Body Mechanics	CO1
Unit 2		**Creature Animation**	
1		Reference Study	CO2
2		Rig Testing & Blocking	CO2
3		Graph Editing.	CO2
Unit 3		**Animation for Games**	
1		Understand Idle, Walk, Run & Jump Animation Loop	CO3
2		Sprite in Games.	CO3
3		Game Animation Fundamentals.	CO3
Unit 4		**Game Animation**	
1		Blocking the Animation Cycle.	CO4
2		Breakdown & Polishing.	CO4
3		Transition/Blending the All Animation Cycle	CO4
Unit 5		**Game Engine Animation**	
1		Bake Simulation	CO5 & CO6
2		Time Editor & Clip Layers	CO5 & CO6
3		Application to Game Engine	CO5 & CO6
Evaluations		CA 25%	CE(Viva) 25% ETE 50%
Text Book/s		• Game Anim (Paperback) | Released: 27 Jan 2019 By: Jonathan Cooper • (Author) , Publisher Imprint: A K Peters	
Other References		• 3D Game Development with Unity 1st Edition 2022 Softbound by LANZINGER, CRC Press	

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	1	-	-	-	-	1	-	-
CO2	1	-	1	-	-	-	-	1	-	-
CO3	1	-		-	-	-	-	2	-	-
CO4	2	-		-	-	-	-	2	-	-
CO5	2	-	2	-	-	-	-	1	1	1
CO6	3	-	2	-	-	-	-	2	2	2
Average	***1.6***	**-**	***1.0***	**-**	**-**	**-**	**-**	***1.5***	***0.5***	***0.5***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**	
Branch: Mass Communication		**Semester: 4**	
1	**Course Code**	**AVG235**	
2	**Course Title**	**Visual Scripting for Game Development**	
3	**Credits**	**1**	
4	**Contact Hours (L-T-P)**	**0-0-2**	
5	**Course Type**	**Core Elective**	
6	**Course Objective**	VS Introduction Features and Limitations Purpose of VS Introduction to Gaming VS tools Unity VS system (BOLT)	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Explain the fundamentals of visual scripting.
		CO2	Describe the Features and Limitations of VS
		CO3	Contrast the usefulness of VS
		CO4	Use various Gaming VS Tools
		CO5	Illustrate the Use Unity Bolt
		CO6	Plan game prototype using Unity Bolt
8	**Course Description**	The course is designed to equip students with the basics of visual scripting and the ease in varied workplace environment. The course begins with visual scripting, VS Tools and ends with the use of Unity Bolt in game development.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Visual Scripting Introduction**	
1		Introduction to visual scripting.	CO1
2		Feature and Limitations.	CO1
3		Purpose of visual scripting.	CO1
4		Introduction to Gaming Visual Scripting Tools.	CO1
Unit 2		**Basic Concepts**	
1		Variables.	CO2
2		Graphs.	CO2
3		Machine and Macros.	CO2
4		Groups.	CO2
Unit 2		**Flow Graphs and State Graphs**	
1		Flow Graphs.	CO3, CO4
2		Unit and Ports.	CO3, CO4
3		Connection and Relations.	CO3
4		Predictive and Live Debugging.	CO3
5		Super unit.	CO3
6		State Graphs – Flow state and super state.	CO3, CO4
7		Transitions and State unit.	CO3, CO4
Unit 3		**Unit Reference**	
1		Self, Control.	CO4, CO5
2		Time, Events, Variable.	CO5
3		Nulls, Formula.	CO5
Unit 4		**Scripting and Advance Topic**	
1		Custom Types.	CO6
2		Variables API.	CO6
3		Event API, Refactoring.	CO6
4		Live Editing, Prefabs.	CO6
5		Version control.	CO6
6		Build mobile and pc games.	CO6

Mode of examination	**Jury**		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• The Game Production Handbook, 3rd Edition by Heather Maxwell Chandler Published by Jones & Bartlett Learning, 2013 • Game Development Essentials: Game Project Management 1st Edition by John Hight (Author), Jeannie Novak (Author) • Game Development Essentials: An Introduction 2nd Edition by Jeannie Novak (Author)		
Other References	• The Visual Effects Producer: Understanding the Art and Business of VFX - Charles Finance, Susan Zwerman, Publisher: Focal Press; 1 edition (August 28, 2009) • The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures - Jeffrey A. Okun, Publisher: Focal Press; 1 edition (July 8, 2010)		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	1	-	-
CO2	1	-	-	-	-	-	-	1	-	-
CO3	2	-	-	-	-	-	-	1	-	-
CO4	0	-	-	-	-	-	-	2	-	-
CO5	3	-	1	-	-	-	-	2	1	1
CO6	3	-	2	-	-	-	-	3	1	1
Average	***1.6***	-	***0.5***	-	-	-	-	***1.6***	***0.3***	***0.3***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**		
Branch: Mass Communication		**Semester: 4**		
1	**Course Code**	**ARP 306**		
2	**Course Title**	**Communicative English IV – Campus to Corporate**		
3	**Credits**	**2**		
4	**Contact Hours (L-T-P)**	**1-0-2**		
5	**Course Type**	**Core Elective**		
6	**Course Objective**	To enhance holistic development of students and improve their employability skills. Provide a 360 degree exposure to learning elements of Business English readiness program, behavioral traits, achieve softer communication levels and a positive self-branding along with augmenting numerical and altitudinal abilities. To up skill and upgrade students' across varied industry needs to enhance employability skills. By the end of this semester, a will have entered the threshold of his/her 3rd phase of employability enhancement and skill building activity exercise.		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Develop a creative resumes, cover letters, interpret job descriptions and interpret KRA and KPI statements and art of conflict management	
		CO2	Build negotiation skills to get maximum benefits from deals in practical life scenarios.	
		CO3	Develop skills of personal branding to create a brand image and self-branding	
		CO4	Acquire higher level competency in use of logical and analytical reasoning such as direction sense, strong and weak arguments	
		CO5	Develop higher level strategic thinking and diverse mathematical concepts through building analogies, odd one out	
		CO6	Demonstrate higher level quantitative aptitude such as average, ratio & proportions, mixtures & allegation for making business decisions.	
8	**Course Description**	This penultimate stage introduces the student to the basics of Human Resources. Allows the student to understand and interpret KRA | KPI and understand Job descriptions. A student also understands how to manage conflicts, brand himself/herself, understand relations and empathize others with level-4 of quant, aptitude and logical reasoning		
9	**Outline Syllabus**			**CO Mapping**
	Unit 1	**Ace the Interview**		
	1	HR Sensitization (Role Clarity | KRA | KPI | Understanding JD) | Conflict Management		CO1
	2	Negotiation Skills | Personal Branding		CO3, CO4
	3	Uploading & Curating Resumes in Job Portals, getting Your Resumes Noticed | Writing Cover Letters | Relationship Management		CO1, CO3
	Unit 2	**Introduction to APTITUDE TRAINING- Reasoning- Logical/ Analytical**		
	1	Sitting Arrangement & Venn Diagrams | Puzzles | Distribution | Selection		CO4
	2	Direction Sense | Statement & Conclusion | Strong & Weak Arguments		CO4
	3	Analogies, Odd One out | Cause & Effect		CO5
	Unit 3	**Quantitative Aptitude**		
	1	Average , Ratio & Proportions, Mixtures & Allegation		CO6

2	Geometry-Lines, Angles & Triangles		CO6
3	Problem of Ages | Data Sufficiency - L2		CO6
Unit 4	**Verbal Abilities-4**		
1	Antonyms and Synonyms		CO1
2	Idioms and Phrases		CO2
Unit 5	**Problem Solving and Case Studies**		
1	Real time Case Study Solving Exercises		CO4
2	Intra student Mock Situation Handling Exercises		CO4
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• (CA)Class Assignment/Free Speech Exercises / JAM – 60% | (ETE) Group Presentations/Mock Interviews/GD/ Reasoning, Quant & Aptitude – 40%		
Other References	• Wiley's Quantitative Aptitude-P Anand | Quantum CAT – Arihant Publications | Quicker Maths- M. Tyra | Power of Positive Action (English, Paperback, Napoleon Hill) | Streets of Attitude (English, Paperback, Cary Fagan, Elizabeth Wilson) The 6 Pillars of self-esteem and awareness – Nathaniel Brandon | Goal Setting (English, Paperback, Wilson Dobson		

Course Articulation Matrix

POs / **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	-	3	-	-	-	-	-	-	-	-
CO2	-	3	-	-	-	-	-	-	-	-
CO3	-	3	-	-	-	-	-	-	-	-
CO4	1	3	-	-	-	-	-	-	-	-
CO5	1	3	-	-	-	-	-	-	-	-
CO6	1	3	-	-	-	-	-	-	-	-
Average	***0.5***	***3.0***	-	-	-	-	-	-	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**	
Branch: Mass Communication		**Semester: 4**	
1	**Course Code**	**AVG236**	
2	**Course Title**	**Game Architecture Development ***	
3	**Credits**	**2**	
4	**Contact Hours (L-T-P)**	**0-1-2**	
5	**Course Type**	**Core Elective**	
6	**Course Objective**	To explain layer of game architecture. To assess role of game engine framework To explain the importance of game software architecture To discuss components involved in game logic, devices, lifetimeTo recognize the flow in runtime game engine architecture.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Describe essential of game architecture
		CO2	Summarize various layers of game architecture
		CO3	Classify run time engine architecture and their methods
		CO4	Teach the importance of game software and application architecture
		CO5	Relate various components involved in game logic, devices, lifetime
		CO6	Design run time engine architecture and their methods
8	**Course Description**	The course is designed to equip students with detailed knowledge of game architecture and its components. Course starts with game architecture and ends with game logic and game engine concepts	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Overview of Game Architecture**	
1		Introduction.	CO1
2		Layers of Game Architecture.	CO1
3		Game software architecture.	CO1
Unit 2		**Game development comparisons.**	CO1
1		Game architecture.	CO1
2		Runtime engine architecture.	CO1
3		Layer of Game Architecture	
4		Game engine framework – a. Graphics, Rendering & physics.	CO2
5		Game stats, Data & Memory & processing.	CO2
6		Screen Monitor Display.	CO2
7		operating System.	CO2
8		openGL&Directx Computer Hardware & Graphic Chipset.	CO2
Unit 3		**Game software Architecture**	
1		Game Application,	CO3
2		Game Engine Framework.	CO3, CO5
3		OpenGL &Directx frame work.	CO3, CO5
Unit 4		**Game Application Layer**	
5		Game logic.	CO4
2		Game view.	CO4
3		Devices – Input – files – Ram – Time.	CO4
4		Operating System – Language – DLL – Threads – network,Game Lifetime – core Libs – Main Loop – Int& shutdown.	CO4, CO5
5		Runtime Engine Architecture	
Unit 5		**Gameplay (Input) programming.**	CO6
		AI programming.	CO6

	Shader Graphic & visuals programming.			CO6
	Animation & tools programming			CO6
	Game UI Programming			CO6
	third party Node Based programming.			CO6
	Programming patterns.			CO6
	Game stats & Events Programming.			CO6
Mode of examination	Jury			
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s	*Game Architecture and Design: A New Edition - by Andrew Rollings (Author), David Morris (Author) - New Riders; Subsequent edition (24October 2003) - ISBN-10: 0735713634, ISBN-13: 978-0735713635* *Mastering Android Game Development - by Raul Portales (Author) - Packt Publishing Limited (30 June 2015) - ISBN-10: 1783551771, ISBN-13: 978-1783551774.*			
Other References	*Game Engine Architecture, Third Edition - by Jason Gregory (Author) -A K Peters/CRC Press; 3 edition (16 August 2018) - ISBN-10: 1138035459, ISBN-13: 978-1138035454* *Game Architecture and Programming (WIND) - by GaurangSinha (Author), Saurabh Jain (Author), RadhaShankarmani (Author) - WileyIndia Pvt Ltd (2011) - ISBN-10: 9788126528875, ISBN-13: 978-8126528875, ASIN: 8126528877.*			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	1	-	-
CO2	1	-	-	-	-	-	-	1	-	-
CO3	-	-	-	-	-	-	-	2	-	-
CO4	2	-	-	-	-	-	-	2	-	-
CO5	2	-	-	-	-	-	-		-	-
CO6	2	-	1	-	-	-	-	3	1	1
Average	***1.3***	-	***0.1***	-	-	-	-	***1.5***	***0.1***	***0.1***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**
Branch: Mass Communication		**Semester: 4**
1	**Course Code**	**AVG237**
2	**Course Title**	**3d Walk-through**
3	**Credits**	**2**
4	**Contact Hours (L-T-P)**	**0-1-2**
5	**Course Type**	**Core Compulsory**
6	**Course Objective**	It enables the students to learn the 3d Tool to Create a Virtual Environment. Allows students to learn, observe, analyze, and visualize the virtual world Guides the student to strengthen the Perspective Analysis and Virtual background.
7	**Course Outcomes**	**After completing the course, the student will be able to:**
		CO1 Identify the role of 3d Application Architectural Visualization
		CO2 Compare different between 2d Floor Plan & 3D Elevations
		CO3 Teach the importance of Computer Added Design
		CO4 Illustrate 3D virtual Environment.
		CO5 Create 3D models
		CO6 Develop the 3D Models & Environment Lighting
8	**Course Description**	Students will learn the use of various CGI tools to create a complete or partial set 3d model and compose with Live Action. They will understand the significance of Linear & Aerial Perspective, different eye levels & Camera Shots, and environmental Lights. At the end of the module, they will acquire the skill of creating a Virtual Set for Motion Pictures

9	**Outline Syllabus**	**CO Mapping**
Unit 1	**Introduction**	
1	Brainstorming session about 3D	CO1, CO2
2	Importance of Architectural Visualization	CO1, CO2
3	Role of a Designer and Visualizer	CO1, CO2
4	Digesting 3D training & Practicing	CO1, CO2
Unit 2	**3ds Max interface**	
1	User Interface	CO5, CO6
2	The Viewports and Navigation	CO5, CO6
3	Command Panel	CO5, CO6
4	Scene Management Tools	CO5, CO6
Unit 3	**Getting Started with Modeling**	
1	Modeling a Product	CO3, CO4
2	Furniture Modeling	CO3, CO4
3	Importing CAD drawing and Modeling	CO3, CO4
4	Importing Sketch up Model, Cleaning up and remodeling	CO3, CO4
Unit 4	**Materials, Texturing, and Basics of Unwrapping**	
1	Standard Maps and material browser	CO5, CO6
2	Arnold Materials	CO5, CO6
3	Projection-Mapping	CO5, CO6
4	UV Editor Interface	CO5, CO6
Unit 5	**Lighting and Rendering**	
1	Lighting and Rendering	CO5, CO6
2	HDRI Lighting	CO5, CO6
3	Environment and Effects	CO5, CO6
4	Rendering an Interior Scene	CO5, CO6

Mode of Examination	Jury		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Autodesk 3ds Max 2024 Basics Guide, Kelly Murdock		
Other References	• Autodesk 3ds Max 2020: A Detailed Guide to Modeling, Texturing, Lighting, and Rendering, Pradeep Mamgain		

Course Articulation Matrix

POs / **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	1	-	-	-	-	-	-	1	-	-
CO2	1	-	-	-	-	-	-	1	-	-
CO3	2	-	-	-	-	-	-	2	-	-
CO4	2	-	-	-	-	-	-	2	-	-
CO5	2	-	2	-	-	-	-	3	1	1
CO6	3	-	2	-	-	-	-	3	3	3
Average	***1.8***	-	***0.6***	-	-	-	-	***2.0***	***0.6***	***0.6***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**			
Branch: Mass Communication		**Semester: 4**			
1	**Course Code**	**RBL002**			
2	**Course Title**	**Research Based Learning – II**			
3	**Credits**	**-**			
4	**Contact Hours (L-T-P)**	**0-0-4**			
5	**Course Type**	**Pre-Requisite/AECC**			
6	**Course Objective**	The objective of this course is to: Strengthen the academic research ability of the students. Evolve the inquisitiveness of the students towards society and various factors affectingmedia and society at a large. Enhance the problem solving skills of the students.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Selecting the research topics related to media research		
		CO2	Demonstrate understanding of research and apply it		
		CO3	Enhance their problem solving skills through research on the topics related to media and communication which directly impacts the society.		
		CO4	Analyzing and appraising research topic/ project		
		CO5	Evaluating the research topic/ project		
		CO6	Write and present their research topic/ project with proper ethics of research.		
8	**Course Description**	The course is designed to inculcate the research value and skills among the students			
9	**Outline Syllabus**				**CO Mapping**
	Unit 1	Dissertation/ Project Monitoring Stage			CO1, CO2
	Unit 2	Progress of Project/ Dissertation after topic approval			CO3, CO4
	Unit 3	Evaluation of progress of Project/ Dissertation after topic approval			CO4, CO5, CO6
	Unit 4	First Review of the project by internal committee (R1)			CO4, CO5, CO6
	Unit 5	Second Review of the project by internal committee (R2)			CO4, CO5, CO6
Mode of examination		Only an Audit course			
Evaluations		CA 100%	CE(Viva) 0%	ETE 0%	

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	1	-	-	-
CO2	1	-	-	-	-	-	1	-	-	-
CO3	0	-	-	-	-	-	2	-	-	-
CO4	0	-	-	-	-	-	2	-	-	-
CO5	1	-	2	-	1	-	3	-	-	-
CO6	1	-	2	-	1	-	2	-	-	-
Average	***0.6***	-	***0.6***	-	***0.3***	-	***1.8***	-	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2025-26**	
Branch: Mass Communication		**Semester: 4**	
1	**Course Code**	**VAF008**	
2	**Course Title**	**Innovation & Entrepreneurship**	
3	**Credits**	Audit	
4	**Contact Hours (L-T-P)**	30 Hrs	
5	**Course Type**	**Compulsory**	
6	**Course Objective**	• To understand the concepts of Innovation and Entrepreneurship • To explore opportunities to interpret organizational output and efficiency. • To work effectively and professionally in teams.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Outline the concepts of Innovation and Entrepreneurship
		CO2	Review the opportunities to interpret organizational output and efficiency.
		CO3	Adapt strategies to work effectively and professionally in teams.
		CO4	Explain and exhibit the knowledge of entrepreneurial qualities and explore entrepreneurial opportunities.
		CO5	Examine and execute execute the best practices of Innovation and Entrepreneurship.
		CO6	Elaborate analyze and evaluate ethical problems that occur at all levels of business decision making
8	**Course Description**	The course is designed to provide the tools necessary for starting independent businesses. This course will facilitate the students with competencies and knowledge in key business functional areas, understand the changing business environment and apply the new business management solutions in terms of start-up ideas.	
9	**Outline Syllabus**		**CO Mapping**
	Unit 1	**Understanding Innovation**	
	1	Introduction to innovation	CO1
	2	Fundamentals of Innovation	CO1
	3	Theories of Innovation	CO1
	Unit 2	**Innovation Foundation**	
	1	Business in Society, Diffusion of Innovation	CO2
	2	Creative thinking	CO2
	3	Innovation Management	CO2
	Unit 3	**Understanding Entrepreneurship**	
	1	Introduction to Entrepreneurship	CO3
	2	Design thinking for Entrepreneurship	CO3
	3	Startup Methods	CO6
	Unit 4	**Entrepreneurship Foundation**	
	1	Opportunity Analysis	CO4
	2	Assembling and motivating a team	CO4
	3	Pitching and presenting	CO6
	Unit 5	**Advance Innovation & Entrepreneurship**	
	1	Advance Strategy for Innovators and Entrepreneurs	CO5
	2	Finance for Innovators and Entrepreneurs	CO5
	3	Marketing for Innovators and Entrepreneurs	CO6
Text book/s*		• Technology Ventures: From Idea to Enterprise. Byers, Dorf, and Nelson. 4th Edition. McGraw Hill Education. Copyright 2015. ISBN 978-1259252754 (International Student Edition).	
Other References		• Poornima Charantimath, (2007)"Entrepreneurship Development-Small Business	

	Enterprise", Pearson Education.

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	1	-	-	-	-	-	1	3	1
CO2	3	1	-	-	-	-	-	1	3	1
CO3	3	1	-	-	-	-	-	2	3	1
CO4	3	1	-	-	-	-	-	2	3	1
CO5	3	1	-	-	-	-	-	2	3	1
CO6	3	1	1	-	-	-	-	2	3	1
Average	***3.0***	**1.0**	***0.6***	**-**	**-**	**-**	**-**	**1.6**	**3**	**1**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

Semester 5

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**	
Branch: Mass Communication		**Semester: 5**	
1	**Course Code**	**AVG321**	
2	**Course Title**	**Introduction to Game Engine***	
3	**Credits**	**3**	
4	**Contact Hours (L-T-P)**	**1-2-0**	
5	**Course Type**	**Core Compulsory**	
6	**Course Objective**	To explain importance of game engine To elucidate scripting techniques using C++ To assess physics parameters required for game development To construct particle systems and camera techniques To identify about the build process and platforms	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Describe unique features of a game engine
		CO2	Explain the importance of game engine
		CO3	Compare various concepts of programming for developing a game using C++
		CO4	Use required physics, effects and other GUI implantation
		CO5	Correlate the methods to Create, modify and reuse of prefabs in game development
		CO6	Plan to Optimize and test a game build
8	**Course Description**	The course is designed to equip students, who are at a very basic level of gaming, to design and develop programs with ease in varied workplace environment. The course begins with game engine and ends with optimizing and testing the build	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Introduction**	
1		Unreal Engine Setup, Installing Unreal Engine, Installing \ Visual Studio	CO1
2		Creating First Project, Understanding Project Structure, Understanding The Game Window Hierarchy, Understanding Unread Editor.	CO1
3		Working With Unreal Class System ,Create Scenes,	CO1
4		Working With Multiple Scenes, Using 2D Objects.	CO1
5		Working With SFX	CO1
Unit 2		**Working with C++**	
1		Understanding C++ Function Syntax.	CO3
2		Working With #Include, Namespaces.	CO3
3		Working With Enumerations, Creating Header Files, Using Type Alias	CO3
4		Understanding TMap And Map	CO3
Unit 3		**Game Scene**	
1		Physics And Collider 2D	CO4
2		Working With Line Tracing	CO2, CO4
3		Work With Different UI Components, Handling Different Events, Understanding Physics 2D, Using Landscape Layers.	CO2, CO4
4		Working With Colliders, Using Physics Material, Material, Meshes, Animations And Animator Controller 2D & 3D.	CO2, CO4
5		Creating Animations, Handling Multiple 2D Character Animation,	CO2, CO4

	Creating Text Animation.		
Unit 4	**Visualization**		
1	Camera And Particles.		CO5
2	Working With Camera Controls.		CO5
3	Understanding 3rd Person Camera Control.		CO5
4	Working With AI Controls.		CO5
5	Working With Particle System.		CO5
6	Using Particle System In Game		CO5
7	Working With Particle Bounding Boxes.		CO5
Unit 5	**Game Finalizing**		
1	User Interface		CO6
2	Package project– Android / PC/MAC Standalone		CO6
3	Texture compression and debug stripping		CO6
4	Quality Settings		CO6
Mode of examination	Jury		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Unreal Development Kit Beginner's Guide - by Richard Moore (Author) - Packt Publishing (September 11, 2011) - ISBN-10: 1849690529, ISBN-13: 978-1849690522. • Unreal Development Kit Game Design Cookbook - by Thomas Mooney (Author) - Packt Publishing (February 22, 2012) - ASIN: B007CXZ9D6. • Blueprints Visual Scripting for Unreal Engine: Build professional 3D games with Unreal Engine 4's Visual Scripting system - by Brenden Sewell (Author) - Packt Publishing (28 July 2015) - ASIN: B00YSILVNA.		
Other References	• Unreal Engine 4 Game Development in 24 Hours, Sams Teach Yourself - by Aram Cookson (Author), Ryan DowlingSoka (Author), Clinton Crumpler (Author) - Sams Publishing; 1 edition (June 18, 2016) - ISBN-10: 0672337622, ISBN-13: 978-0672337628. • Unreal Engine 4 Game Development Quick Start Guide: Programming professional 3D games with Unreal Engine 4 - by Rachel Cordone (Author) - Packt Publishing (May 31, 2019) - ISBN-10: 1789950686, ISBN-13: 978-1789950687.		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	1	-	-	-	-	-	-	-
CO2	1	-	2	-	-	-	-	-	-	-
CO3	2	-	2	-	-	-	-	-	-	-
CO4	2	-	1	-	-	-	-	-	-	-
CO5	1	-	2	-	-	-	-	-	2	1
CO6	2	-	3	-	-	-	1	-	3	3
Average	***1.3***	**-**	***1.8***	**-**	**-**	**-**	***0.1***	**-**	***0.8***	***0.6***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**		
Branch: Mass Communication		**Semester: 6**		
1	**Course Code**	**AVG340**		
2	**Course Title**	**Artificial Intelligence ***		
3	**Credits**	**3**		
4	**Contact Hours (L-T-P)**	**1-2-0**		
5	**Course Type**	**Core Elective**		
6	**Course Objective**	To describe role of AI in games. To define fundamental AI techniques in Game Development. To identify the path finding setup for games. To discuss the decision-making techniques in AI. To understand neural networks in AI.		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Describe the use of AI in animation and game development	
		CO2	Compare different AI models	
		CO3	Understand the process of creating AI content for games	
		CO4	Using AI to generate models of animation	
		CO5	Illustrate the agents that are capable of planning actions in order to achieve goals for example, chess playing computers, vehicle simulation games	
		CO6	Plan agents that are capable of learning actions in order to achieve goals for Example, chess- playing computers, vehicle simulation games	
8	**Course Description**	The course is designed to equip students with AI concepts and to apply these concepts and AI techniques in game development		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Introduction to AI**		
1		Understanding Generative AI		CO1
2		Types of Generative Models		CO1
3		Ethical Considerations and Challenges		CO1
Unit 2		**Generative Models in Game Design**		
1		Procedural Content Generation (PCG)		CO2
2		Dynamic Difficulty Adjustment		CO2
3		Procedural Narrative Generation		CO2
Unit 3		**Generative Models in Animation**		CO2
1		Character Animation and Movement		CO2
2		Motion Generation Algorithms		
3		Advanced Animation Techniques		CO3, CO4
Unit 4		**Enhancing Game Dynamics with Generative AI**		CO3, CO4
1		Reinforcement Learning in Games		CO3, CO4
2		Procedural Art Generation		CO3, CO4
3		AI-driven Game Design		CO3, CO4
Unit 5		**Real-time Applications and Optimization**		
1		Real-time Performance Optimization		CO5
2		Integration with Game Engines and Animation Software		CO5
3		merging Trends and Future Directions		CO5
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s		• Artificial Intelligence for Games - Ian Millington (Author), John Funge (Author) - CRC Press; 2 edition (August 6, 2009) - ISBN-10: 0123747317, ISBN-13: 978-0123747310.Auth, Kyaw (Author), ThetNaingSwe(Author)		

Other References	• AI and Artificial Life in Video Games - Guy W. Lecky-Thompson (Author) - Charles River Media; 1 edition (15 May 2008) - ISBN-10: 1584505583,ISBN-13: 978-1584505587

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	1	-	-
CO2	-	-	-	-	-	-	-	-	-	-
CO3	-	-	-	-	-	-	-	1	-	-
CO4	1	-	-	-	-	-	-	1	-	-
CO5	2	-	-	-	-	-	-	2	-	-
CO6	2	-	1	2	-	-	-	3	1	1
Average	***0.8***	-	***0.1***	***0.5***	-	-	-	***1.3***	***0.1***	***0.1***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**			
Branch: Mass Communication		**Semester: 5**			
1	**Course Code**	**AVG323**			
2	**Course Title**	**Camera Tracking & Match Moving***			
3	**Credits**	**3**			
4	**Contact Hours (L-T-P)**	**1-2-0**			
5	**Course Type**	**Core Elective**			
6	**Course Objective**	Familiarize the tools and techniques to create Match moving and effects Learn Problem solving techniques to rectify the errors during the process Create content for broadcast, feature film and animation.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Define Match moving on footage in a package		
		CO2	Summarize various elements in scene in a 3D package		
		CO3	Use light; render the object and composite the result		
		CO4	Teach Color Grading & Final composition		
		CO5	Take Apart Problem solving techniques to rectify the errors duringthe process		
		CO6	Write node for Exporting in Maya and Rendering		
8	**Course Description**	Students will learn the core knowledge & techniques of Camera Tracking & match moving so that they can be able to add or merge 3d Elements into Live Action Footage			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Introduction to Match Moving**			
1		Need for Match Moving in a scene			CO1
2		Science & Art of Matchmoving			CO1
3		Understanding Camera and its types			CO1
Unit 2		**Tracking 1**			
1		Understanding Tracking			CO2
2		Tracking Fundamentals for Match moving			CO2
3		Tools and Techniques in Tracking			CO2
Unit 3		**Match Moving Process**			
1		Tools in Match Moving			CO2
2		Techniques in Match Moving			CO2
3		Do’s & Don’ts Match Moving			CO2
Unit 4		**Tracking 2**			
1		Different types of Tracking			CO3
2		Calibrating Camera			CO3
3		Tracking and noise reduction			CO3
Unit 5		**3D Integration**			
1		Set and Coordinate system			CO4
2		Advanced tools and Techniques			CO5
3		Final Compilation			CO6
Mode of examination		Jury			
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		• The Art and Technique of Match moving: Solutions for the VFX Artist - Erica Hornung			
Other References		• Compositing Visual Effects–Essentials for the Aspiring Artist - Steve Wright • The VES Handbook of Visual Effects - Okun J, Zwerman S			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	2	-	-
CO2	1	-	-	-	-	-	-	2	-	-
CO3	2	-	-	-	-	-	-	-	-	-
CO4	1	-	-	-	-	-	-	2	-	-
CO5	3	-	2	-	-	-	-	2	2	2
CO6	3	-	3	-	-	-	-	3	3	3
Average	***1.8***	**-**	***0.8***	**-**	**-**	**-**	**-**	***1.8***	***0.8***	***0.8***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**		
Branch: Mass Communication		**Semester: 5**		
1	**Course Code**	**AVG325**		
2	**Course Title**	**Rotoscopy, Paint & Comping ***		
3	**Credits**	**3**		
4	**Contact Hours (L-T-P)**	**1-2-0**		
5	**Course Type**	**Core Elective**		
6	**Course Objective**	To impart technical skills in Rotoscopy and painting and application knowledge for different requirement		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Define the Core Fundamentals of Rotoscopy	
		CO2	Describe the Shapes & Matte	
		CO3	Summarize the Tracking Techniques	
		CO4	Teach Roto Paint	
		CO5	Illustrate Hard Surface Roto With Tracking	
		CO6	Modify Blur & Motion Blur	
8	**Course Description**	Students will Learn& understand about Roto & paint, the one of the important part of visual effects, Keying, Matting & removing of unwanted elements from live plates.		
9	**Outline Syllabus**			**CO Mapping**
	Unit 1	**Rotoscopy**		CO1
	1	History of Rotoscopy & Terminologies		CO1
	2	Latest tools for Roto & Shortcuts to work faster		CO1
	3	Understanding the frame, shot length		CO1
	4	planning the matte usage, Multiple shapes & Repeating shapes,		CO1
	5	Keying animation & Motion paths		
	Unit 2	**Creating Shapes**		
	1	Creating splines		CO 1& CO5
	2	Transitioning between shapes		CO 1& CO5
	3	Working with pivot points		CO 1& CO5
	4	Key frame placement and types		CO 1& CO5
	5	Working with Blur & Motion blur		CO 1& CO5
	6	Checking the mattes and jitter		CO 1& CO5
	Unit 3	**Tracking**		
	1	Tracking and scale and rotation		CO 2
	2	Multiple transforms		CO 2
	3	Averaging tracks		CO 2
	4	Corner pinning		CO 2
	5	Stabilizing footage		CO 2
	Unit 4	**Rotoscopy**		
	1	Rotoscopy Object I		CO 3
	2	Rotoscopy Human, Isolating extremities, Joints, Hands, Overlap,		CO 3
	3	Rotoscopy Human fixed shapes, faces and heads, hair		CO 3
	4	Rotoscopy movement, fast and slow movement		CO 3
	5	Tracking to optimize roto		CO 3
	Unit 5	**Painting**		
	1	Concepts and tools for painting		CO6
	2	Cleaning plates		CO6
	3	Wire and Rig Removal		CO6
	4	Pixel restoration.		CO6

Mode of examination	Jury		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Rotoscopy a footage containing minimum character movements and no camera movement. • Track and Rotoscopy footage with camera movement and fast movement of the characters. • Remove wire, foliage's and destructions from the footage using Rotoscopy.		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	2	-	-
CO2	1	-	-	-	-	-	-	2	-	-
CO3	2	-	-	-	-	-	-		-	-
CO4	1	-	-	-	-	-	-	2	-	-
CO5	2	-	2	-	-	-	-	2	-	-
CO6	2	-	2	-	-	-	-	3	-	-
Average	***1.5***	-	***0.6***	-	-	-	-	***1.8***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**		
Branch: Mass Communication		**Semester: 5**		
1	**Course Code**	**AVG324**		
2	**Course Title**	**Web & E-Business and Game Development***		
3	**Credits**	**3**		
4	**Contact Hours (L-T-P)**	**1-2-0**		
5	**Course Type**	**Core Elective**		
6	**Course Objective**	To understand conceptual framework for WordPress To understand building blocks for WordPress site To explore plugins / themes available in WordPress		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Explain wordpress features	
		CO2	Interpret WordPress Installation	
		CO3	Use pages and posts in wordpress	
		CO4	Take apart of using a suite of plugins to enhance a website	
		CO5	Develop the methods of downloading and applying themes	
		CO6	Design wordpress themes	
8	**Course Description**	This course is all about learning the techniques of wordpress to create pages and posts		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**WordPress**		
1		Introduction to WordPress		CO1
2		Introduction to Blogging		CO1
3		Intro to WordPress and content management		CO1
4		Wordpress.org and Wordpress.com		CO1
Unit 2		**Setting Up WordPress**		
1		Designing a logo		CO2
2		Banner		CO2
3		Local Environment Setup.		CO2
4		Installing WordPress		CO2
5		Admin tour		CO2
Unit 3		**Pages and Posts**		
1		Creating Pages		CO3
2		Creating Posts		CO3
3		Forms in Wordpress		CO3
4		SEO and Metatags		CO4
Unit 4		**Plugins in WordPress**		
1		Portfolio Gallery		CO4
2		Video gallery		CO4
3		Other Plugins Downloads.		CO4,CO5
Unit 5		**WordPress Themes**		
1		Downloading and installing Themes		CO5
2		Themes Programming Standards		CO5
3		Building a Theme- Part1		CO6
4		Building a Theme- Part2		CO6

5	Conclusion		CO6
Mode of examination	Jury		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Wordpress: Wordpress Beginner's Step-by-step Guide on How to Build Your Wordpress Website Fast (Without Coding) Paperback – 29 Jul 2015 by Adam Price (Author) • Beginner's Guide to Wordpress: Create an Amazing Website in Under 24 Hours! Paperback – Import, 19 May 2013 by Katrina Abiasi (Author) • Build Your Own Wordpress Website: An Ultimate Guide for Small Business Owners Paperback – 28 Jun 2016 by Wordpress Genie (Author)		
Other References	• WordPress for Beginners 2020: A Visual Step-by-Step Guide to Mastering WordPress (Webmaster Series) -by Dr. Andy Williams (Author) Format: Kindle Edition, ASIN : B082SYXLDF. • WordPress All–in–One For Dummies - by Lisa Sabin–Wilson (Author)– John Wiley & Sons; 2nd edition (31 May 2013) - ISBN- 10: 1118383346, ISBN- 13 : 978-1118383346. • Professional WordPress: Design and Development - by Brad Williams (Author), David Damstra (Author), Hal Stern (Author)- • John Wiley & Sons; 2nd edition (18 January 2013)- ISBN-10: 111844227X, ISBN-13: 978-1118442272.		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	2	-	-
CO2	-	-	-	-	-	-	-	2	-	-
CO3	-	-	-	-	-	-	-		-	-
CO4	1	-	-	-	-	-	-	2	-	-
CO5	2	-	-	-	-	-	-	2	-	-
CO6	2	-	-	-	-	-	-	3	-	-
Average	***0.8***	-	-	-	-	-	-	***1.8***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**		
Branch: Mass Communication		**Semester: 5**		
1	**Course Code**	**AVG326**		
2	**Course Title**	**3d Lighting & Rendering and Photorealism**		
3	**Credits**	**2**		
4	**Contact Hours (L-T-P)**	**0-1-2**		
5	**Course Type**	**Core Elective**		
6	**Course Objective**	To introduce creative Concepts and technical application of Animation and Compositing and scripting		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Recognize working of natural light in the real world	
		CO2	Define the use of HDRI	
		CO3	Compare advanced 3D Lighting techniques	
		CO4	Use accurate color management techniques	
		CO5	Analyze the workflow & 3D Rendering	
		CO6	Develop knowledge of Maya Render Settings	
8	**Course Description**	Students will learn the fundamentals of Maya embedded language, customizing the tools as per need and easing the workflow		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**HDRI**		
1		Image Based Lighting		CO1
2		Creating HDRI Maps, and Digitizing HDRI Maps for Virtual Sets		CO2
3		Lighting with HDRI Maps		CO2
4		Volumetric nodes, Lenses, Shadow, XPasses.		CO1
Unit 2		**Lighting**		
1		Artificial Lighting,		CO3
2		Natural Lighting,		CO3
3		Using IES light Modules.		CO4
Unit 3		**Workflow**		
1		Production Workflow.		CO5
2		Sequence Light Rig.		CO3
3		Lighting Types.		CO3
Unit 4		**Rendering Types**		
1		Maya software render		CO6
2		setting and features		CO6
3		Scene Management & optimization		CO4
Unit 5		**Rendering Settings**		
4		Preparing for rendering		CO5
5		Render settings window		CO4
6		Vector rendering, Toon shading & Multi-pass Rendering.		CO4
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s		• Advanced Maya® Texturing and Lighting Paperback – Import, 19September 2006 by Lee Lanier (Author)		
Other References		• Lighting for Cinematography: A Practical Guide to the Art andCraft of Lighting for the Moving Image Book by David Landau		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	1	-	-
CO2	2	-	-	-	-	-	-	1	-	-
CO3	2	-	1	-	-	-	-	2	-	-
CO4	3	-	1	-	-	-	-	2	-	-
CO5	3	-	2	-	-	-	-	2	1	1
CO6	3	-	2	-	-	-	-	2	2	2
Average	***2.3***	**-**	***1.0***	**-**	**-**	**-**	**-**	***1.6***	***0.5***	***0.5***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**			
Branch: Mass Communication		**Semester: 5**			
1	**Course Code**	**AVG327**			
2	**Course Title**	**Sound Design Techniques**			
3	**Credits**	**2**			
4	**Contact Hours (L-T-P)**	**0-1-2**			
5	**Course Type**	**Compulsory**			
6	**Course Objective**	Understand the technical aspects of producing and recording sounds. Create Foleys and effects sounds using analog and digital techniques. Understand the workflow used to producing and mastering sounds. Export sound output to various Medias. Establishing an environment Helping to tell a story, Defining mood, Rhythm and style Aiding flow of action			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Explain the significance of Sound and its Application		
		CO2	Describe the different techniques in Sound editing		
		CO3	Summarize equipment in recording, Music Production		
		CO4	Apply the Recording of sound for different application		
		CO5	Illustrate the various techniques for Edit, Effects, mixing and managing		
		CO6	Design a sound for region specific		
8	**Course Description**	Students will learn about "Sound" the one of the important elements of animation film making. They will Understand the technical aspects of producing and recording sounds, Create Foleys and effects sounds using analog and digital techniques			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**History**			
1		Fundamental of sound and sound Design			CO1
2		Art and Techniques of sound editing			CO1
3		Sound equipment and their significance			CO1
Unit 2		**Recording Techniques**			
1		Recording and Music			CO2
2		Fundamentals of Digital Audio			CO2
3		Production Techniques			CO2
Unit 3		**Sound Editing Application**			
1		Customizing workspace			CO3
2		Extracting audio clips			CO3
3		Foley sound recording			CO3
Unit 4		**Sound Editing Techniques**			
1		Editing properties of sound			CO5
2		Mixing and Effects for sound			CO5
3		Managing of sound files			CO5
Unit 5		**Designing of Sound**			
1		The psychology of sound			CO6
2		Creating Memorable Sounds			CO6
3		Region specific sounds			CO6
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		Sound Design: The Expressive Power of Music, Voice and Sound Effectsin Cinema by David Sonnenschein - 2002 The Sound Effects Bible: How to Create and Record Hollywood StyleSound Effects by RicViers(Oct 1, 2008)			

Other References	The Animator's Eye: Adding Life to Animation with Timing, Layout,Design, Color and Sound by Francis Glebas(Sep 24, 2012) Designing Sound by Andy Farnell(Aug 20, 2010)

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	1	-	-
CO2	1	-	-	-	-	-	-	1	-	-
CO3	1	-	-	-	-	-	-	2	-	-
CO4	1	-	-	-	-	-	-	2	-	-
CO5	2	-	1	-	-	-	-	2	-	-
CO6	2	-	1	-	-	-	-	2	-	-
Average	***1.3***	-	***0.3***	-	-	-	-	***1.6***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**	
Branch: Mass Communication		**Semester: 5**	
1	**Course Code**	**AVG328**	
2	**Course Title**	**Creative Computing in Game Development.**	
3	**Credits**	**1**	
4	**Contact Hours (L-T-P)**	**0-0-2**	
5	**Course Type**	**Compulsory**	
6	**Course Objective**	To understand functioning of multimedia eco system To discuss role of AV and tools importance. To understand the keying techniques and format requirement.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Explain the fundamentals of multimedia
		CO2	Classify the importance of AV in knowledgedissemination
		CO3	Use sound to videos
		CO4	Correlate the techniques of Audio and VideoInterpretation
		CO5	Take apart Chroma Key Techniques
		CO6	Develop exporting video techniques
8	**Course Description**	This course is all about learning multimedia including AVinterpretation, video editing, sound editing, VFX and exporting techniques	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Multimedia**	
1		Introduction to multimedia.	CO1
2		Fundamentals of multimedia.	CO1
3		Types of Games.	CO1
4		PC games.	CO1
5		Mobile games.	CO1
6		Wordpress.com	CO1
Unit 2		**Audio Video Interpretation**	
1		Introduction to computer graphics.	CO2
2		Image processing;	CO2
3		Importance of audio,	CO2
4		Shooting videos,	CO3
5		Adding sound to videos,	CO3
6		Diegetic and non-diegetic sound,	CO3
7		Live and non-live sound.	CO3
Unit 3		**Software**	
1		Working with tools	CO4
2		Audacity or Pro tools	CO4
3		Adobe Premiere Pro,	CO4
4		After Effects.	CO4
5		Editing	CO4
6		Transitions and effects	CO4
Unit 4		**Chroma Key technique**	
1		Green mat.	CO5
2		Blue mat.	CO5
3		Chroma key setup: keying.	CO5
4		Changing backgrounds.	CO5
5		Adding special effects.	CO5
6		Incorporation of audio video with special effects	CO5
Unit 5		**Exporting Video**	

1	Exporting techniques.		CO6
2	Formats and various formats in exporting.		CO6
3	Exporting for high resolution and low resolution.		CO6
4	Exporting for animation, exporting for various social media.		CO6
Mode of examination	Jury		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Introduction to Multimedia and Its Applications Paperback – 1 Dec 2012 by V. K. Jain (Author) • The Ultimate Introduction to DSLR Film Making: Book 1 Kindle Editio by Danny Yann (Author) • Make Your Movie, Real Cinema You Can Afford, EVEN 4K and RAW Video! Kindle Edition by Simon Levi (Author) Video Editor Basic Guide Adobe CS5 and superior: Premiere, Media Encoder, Encore, After Effects Kindle Edition by Betina Goetjen (Author)		
Other References	• The Green Screen Handbook: Real-World Production Techniques 1st Edition by Jeff Foster (Author) • Green screen Made Easy: Keying and Compositing Techniques for Indie Filmmakers 2nd ed. Edition by Jeremy Hanke (Author), Michele Yamazaki (Author) • The Technique of Film and Video Editing: History, Theory,and Practice 4th edition by Dancyger, Ken (2006) Paperback Paperback – 1707		

Course Articulation Matrix

POs / **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	1	-	-	-	-	-	-	1	-	-
CO2	1	-	-	-	-	-	-	1	-	-
CO3	1	-	-	-	-	-	-	1	-	-
CO4	1	-	-	-	-	-	-	2	-	-
CO5	1	-	-	-	-	-	-	2	-	-
CO6	2	-	-	-	-	-	-	2	-	-
Average	***1.1***	-	-	-	-	-	-	***1.5***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**		
Branch: Mass Communication		**Semester: 5**		
1	**Course Code**	**AVG328**		
2	**Course Title**	**Fluid Dynamics & Plugins**		
3	**Credits**	**1**		
4	**Contact Hours (L-T-P)**	**0-0-2**		
5	**Course Type**	**Compulsory**		
6	**Course Objective**	To impart knowledge and technical skills to understand the science of Fluid Dynamics and application at various stages		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Define Maya Fluids & its Concept	
		CO2	Classify various kinds of Physics Laws for Fluid Simulation	
		CO3	Use Caching workflows	
		CO4	Analyze the 3D Effects and its tools	
		CO5	Categorize Fields & uses	
		CO6	Develop Scripting for Simulation	
8	**Course Description**	Students will Learn The core physic concept of simulation, advanced Fluidssystem & enable to create 3d effects in Maya		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Science of Fluid Dynamics**		
1		Characteristics of fluids & Dimensions		CO1
2		Analysis of Fluid behavior		CO1
3		Measure of Fluid mass and weight, ideal gas law, viscosity		CO1
Unit 2		**Fluid Pressure**		
1		Compressibility of fluids		CO2
2		Vapor pressure & surface tension.		CO2
3		Pressure at point, standard atmosphere.		CO2
4		Measurement of pressure.		CO2
Unit 3		**Fluid Principles**		
1		Buoyancy		CO2
2		Flotation and stability		CO2
3		Archimedes principle		CO2
4		Stability, Bernoulli equation & fluid kinematics		CO3
Unit 4		**Tools**		
1		Differential analysis of fluid flow		CO4
2		Tools and software to create fluid simulation		CO4
3		Attributes		CO3
Unit 5		**Fluid Simulation**		
1		Introduction to Fluid simulation software,		CO4
2		Emitters, Grid based particles, Splash particles, Mist and form particles		CO5
3		Generation displacement maps & exporting simulation		CO5
4		Forms of liquids & Morphing fluids		CO5
Unit 6		**Scripting for Simulation**		
1		Initial project setup.		CO6
2		Particle morphing, Small scale fluid simulation, Large scale fluid simulation Using the fluid simulation scripting.		CO6

3	Batch script, Scripting reference, Working with variables, custom emitter scripting.		CO6
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Introduction to Maya Fluid Effects DVD-ROM – Import, 9 September 2010 by W. Hollingsworth (Author)		
Other References	• Maya Visual Effects The Innovator's Guide by Eric Keller		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	1	-	-	-	-	-	-	-	-	-
CO2	1	-	-	-	-	-	-	2	-	-
CO3	1	-	-	-	-	-	-	-	-	-
CO4	1	-	2	-	-	-	-	3	-	-
CO5	2	-	2	-	-	-	-	3	2	2
CO6	2	-	2	-	-	-	-	3	2	2
Average	***1.3***	**-**	***1.0***	**-**	**-**	**-**	**-**	***1.8***	***0.6***	***0.6***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**			
Branch: Mass Communication		**Semester: 5**			
1	**Course Code**	**RBL003**			
2	**Course Title**	**Research Based Learning-3**			
3	**Credits**	**1**			
4	**Contact Hours (L-T-P)**	**0-0-2**			
5	**Course Type**	**Co-Requisite/AECC**			
6	**Course Objective**	The objective of this course is to Strengthen the academic research ability of the students. Evolve the inquisitiveness of the students towards society and various factors affecting media and society at a large. Enhance the problem solving skills of the students.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Selecting the research topics related to media research		
		CO2	Demonstrate understanding of research and apply it		
		CO3	Enhance their problem solving skills through research on the topics related to media and communication which directly impacts the society		
		CO4	Analyzing and appraising research work		
		CO5	Evaluating the research project		
		CO6	Write and present their research work with proper ethics of research		
8	**Course Description**	The course is designed to inculcate the research value and skills among thestudents.			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		Dissertation/ Project Implementation Stage			CO1, CO2
Unit 2		First Review (R1)			CO3, CO4, CO5, CO6
Unit 3		Second Review (R2)			CO3, CO4, CO5, CO6
Unit 4		Review (R3) by internal committee			CO3, CO4, CO5, CO6
Mode of examination		Jury/Viva/Practical			
Evaluations		CA 70%	CA (RBL1+RBL 2) 30%		ETE 00

Course Articulation Matrix

POs / **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	-	-	-	1	1	-	1	-	-	-
CO2	-	-	-	1	1	-	1	-	-	-
CO3	-	-	-	-	-	-	1	-	-	-
CO4	-	-	-	-	-	-	1	-	-	-
CO5	-	-	-	-	-	-	2	-	-	-
CO6	-	-	-	-	-	-	2	-	-	-
Average	-	-	-	***0.3***	***0.3***	-	***1.3***	-	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**	
Branch: Mass Communication		**Semester: 5**	
1	**Course Code**	**INC001**	
2	**Course Title**	**Industry Connect**	
3	**Credits**	**2**	
4	**Contact Hours (L-T-P)**	**0-2-0**	
5	**Course Type**	**Co-Requisite/AECC**	
6	**Course Objective**	The objective of this course is: To give real-time exposure of the industry environment to students To familiarize the faculty and students with the media and communication industry To acquaint Student and Faculties with the latest demands of Industry To create a platform to enhance the industry-academia interaction To give industry exposure to our faculty and students	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Relate with industry and its demand
		CO2	Develop case studies, articles, projects, and various knowledge related contents
		CO3	Determine and bridge the gap between industry and academia
		CO4	Explain the enhanced role of the industry with the university in the form of mentoring, live projects, placements, internships
		CO5	Develop Leadership, Business Etiquettes, Analytical Skills, Critical Thinking Skills, Creativity and Innovation skills
		CO6	Create and present reports based on the industry visit
8	**Course Description**	The course is aimed to provide the students and faculty a platform to get connected with the industry and get real-time exposure on the daily working environment of the media and communication industry	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Understanding Target Industry**	
1		Print Media, Evolution, Organizational Structure, Basic/Advance level Technology used for Production	CO1
2		Electronic Media, Origin, Organizational Structure, Basic/Advance level Technology used for Broadcast	CO1
3		Digital Media, Evolution, Organizational Structure, Basic/Advance level Technology used for Publish content online	CO2
Unit 2		**Recent Trends in Industry**	
1		Invited lecture from domain experts	CO4
2		Group / Panel discussion	CO4
3		Collaborative learning	CO4
Unit 3		**Hands on Training for Skill Development**	
1		Print Media: Quark Express, InDesign	CO5
2		Video Production any one software i.e. Premier	CO5
3		Digital Media, PR tools training	CO5
Unit 4		**Industry Connect**	
1		Identify the input and output for different processes of target Industry	CO3
2		Understanding background of field visit industry	CO3
3		Industry etiquettes skills	CO3
Unit 5		**Industry Visit Reports**	
1		Pre Field Visit and Post Field Visit preparation	CO6

2	Field Visit Report preparation process		CO6
3	Field visit report presentation		CO6
Mode of examination	Practical		
Evaluations	CA 85%	Industrial Visit Report 10%	ETE 10%

Note: This is a qualifying Program

Course Articulation Matrix

POs / **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	2	-	2	-	-	-	-	-	1	1
CO2	2	-	2	-	-	-	-	-	1	1
CO3	3	-	3	-	-	1	-	-	2	2
CO4	3	-	3	-	-	1	-	-	2	2
CO5	3	-	3	-	-	2	-	-	1	1
CO6	3	-	3	-	-	2	-	-	3	3
Average	***2.6***	**-**	***2.6***	**-**	**-**	***1.0***	**-**	**-**	***1.6***	***1.6***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

Semester 6

School: SSMFE		**Batch 2024-28**			
Programme: B.Sc. Animation, VFX & Gaming Design		**Current Academic Year: 2026-27**			
Branch: Mass Communication		**Semester: 4**			
1	**Course Code**	**AVG341**			
2	**Course Title**	**On Job Training**			
3	**Credits**	**14**			
4	**Contact Hours (L-T-P)**	**0-0-28**			
5	**Course Type**	**Core Compulsory**			
6	**Course Objective**	• The purpose of this subject is to provide practical industry based hands-on experience of being able to create high quality 3D Modelling & 3D Animation projects. • Understanding the workflows involved in actual productions pipeline in industry. • Knowledge of planning and organizing projects by observation and practical. • Learning artistic techniques to create high quality Industry ready product/films.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Recall inputs received in preceding five semesters		
		CO2	Relate to problems encountered during OJT by interpreting theoretical knowledge practically		
		CO3	Solve problems encountered at OJT. Practical Knowledge- learning by doing in industry environment		
		CO4	Correlate efficacy of your performance on OJT		
		CO5	Appraise your performance on OJT		
		CO6	Submit OJT Report		
8	**Course Description**	Students will undergo On Job Training (OJT) in lieu of in-house Production. The students will submit a detailed report on their OJT and final report for a period 90 hrs in Animation/VFX/Gaming/Motion Graphics/Graphics along with the Power point Presentation containing the actual learning experience			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Bi-Weekly Report**			
		Work in progress report			CO1
Unit 2		**Bi-Weekly Report**			
		Work in progress report			CO2
Unit 3		**Bi-Weekly Report**			
		Work in progress report			CO3
Unit 4		**Bi-Weekly Report**			
		Work in progress report			CO4
Unit 5		**Bi-Weekly Report**			
		Work in progress report			CO5,CO6
Mode of examination		**Jury**			
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		NA			
Other References		NA			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	1	3	-	1	-	-	3	3	3
CO2	3	1	3	-	1	-	-	3	3	3
CO3	3	1	3	-	1	-	-	3	3	3
CO4	3	1	3	-	1	-	-	3	3	3
CO5	3	1	3	-	1	-	-	3	3	3
CO6	3	1	3	-	1	-	-	3	3	3
Average	***3.0***	***1.0***	***3.0***	***-***	***1.0***	***-***	***-***	***3.0***	***3.0***	***3.0***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Programme: B.Sc. Animation, VFX & Gaming Design		**Current Academic Year: 2026-27**			
Branch: Mass Communication		**Semester: 6**			
1	**Course Code**	**AVG342**			
2	**Course Title**	**Portfolio – Animation**			
3	**Credits**	**14**			
4	**Contact Hours (L-T-P)**	**0-0-28**			
5	**Course Type**	**Core Compulsory**			
6	**Course Objective**	• The purpose of this subject is to provide practical industry based hands-on experience of creating high quality 3D modelling and animation projects. • Understanding the workflows involved in actual productions pipeline in industry. • Knowledge of planning and organizing projects by observation and practical. • Learning artistic techniques to create high quality industry ready product/films.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Recognize a pre-plan and prepare preproduction of any animated shot/film.		
		CO2	Illustrate tools/techniques to create high quality assets for production		
		CO3	Assign photorealistic Look and feel in Production stage by various methods.		
		CO4	Create Fine quality Animated shots/films for post-production stage.		
		CO5	Apply cinematic Aesthetics to merge different shots with VFX effects.		
		CO6	Use Editing techniques to present the final project in a video format.		
8	**Course Description**	Students will learn the core concepts of creating High Quality 3D Projects They will gain the knowledge of planning and organizing projects in a Simulated production environment.			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Bi-Weekly Report**			
		Work in progress report			CO1
Unit 2		**Bi-Weekly Report**			
		Work in progress report			CO2
Unit 3		**Bi-Weekly Report**			
		Work in progress report			CO3
Unit 4		**Bi-Weekly Report**			
		Work in progress report			CO4
Unit 5		**Bi-Weekly Report**			
		Work in progress report			CO5,CO6
Mode of examination		**Jury**			
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		The Way of the Storyteller by Ruth Sawyer The Advanced Art of Stop-Motion Animation by Ken A. Priebe Understanding 3-D animation using Maya by John Edgar Park			
Other References		The Animation Book: A Complete Guide to Animated Filmmaking- -From Flip-Books to Sound Cartoons to 3-D Animation, Three Rivers Press			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	1	3	-	1	-	-	3	3	3
CO2	3	1	3	-	1	-	-	3	3	3
CO3	3	1	3	-	1	-	-	3	3	3
CO4	3	1	3	-	1	-	-	3	3	3
CO5	3	1	3	-	1	-	-	3	3	3
CO6	3	1	3	-	1	-	-	3	3	3
Average	***3.0***	***1.0***	***3.0***	***-***	***1.0***	***-***	***-***	***3.0***	***3.0***	***3.0***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Programme: B.Sc. Animation, VFX & Gaming Design		**Current Academic Year: 2026-27**			
Branch: Mass Communication		**Semester: 6**			
1	**Course Code**	**AVG343**			
2	**Course Title**	**Portfolio – VFX**			
3	**Credits**	**14**			
4	**Contact Hours (L-T-P)**	**0-0-28**			
5	**Course Type**	**Core Compulsory**			
6	**Course Objective**	• The purpose of this subject is to provide practical Industry based hands-on experience of being able to create complete high quality VFX shots. • Understanding the workflows involved in actual productions pipeline in Industry. • Knowledge of planning and organizing projects by observation and practice. • Learning artistic techniques to create high quality Industry ready product/films.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Create a visually stunning short film or animation that showcases advanced VFX techniques		
		CO2	Identify and dissect key VFX sequences, explaining the techniques used, challenges faced		
		CO3	Assign photorealistic Look and feel in Production stage by various methods.		
		CO4	Showcase the ability to seamlessly integrate computer-generated elements into live-action footage.		
		CO5	Include a variety of VFX shots that demonstrate proficiency in different techniques such as compositing,		
		CO6	Demonstrate skills in dynamic simulations, such as fluid dynamics, particle effects, or cloth simulations.		
8	**Course Description**	Students will learn the core concepts of creating High Quality VFX shots. They will gain the knowledge of planning and organizing projects in a Simulated VFX production environment.			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Bi-Weekly Report**			
		Work in progress report			CO1
Unit 2		**Bi-Weekly Report**			
		Work in progress report			CO2
Unit 3		**Bi-Weekly Report**			
		Work in progress report			CO3
Unit 4		**Bi-Weekly Report**			
		Work in progress report			CO4
Unit 5		**Bi-Weekly Report**			
		Work in progress report			CO5,CO6
Mode of examination		**Jury**			
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		Filming the Fantastic, Second Edition: A Guide to Visual Effects Cinematography by Mark Sawicki			
Other References		Industrial Light & Magic: The Art of Innovation by Pamela Glintenkamp			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	1	3	-	1	-	-	3	3	3
CO2	3	1	3	-	1	-	-	3	3	3
CO3	3	1	3	-	1	-	-	3	3	3
CO4	3	1	3	-	1	-	-	3	3	3
CO5	3	1	3	-	1	-	-	3	3	3
CO6	3	1	3	-	1	-	-	3	3	3
Average	***3.0***	***1.0***	***3.0***	***-***	***1.0***	***-***	***-***	***3.0***	***3.0***	***3.0***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE	**Batch 2024-28**		
Programme: B.Sc. Animation, VFX & Gaming Design		**Current Academic Year: 2026-27**	
Branch: Mass Communication		**Semester: 6**	
1	**Course Code**	**AVG344**	
2	**Course Title**	**Portfolio – Gaming**	
3	**Credits**	**14**	
4	**Contact Hours (L-T-P)**	**0-0-28**	
5	**Course Type**	**Core Compulsory**	
6	**Course Objective**	• Design and develop an original gaming project, demonstrating mastery of game development principles and applying creativity at the synthesis level. • Manage all project phases, showcasing their ability to plan, organize, and execute a complex gaming project at the application level. • Innovate in game design by creating unique gameplay mechanics, narratives, and user experiences, showcasing creativity at the synthesis level.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Utilize programming languages and design principles to create an original gaming project, showcasing proficiency in game development.
		CO2	Demonstrate project management skills by planning, organizing, and executing the gaming project within specified timelines and resource constraints.
		CO3	Apply effective communication and teamwork skills in a multidisciplinary team to achieve project goals
		CO4	Innovate in game design by developing unique gameplay mechanics, compelling narratives, and immersive user experiences.
		CO5	Prioritize user experience design principles to create an intuitive and engaging gaming experience.
		CO6	Apply quality assurance and testing processes to ensure the gaming project meets high standards of functionality, stability, and performance.
8	**Course Description**	Through the Gaming Project course, students will demonstrate a comprehensive understanding of game design and development principles, including mechanics, dynamics, and aesthetics, by conceptualizing and implementing innovative and engaging gameplay features in their capstone project.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1	**Bi-Weekly Report**		
	Work in progress report		CO1
Unit 2	**Bi-Weekly Report**		
	Work in progress report		CO2
Unit 3	**Bi-Weekly Report**		
	Work in progress report		CO3
Unit 4	**Bi-Weekly Report**		
	Work in progress report		CO4
Unit 5	**Bi-Weekly Report**		
	Work in progress report		CO5,CO6
Mode of examination	**Jury**		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Augmented Reality with Unity AR Foundation: A Practical Guide to cross-platform AR development with Unity 2020 and later versions, Author: Jonathan Linowes, Publisher: Packt Publishing Ltd, 2021, ISBN- 1838982965, 9781838982966 • Unity 2020 Virtual Reality Projects - Third Edition, Author: Jonathan Linowes, Released July		

	2020, Publisher(s): Packt Publishing, ISBN: 978183921733
Other References	Mobile Game Development with Unity: Build Once, Deploy Anywhere -Jonathon Manning (Author), Paris Buttfield-Addison (Author) - O'Reilly Media; 1 edition (September 4, 2017) - ISBN-10: 1491944749,ISBN-13: 978-1491944745

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	1	3	-	1	-	-	3	3	3
CO2	3	1	3	-	1	-	-	3	3	3
CO3	3	1	3	-	1	-	-	3	3	3
CO4	3	1	3	-	1	-	-	3	3	3
CO5	3	1	3	-	1	-	-	3	3	3
CO6	3	1	3	-	1	-	-	3	3	3
Average	***3.0***	***1.0***	***3.0***	***-***	***1.0***	***-***	***-***	***3.0***	***3.0***	***3.0***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**		
Branch: Mass Communication		**Semester: 6**		
1	**Course Code**	**OPE**		
2	**Course Title**	**Smartphone Mobile Film Making**		
3	**Credits**	**3**		
4	**Contact Hours (L-T-P)**	**0-2-2**		
5	**Course Type**	**Core Elective**		
6	**Course Objective**	This course aims at enriching the minds of those students who have an interest in learning the techniques of filmmaking using a smartphone for a various platform (Cinema, Television, Advertisement, Film Festivals, etc.) in the broader context of the Media and Entertainment industry		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Define the basic concepts related to smartphone techniques for filmmaking	
		CO2	Explain the basic methods of audio-visual storytelling, developing idea, scriptwriting, casting and shooting (using a smartphone)	
		CO3	Apply basic methods of capturing cinematic images, audio and image (re)generation	
		CO4	Analyze interactivity between sound, image and context	
		CO5	Demonstrate skills of mobile film editing	
		CO6	Create a short film using Smartphone	
8	**Course Description**	This course provides an introduction to smartphone filmmaking and the use of audio integrated with visuals		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Smartphone Film Making**		
1		Introduction to the basic concepts of smartphone filmmaking		CO1
2		Why smartphone filmmaking is an important and versatile option		CO1
3		Film analysis and appreciation		CO1
Unit 2		**Introduction to Smartphone as a tool for Film Making**		
1		The Equipment		CO2
2		Important Apps and Platform		CO2
3		The Audio: Sound Perception and its use for different situation, Importance of sound in films and introduction to sound recording Microphones and their pickup patterns, Microphone placement and usage, sound perspective and practical application, Recording of sound in noisy locations		CO3, CO4
Unit 3		**Basic Smartphone Film Techniques**		
1		Photos: Composition, leading lines and the rule of thirds, Depth of field and selective focus		CO3, CO4
2		Video: Significance of different camera angles , Selection of viewpoint to heighten the drama, Characteristics and impact of various dimensions of Shots, White balance color wheel and color temperatures, Gimbals and aesthetics of camera operation Time-lapse cinematography		CO3, CO4
3		Audio: audio editing using apps		CO3, CO4, CO5
Unit 4		**Idea to Screen**		
1		Story Idea and basics of screenwriting		CO2, CO6
2		Characterization and shooting on location		CO2
3		Lighting: Shooting indoor/outdoor (understanding the importance of light), Continuity of lighting, How to use ambient light?,		CO3, CO4

	Supplementary lighting for a lit location with ambient light , Mixing a different kind of lights and color temperatures		
Unit 5	**Editing Essentials**		
1	Imaginary line: 30 & 180-degree rule and placement of the camera		CO4
2	Visualization: Capture a scene in 5 shot		CO4, CO6
3	Introduction to Video Editing using mobile apps like Kine Master		CO5, CO6
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• The Digital Filmmaking Handbook. Mark Brindle		
Other References	• Smartphone Movie Maker by Stoller Bryan The Smartphone Filmmaking Handbook by Neil Philip Sheppard		

Course Articulation Matrix

POs **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	-	-	-	-	-	-	-	1	-	-
CO2	-	-	-	-	-	-	-	1	-	-
CO3	-	-	-	-	-	-	-	1	-	-
CO4	-	-	-	-	-	-	-	1	-	-
CO5	1	-	-	-	-	-	-	-	-	-
CO6	1	-	-	-	-	-	-	-	-	-
Average	***0.3***	-	-	-	-	-	-	***0.6***	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**			
Branch: Mass Communication		**Semester: 6**			
1	**Course Code**	**RBL004**			
2	**Course Title**	**Research Based Learning – IV**			
3	**Credits**	**1**			
4	**Contact Hours (L-T-P)**	**0-0-2**			
5	**Course Type**	**Co-Requisite/AECC**			
6	**Course Objective**	The objective of this course is to: Strengthen the academic research ability of the students. Evolve the inquisitiveness of the students towards society and various factors affecting media and society at a large. Enhance the problem solving skills of the students.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Selecting the research topics related to media research		
		CO2	Demonstrate understanding of research and apply it		
		CO3	Enhance their problem solving skills through research on the topics related to media and communication which directly impacts the society		
		CO4	Analyzing and appraising research work		
		CO5	Evaluating the research project		
		CO6	Write and present their research work with proper ethics of research		
8	**Course Description**	The course is designed to inculcate the research value and skills among the students			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		Project/ Dissertation Verification and Validation Stage First Review (R1)			CO1, CO2, CO3,CO4, CO5
Unit 2		Second Review (R1)			CO2, CO3, CO4,CO5,
Unit 3		Third Review (R3)			CO2, CO3, CO4,CO5,
Unit 4		Review (R4) by External expert			CO2, CO3, CO4,CO5,CO6
Unit 5		Submission			CO6
Mode of examination		Jury/Viva/Practical			
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	-	-	-	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-
CO3	1	-	-		-	-	-		-	-
CO4	1	-	-	1	-	-	-	2	-	-
CO5	2	-	-	1	-	-	-	2	-	-
CO6	2	-	1	1	-	-	-	2	-	-
Average	**1.5**	**-**	**1**	**1**	**-**	**-**	**-**	**2**	**-**	**-**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		Batch 2024-28	
Program: B.Sc. (Animation ,VFX and Gaming Design)		Current Academic Year: 2026-27	
Branch: Mass Communication		Semester: 6	
1	Course Code	CCU	
2	Course Title	Community Connect	
3	Credits	2	
4	Contact Hours (L-T-P)	0-2-0	
5	Course Type	Co-Requisite	
6	Course Objective	To let the student engage and connect directly with the community/society. In this survey-based course students will get hand-on experience of the real- world situation by directly accessing and analyzing the information collected from the people in the community under study. The course aims to sensitize the student towards society and social issues. This course will also give a proper field exposure to the student, where student will not only interact with the community but will analyze the data and try to find solutions to the larger issues affecting the community and the country at large.	
7	Course Outcomes	After completing the course, the student will be able to:	
		CO1	Apply the knowledge and skills acquired during classroom teaching
		CO2	Contribute to the society by bringing out the issues and the necessary solutions
		CO3	Identify the issues in the community/society
		CO4	Develop sense of belonging, sympathy and responsibility towards society
		CO5	Evaluate the importance of community engagement in higher education
		CO6	Create research plans for the betterment of the society
8	Course Description	This course is design especially for the students to connect with the community and understand the problems of the people in the community and get a sense of belonging to the community.	
9	Theme	Major Sub-themes for research: Major developmental issue (Socio-Economic, gender, environmental etc.) Media habits/ Media usage/Audience profiling Media perceptions	
10	Guidelines for Faculty Members	It will be a group assignment (4 to 5 students), the student will work together as a team, they have to survey at least 250 respondent (per team), and the faculty guide will guide the students and approve the project title and help the student in preparing the questionnaire and final report (the faculty member will collect all the questionnaires of survey and final report and submit to CCC coordinator within stipulated time). The questionnaire should be well design and it should carry at least 20 questions (Including demographic questions). The topic of the research should be related to social, economic or environmental issues concerning the common man. The report should contain 2,500 to 3,000 words and relevant charts, tables and photographs. The student should submit the report to CCC-Coordinator signed by the faculty guide in the assigned time frame. The students have to send the hard copy of the Report and PPT to CCC coordinator and then only they will be allowed for External Exam.	
11	Role of CCC-Coordinator	The CCC Coordinator will supervise the whole process and assign students to faculty members.	
12	Layout of the Report	Abstract(250 words) Front Page (sample design will be provided by Community Connect Coordinator/Mentor)	

		Certificate of originality duly signed by the faculty supervisor Acknowledgement Content Page Abstract Introduction Objective of the report Methodology Results, finding, conclusion Recommendation/plan of action References Appendices Note: Research report should base on primary data.
13	**Guideline for Report Writing**	Title Page: The following elements must be included: Title of the article; Name(s) and initial(s) of author(s), preferably with first names spelled out; Affiliation(s) of author(s); Name of the faculty guide and Co-guide Abstract: Each article is to be preceded by a succinct abstract, of up to 250 words, that highlights the objectives, methods, results, and conclusions of the paper. Text: Manuscripts should be submitted in Word. Use a normal, plain font (e.g., 12-point Times Roman) for text. Use italics for emphasis. Use the automatic page numbering function to number the pages. Save your file in docx format (Word 2007 or higher) or doc format (older Word versions) Reference list: The list of references should only include works that are cited in the text and that have been published or accepted for publication. The entries in the list should be in alphabetical order. Journal article Hamburger, C.: Quasimonotonicity, regularity and duality for nonlinear systems of partial differential equations. Ann. Mat. Pura Appl. 169, 321–354 (1995) Article by DOI Sajti, C.L., Georgio, S., Khodorkovsky, V., Marine, W.: New nanohybrid materials for biophotonics. Appl. Phys. A (2007). doi:10.1007/s00339-007-4137-z Book Geddes, K.O., Czapor, S.R., Labahn, G.: Algorithms for Computer Algebra. Kluwer, Boston (1992) Book chapter Broy, M.: Software engineering — from auxiliary to key technologies. In: Broy, M., Denert, E. (eds.) Software Pioneers, pp. 10–13. Springer, Heidelberg (2002) Online document Cartwright, J.: Big stars have weather too. IOP Publishing PhysicsWeb. http://physicsweb.org/articles/news/11/6/16/1 (2007). Accessed 26 June 2007 Always use the standard abbreviation of a journal's name according to the ISSN List of Title Word Abbreviations, see
14		www.issn.org/2-22661-LTWA-online.php For authors using End Note, Springer provides an output style that supports the formatting of in-text citations and reference list. End Note style (zip, 2 kB)
15	**Format:**	The report should be Spiral/ hardbound The Design of the Cover page to report will be given by the Coordinator- CCC Cover page Acknowledgement Content Project report Appendices Font Times New Roman, Headings 16, subhead 14, body text 12. Justified text. Line spacing 1.5. Margins should be 3 cm at binding side, 2 cm top, bottom and Remaining side.
16	**Important Dates:**	Students needs to submit the hard copy of the report, duly signed and approved by the faculty supervisor by 20th April, 2020.

		A trip to village will be organized by the University for the students in the 1st week of May. It will be mandatory for all the students. The final jury examinations will be held as per the date sheet, announced by the Dy. COE of the school.
17	**ETE**	The students will be evaluated by panel of faculty members on the basis of their presentation on date announced by the Dy. COE of the School.
18	**Method of Evaluation**	Interpretative evaluation by Internal / external expert(s) AUDIT COURSE

Course Articulation Matrix

POs **COs**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PSO1**	**PSO2**
CO1	1	-	-	-	-	-	-	-	-	-
CO2		-	-	2	3	-	-	-	-	-
CO3	1	-	-	3	3	-	-	-	-	-
CO4	-	-	-		2	-	-	-	-	-
CO5	3	-	-	-	-	-	-	-	-	-
CO6	2	-	-	-	-	-	-	-	-	-
Average	***1.17***	-	-	***0.83***	***1.33***	-	-	-	-	-

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**	
Branch: Mass Communication		**Semester: 7**	
1	**Course Code**	**BCJ412**	
2	**Course Title**	**Qualitative Research Methods**	
3	**Credits**	**3**	
4	**Contact Hours (L-T-P)**	**3-0-0**	
5	**Course Type**	**Compulsory**	
6	**Course Objective**	To impart in-depth knowledge of qualitative research. To provide good understanding of methods for qualitative research. To develop critical and analytical thinking on ethical issues in qualitative research.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Define the basics of qualitative research
		CO2	Explain the basic application of qualitative methods in social sciences
		CO3	Define appropriate qualitative research methods
		CO4	Develop an understanding of different methods and techniques of qualitative research
		CO5	Apply various applications for qualitative research
		CO6	Evaluate and utilize the knowledge acquired to address the challenges in qualitative research methods
8	**Course Description**	This course is an introduction to qualitative research methods. The course will give an understanding of various methods of qualitative research	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		**Introduction to Qualitative Research Methods**	
1		Understanding qualitative research	CO1
2		Historical development of qualitative research	CO1
3		Issues in Qualitative Research—Subjectivity, Reflexivity, Power, Validity and Triangulation	CO1
Unit 2		**Applications of Qualitative Methods to Social Research**	
1		Theoretical and applied research	CO2
2		Ethnographic and Phenomenological Approaches	CO2
3		Combining qualitative and quantitative methods	CO2
Unit 3		**Qualitative Research Methods - I**	
1		Introduction, Techniques and Applications of Focus Group Discussions	CO3
2		Report writing on Conduction, Execution and Conclusions obtained by Focus Group Discussions	CO3
3		Implementation and Evaluation Challenges of Focus Group Discussions	CO3
Unit 4		**Qualitative Research Methods - II**	
1		Introduction, Techniques and Applications of Interview method	CO4
2		Report writing on Conduction, Execution and Conclusions obtained by interview	CO4
3		Implementation and Evaluation Challenges of interview	CO4
Unit 5		**Qualitative Research Methods - III**	
1		Introduction, Techniques and Applications of observation	CO5
2		Report writing on Conduction, Execution and Conclusions obtained by observation	CO5
3		Implementation and Evaluation Challenges of observation	CO6

Evaluations	MTE 15%	CA10%	ETE 75%
Text Book/s	• Mass Media Research: An Introduction by Roger D. Wimmer Creswell, J. W., Qualitative inquiry and research design, 2rd edition. Sage Publications. 2013.		
Other References	• Media and communication research methods by Arthur Berger • Mass Communication Research Methods by Anders Hansen • Berg, B. L. & Lune, H. Qualitative Research Methods for the Social Sciences, 8th edition, Boston: Pearson, Allyn & Bacon. 2012 • Seidman, I. E. Interviewing as Qualitative Research, Teachers College Press, 4rd edition. • Miles, M.B., Huberman, A.M. & Saldana, J. 2014. Qualitative data analysis: A methods sourcebook – Third edition. Thousand Oaks, CA: Sage.		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	3	2	3	1	3	3	3	2	3
CO2	3	3	3	3	3	2	2	2	1	2
CO3	2	3	2	3	2	3	2	2	3	3
CO4	1	2	2	2	3	2	2	3	2	2
CO5	3	3	3	3	3	2	3	1	3	1
CO6	3	1	3	1	3	3	1	3	3	2
Average	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.12**	**2.33**	**2.33**	**2.17**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**			
Branch: Mass Communication		**Semester: 7**			
1	**Course Code**	**BCJ413**			
2	**Course Title**	**Quantitative Research Methods**			
3	**Credits**	**3**			
4	**Contact Hours (L-T-P)**	**3-0-0**			
5	**Course Type**	**Compulsory**			
6	**Course Objective**	To impart in-depth knowledge of quantitative research. To provide good understanding of methods for quantitative research. To develop critical and analytical thinking on ethical issues in quantitative research.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Define various research techniques employed in the social sciences		
		CO2	Outline opportunities and challenges faced by social scientists in their attempts to understand human behavior		
		CO3	Illustrate the basic research writing, analytical, and critical thinking skills		
		CO4	Apply the basic data analysis		
		CO5	Analyze various regression techniques		
		CO6	Compare ANOVA's Null and Alternative Hypotheses		
8	**Course Description**	The course is designed primarily for the students to anticipate future applications of quantitative methods in media and communication research.			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Introduction to Quantitative Research Methods - I**			
1		Understanding nature of quantitative research			CO1
2		Historical development of quantitative research			CO1
3		Quantitative research in Media & Communication			CO1
Unit 2		**Introduction to Qualitative Research Methods - II**			
1		Research Question and Scientific Approach to Social Science			CO2
2		Research Design; Causality vs. Correlation			CO2
3		Reliability and Validity.			CO2
Unit 3		**Quantitative Research Methods**			
1		Introduction to various quantitative research methods			CO3
2		Survey method			CO3
3		Developing questionnaire and schedule for survey			CO3
Unit 4		**Basic data analysis - I**			
1		Statistical significance			CO4
2		Measurement, validity, reliability			CO4
3		Cross-tabulation and Correlation.			CO4
Unit 5		**Basic data analysis - I**			
1		Simple regression, Multiple regression.			CO5
2		Hypothesis testing, ANOVA, The One-Way ANOVA's Null and Alternative Hypotheses			CO6
3		Factor Analysis			CO5
Evaluations		CA 15%	MTE 10%	ETE 75%	
Text Book/s		• Mass Media Research: An Introduction by Roger D. Wimmer			
Other References		• Media and communication research methods by Arthur Berger • Mass Communication Research Methods by Anders Hansen			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	3	3	2	1	3	3	3	1	2
CO2	2	1	3	3	3	2	2	3	2	3
CO3	3	3	2	2	3	1	3	1	3	3
CO4	1	2	3	2	3	1	2	3	3	2
CO5	3	3	2	3	2	3	1	3	3	3
CO6	3	3	3	1	2	3	3	2	3	1
Average	**2.5**	**2.5**	**2.6**	**2.1**	**2.3**	**2.1**	**2.3**	**2.5**	**2.5**	**2.3**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**	
Branch: Mass Communication		**Semester: 7**	
1	**Course Code**	**BCJ414**	
2	**Course Title**	**Communication Research Methods & Tools**	
3	**Credits**	**3**	
4	**Contact Hours (L-T-P)**	**3-0-0**	
5	**Course Type**	**Compulsory**	
6	**Course Objective**	To impart in-depth knowledge of nature of research methods used in communication research. To provide theoretical knowledge of Communication Research Methods and Tools. To develop critical and analytical thinking on of Communication Research Methods and Tools.	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Describe various research methods employed in communication research
		CO2	Outline opportunities and challenges in descriptive research methods
		CO3	Illustrate and construct various descriptive research tools
		CO4	Apply the measurement scales
		CO5	Analyze various sampling techniques
		CO6	Evaluate the sampling problems, bias and errors
8	**Course Description**	The course is designed primarily for the students to get an in-depth knowledge of communication research methods and tools	

9	**Outline Syllabus**	**CO Mapping**
Unit 1	**Introduction to Research Methods**	
1	Research Method: Nature and Concept	CO1
2	Communication Research Approaches	CO1
3	Research Tools: Nature and Concept	CO1
Unit 2	**Descriptive Research Methods**	
1	Longitudinal, Cross Sectional	CO2
2	Census and Survey	CO2
3	Panel Studies, Trend Studies, Time series Studies	CO2
Unit 3	**Descriptive Research Tools**	
1	Schedule, Questionnaire	CO3
2	Interview and Observation	CO3
3	Pre-testing of Questionnaire, Pilot Study	CO3
Unit 4	**Measurement Scales and Distributions**	
1	Levels of Measurement NOIR	CO4
2	Likert Scale: Nature and Background	CO4
3	Attitude Scales, Thurston Scales, Guttmann Scale, Ranking Scales	CO4
Unit 5	**Sampling Techniques**	
1	Population, Sample, Sampling Frame	CO5
2	Types of Sampling, Sampling Matrix	CO5
3	Sampling Problems, Bias and Errors	CO6

Evaluations	CA 15%	MTE 10%	ETE 75%
Text Book/s	• Mass Media Research: An Introduction by Roger D. Wimmer		
Other References	• Media and communication research methods by Arthur Berger • Mass Communication Research Methods by Anders Hansen		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	3	1	2	3	2	2	3	1	3
CO2	2	2	2	3	2	2	3	2	2	2
CO3	3	2	2	2	3	1	1	2	2	2
CO4	1	1	3	3	2	2	3	1	3	1
CO5	3	2	2	2	3	3	3	2	2	2
CO6	3	2	2	3	2	3	3	2	2	2
Average	**2.5**	**2**	**2**	**2.5**	**2.5**	**2.1**	**2.5**	**2**	**2**	**2**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2026-27**			
Branch: Mass Communication		**Semester: 7**			
1	**Course Code**	**BCJ415**			
2	**Course Title**	**Statistics for Research**			
3	**Credits**	**3**			
4	**Contact Hours (L-T-P)**	**2-1-0**			
5	**Course Type**	**Compulsory**			
6	**Course Objective**	To impart basic knowledge of statistics for social science research. To develop critical and analytical thinking on statistics required for social sciences research.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Develop an understanding of the concept of Statistics		
		CO2	Define descriptive statistics		
		CO3	Acquaint with SPSS		
		CO4	Apply the basic data analysis through SPSS		
		CO5	Analyze various descriptive stats through SPSS		
		CO6	Explain the ethical consideration in using statistics in media & communication research		
8	**Course Description**	The course is designed primarily for the students to develop an understanding of the concept of statistics in media and communication research			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Introduction**			
1		An Overview of Statistics: Meaning, Definition and Characteristics			CO1
2		Types of Variables (Continuous and Discrete) and Levels of Measurement (NOIR)			CO1
3		Importance of Statistics in Media Research (With reference to Content analysis, Code Book Preparation and Coding)			CO1
Unit 2		**Descriptive Statistics**			
1		Statistical Series: Importance and Limitations			CO2
2		Measures of Central Tendency: Arithmetic Mean, Median, Mode			CO2
3		Measures of Variability			CO2
Unit 3		**Introduction to SPSS**			
1		An Overview and Major features of SPSS			CO3
2		Basic Features of SPSS: Menu and Options			CO3
3		Data Entry, Data Editing and Data Deletion in SPSS			CO3
Unit 4		**Descriptive Statistics through SPSS**			
1		Calculation of Frequency analysis			CO4
2		Graphical Representation of Data			CO4
3		Calculation of Mean, Median and Mode			CO4
Unit 5		**Quantitative Analysis**			
1		Reliability and Consistency Analysis: Uses and Interpretation			CO5
2		Normality Analysis: Uses and Interpretation, T-Test: Uses and Interpretation			CO5
3		Ethical consideration for using statistics in media and communication research			CO6
Mode of Examination		Theory			
Evaluations		CA 15%	MTE 10%	ETE 75%	

Text Book/s	• Mass Media Research: An Introduction by Roger D. Wimmer
Other References	• Media and communication research methods by Arthur Berger • Mass Communication Research Methods by Anders Hansen

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	3	3	3	3	1	3	3	3	3
CO2	3	3	3	3	1	3	1	3	1	3
CO3	2	2	2	3	3	3	2	1	2	3
CO4	2	3	3	2	2	3	3	2	3	2
CO5	3	1	1	3	3	3	3	3	3	2
CO6	3	3	3	1	3	2	2	3	3	2
Average	2.6	2.5	2.5	2.5	2.5	2.5	2.3	2.5	2.5	2.5

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2027-28**		
Branch: Mass Communication		**Semester: 7**		
1	**Course Code**	**BCJ416**		
2	**Course Title**	**Qualitative Research Lab**		
3	**Credits**	**2**		
4	**Contact Hours (L-T-P)**	**0-1-2**		
5	**Course Type**	**Compulsory**		
6	**Course Objective**	To impart in-depth knowledge of qualitative research. To provide good understanding of methods for qualitative research. To develop critical and analytical thinking on ethical issues in qualitative research.		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Define the in-depth concepts of qualitative research	
		CO2	Understanding various qualitative methods of social sciences in action	
		CO3	Identify different methods of qualitative research data collection	
		CO4	Develop and understanding of various software's used in qualitative research	
		CO5	Design, report and present qualitative research	
		CO6	Examine the ethical consideration while conducting qualitative study	
8	**Course Description**	This course is an introduction to qualitative research methods. The course will give an understanding of analysis of various methods of qualitative research		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Understanding Qualitative Research Methods**		
1		Understanding qualitative research		CO1
2		Identifying Subjectivity, Reflexivity and Power		CO1
3		Understanding Validity and Triangulation		CO1
Unit 2		**Identifying Qualitative Methods**		
1		Understanding theoretical and applied research		CO2
2		Identifying Ethnographic and Phenomenological Approaches		CO2
3		Exercise on Combining qualitative and quantitative methods		CO2
Unit 3		**Application on Qualitative Research Methods**		
1		Exercise on Focus Group Discussions		CO3
2		Exercise on Interview method		CO3
3		Exercise on observation		CO3
Unit 4		**Data Analysis and Software's for Qualitative Research Methods**		
1		Different techniques of qualitative data analysis		CO4
2		Software's used for content analysis, transcription, discourse analysis, coding etc.		CO4
3		Software's used for qualitative analysis – Nvivo, ATLAS etc.		CO4
Unit 5		**Reporting and Writing Qualitative Research Methods**		
1		Reporting and compiling data in qualitative research		CO5
2		Writing qualitative research report		CO5
3		Ethical consideration in qualitative research		CO6
Evaluations		IA 25%	CE (Viva) 25%	ETE 50%
Text Book/s		• Mass Media Research: An Introduction by Roger D. Wimmer		
Other References		• Media and communication research methods by Arthur Berger • Mass Communication Research Methods by Anders Hansen		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	3	1	1	1	3	3	3	3	1
CO2	2	3	2	3	3	2	1	2	3	3
CO3	2	1	3	3	3	3	3	1	1	3
CO4	1	3	3	2	2	1	2	3	2	3
CO5	2	3	3	3	3	3	3	3	2	2
CO6	3	2	3	3	2	3	3	3	3	3
Average	2.1	2.5	2.5	2.5	2.3	2.5	2.5	2.5	2.3	2.5

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2027-28**		
Branch: Mass Communication		**Semester: 7**		
1	**Course Code**	**BCJ417**		
2	**Course Title**	Quantitative Research Lab		
3	**Credits**	2		
4	**Contact Hours (L-T-P)**	0-1-2		
5	**Course Type**	**Compulsory**		
6	**Course Objective**	• To understand the process of content analysis method. • To understand tools and techniques of content analysis method. • To learn the essence of analyzing textual, audio and video contents. • To provide theoretical knowledge and applied know how of Content Analysis method. • To orient students in depth towards the concepts Content Analysis method.		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Define various quantitative research methods	
		CO2	Explain different types of sampling used in quantitative studies	
		CO3	Develop understanding of content analysis	
		CO4	Demonstrate survey method	
		CO5	Create code book for case study	
		CO6	Examine the ethical consideration while conducting quantitative study	
8	**Course Description**	The course is designed primarily for the students to anticipate future applications of content analysis in media and communication research		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Quantitative Research Methods**		
1		Longitudinal, Cross-Sectional & trend studies		CO1
2		Experimental and Quasi-experimental studies		CO1
3		Constructing tools for quantitative studies		CO1
Unit 2		**Sampling in Quantitative Studies**		
1		Types of sampling		CO2
2		Techniques of sampling for quantitative studies		CO2
3		Exercise on sampling		CO2
Unit 3		**Content Analysis**		
1		Qualitative and Quantitative Content Analysis		CO3
2		Coding, Data Sheet Tabulation, Graphical presentation of data		CO3
3		Interpretation and Report Writing		CO3
Unit 4		**Survey**		
1		Understanding survey methods		CO4
2		Conducting survey		CO4
3		Interpretation and Report Writing		CO4
Unit 5		**Case Study and Ethical consideration in Quantitative studies**		
1		Understanding case study		CO5
2		Conducting case study, data analysis and writing		CO5
3		Ethical consideration of Qualitative studies		CO6
Mode of Examination		Theory		
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s		• Mass Media Research: An Introduction by Roger D. Wimmer		
Other References		• Media and communication research methods by Arthur Berger		

	• Mass Communication Research Methods by Anders Hansen

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	3	3	3	3	3	3	1	3	1
CO2	2	2	3	2	3	2	3	3	2	2
CO3	3	3	2	3	2	3	3	2	3	3
CO4	3	3	3	2	3	3	3	3	2	2
CO5	3	2	2	2	2	3	3	2	2	3
CO6	3	2	1	3	1	3	3	3	2	3
Average	**2.8**	**2.5**	**2.2**	**2.5**	**2.2**	**2.8**	**3**	**2.4**	**2.1**	**2.4**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2027-28**			
Branch: Mass Communication		**Semester: 7**			
1	**Course Code**	**BCJ418**			
2	**Course Title**	**Project on constructing tools for Media & Communication Research**			
3	**Credits**	**3**			
4	**Contact Hours (L-T-P)**	**0-2-2**			
5	**Course Type**	**Compulsory**			
6	**Course Objective**	To develop research skills To develop various tools for different research methods.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Define problem on basis of brief received		
		CO2	Build research tools		
		CO3	Develop a portfolio based on first-hand study and research		
		CO4	Organize the portfolio in order		
		CO5	Justify and present portfolio and their work		
		CO6	Construct a project report for the problem and the solution		
8	**Course Description**	The course is aimed to enhance the practical skills of the students and will help the students to understand how to construct tools for various types of research.			
9	**Outline Syllabus**			**CO Mapping**	
Unit 1-5		**Portfolio on different research tools**		CO1, CO2, CO3, CO4, CO5, CO6	
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		• Mass Media Research: An Introduction by Roger D. Wimmer			
Other References		• Media and communication research methods by Arthur Berger • Mass Communication Research Methods by Anders Hansen			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	3	3	3	3	2	3	1	3	3
CO2	2	2	2	2	3	3	3	3	3	2
CO3	3	3	2	2	2	3	3	2	2	3
CO4	1	3	3	3	3	3	3	3	3	1
CO5	3	3	3	3	3	2	3	2	3	3
CO6	3	3	2	3	3	3	3	3	3	3
Average	**2.5**	**2.8**	**2.5**	**2.6**	**2.8**	**2.6**	**3**	**2.3**	**2.8**	**2.5**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**	
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2027-28**	
Branch: Mass Communication		**Semester: 7**	
1	**Course Code**	**OPE**	
2	**Course Title**	**Anchoring for Different Media**	
3	**Credits**	**4**	
4	**Contact Hours (L-T-P)**	**0-3-2**	
5	**Course Type**	**Co-Requisite**	
6	**Course Objective**	The objective of this course is to: Familiarize the students with different aspects of anchoring & news presentation To develop an understanding how to handle different situation during Live News Presentation To make the students understand the roles and responsibility and do's and don'ts of news reader/presenter	
7	**Course Outcomes**	**After completing the course, the student will be able to:**	
		CO1	Understand the essentials of writing and speaking skills of a newsreader /presenter
		CO2	Apply diction/voice modulation, phonetics, pitch, tone, breathing, rhythm of speech etc.
		CO3	Analyze different kind of desk & live reporting style
		CO4	Evaluate on-air essentials
		CO5	Write for various news / anchoring platform
		CO6	Create own programmes based on any issue
8	**Course Description**	This course is designed to produce professional newsreaders and presenters. This course will help the student to face the camera and understand the responsibility, dos and don'ts for the newsreader/presenter.	
9	**Outline Syllabus**		**CO Mapping**
Unit 1		Introduction to Anchoring & News Presentation	
		Practical Anchoring and writing techniques for electronic media and events.	CO1
Unit 2		Technical and Practical techniques for News presentation- Script Writing- Researching- writing content	
		Performance: Different aspects of understanding how to handle different situation during Live News Bulletin.	CO2
Unit 3		Voice Analysis and Improvement	
		Importance of voice improvement	CO3
Unit 4		Clarity in Hindi pronunciation, grammar and how to get rid of regional touch in language along with practice sessions	CO4
		Clarity in English pronunciation, English grammar and how to get rid of regional touch in language along with practice sessions.	CO4
Unit 5		Facing Camera and Writing Anchor Links	
		Understanding of camera etiquettes, camera microphone, peace to camera, Anchoring and writing skills required for digital media-	CO5

	Writing for Anchor Links & Headlines		CO6
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Radio Jockeying And News Anchoring Hardcover – 2009 by Aruna Zachariah • The ABC of News Anchoring: A Guide for Aspiring Anchors Kindle Edition by Richa Jain Kalra		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	2	3	3	2	2	2	3	2	2	2
CO2	3	2	3	3	2	3	2	3	2	3
CO3	3	2	2	2	3	2	3	3	3	2
CO4	2	3	2	1	2	2	2	2	2	2
CO5	1	3	2	2	3	3	3	3	3	3
CO6	1	1	2	2	3	3	3	3	3	3
Average	**2**	**2.3**	**2.3**	**2**	**2.5**	**2.5**	**2.6**	**2.6**	**2.5**	**2.5**

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

Semester 8

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2027-28**			
Branch: Mass Communication		**Semester: 8**			
1	**Course Code**	**BCJ419**			
2	**Course Title**	**Ethical Perspective of Media & Communication Research**			
3	**Credits**	**3**			
4	**Contact Hours (L-T-P)**	**3-0-0**			
5	**Course Type**	**Compulsory**			
6	**Course Objective**	Guide and mentor students in developing, completing, writing, and presenting a valid and ethical research report. Provide students with the fundamental knowledge of basics of philosophy of science and ethics, research integrity, publication ethics. Hands-on sessions are designed to identify research misconduct and predatory publications.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Define various philosophies related to research ethics		
		CO2	Demonstrate scientific ethical conduct		
		CO3	Build of the publication ethics		
		CO4	Examine the open access publication		
		CO5	Apply the publication ethics		
		CO6	Evaluate the publication misconduct		
8	**Course Description**	The course is designed to inculcate the ethical perspective of media and communication research among students			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Philosophy and Research**			
1		Introduction to philosophy			CO1
2		Ethics: definition, moral philosophy			CO1
3		Nature of moral judgement and reaction			CO1
Unit 2		**Scientific Conduct**			
1		Ethics with respect to science and research			CO2
2		Misconduct: Falsification, Fabrication & Plagiarism (FFP)			CO2
3		Selective reporting and misrepresentation of data			CO2
Unit 3		**Publication Ethics**			
1		Introduction, definition and importance of publication ethics			CO3
2		Conflicts of interest			CO3
3		Predatory Journals			CO3
Unit 4		**Open Access Publication**			
1		Open access publication & initiatives			CO4
2		Software tools to identify predatory journals			CO4
3		Online resources to check publisher copyright & Self-archiving policies			CO4
Unit 5		**Publication Misconducts**			
1		Subject specific ethical issues			CO6
2		Case studies			CO5
3		Complaints and appeals			CO5
Mode of Examination		Theory			
Evaluations		CA 15%	MTE 10%	ETE 75%	
Text Book/s		• Bird, A. (2006). Philosophy of Science. Routledge			

Other References	• Indian National Science Academy (INSA), Ethics in Science Education, Research & Governance (2019)

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	3	2	2	2	3	3	1	3	3
CO2	3	2	1	3	3	3	3	3	3	3
CO3	3	3	3	3	3	2	3	3	2	3
CO4	2	3	2	2	2	3	3	2	3	2
CO5	2	2	3	3	3	2	3	1	3	2
CO6	2	3	3	3	3	3	3	3	3	3
Average	2.5	2.6	2.3	2.6	2.6	2.6	3	2.1	2.8	2.6

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**		
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2027-28**		
Branch: Mass Communication		**Semester: 8**		
1	**Course Code**	**BCJ420**		
2	**Course Title**	**Research Writing Techniques**		
3	**Credits**	**1**		
4	**Contact Hours (L-T-P)**	**0-0-2**		
5	**Course Type**	**Compulsory**		
6	**Course Objective**	Students to Become familiar with the process of organizing and drafting a report that poses a significant problem and offers a convincing solution; learn how to identify, track down, and use a wide variety of sources in the service of responsible research and scholarship; produce a paper using APA documentation and manuscript form polished enough to be publishable and to become familiar with other formal (APA, Chicago style) documentation and manuscript styles; examine some of the best past and current writing by scholars; review the mechanics of writing and hone editorial and proof-reading skills; develop evaluative strategies and vocabulary to best serve other writers in a workshop setting		
7	**Course Outcomes**	**After completing the course, the student will be able to:**		
		CO1	Define the craft of drafting a proper research report	
		CO2	Explain the technicalities of academic writing	
		CO3	Apply and define appropriate research problem and parameters Outline a research report	
		CO4	Analyse, organize and conduct research in a more appropriate manner	
		CO5	Evaluate, interpret and explain information sources	
		CO6	Develop a project proposal /Thesis	
8	**Course Description**	This course is designed to familiarize students with the basic methods and techniques of research writing. The course will focus on such issues as developing a thesis statement, writing a prospectus, finding source material (books, articles, internet resources, etc.), generating an argument, writing and revising a rough draft, and APA documentation of sources		
9	**Outline Syllabus**			**CO Mapping**
Unit 1		**Research Writing Skills - I**		
1		Planning and Preparation		CO1
2		Language of Research		CO1
3		Drafting, Proof-reading, Editing and Evaluation of Research papers		CO1
Unit 2		**Analyzing Research Papers**		
1		The rhetorical patterning of a passage;		CO2
2		The introductory and closing paragraphs of samples of research papers		CO2
3		Linguistic aspects of sample research papers		CO2
Unit 3		**Report Writing - I**		
1		Meaning and Objective of Research Report, Report the findings, Chapterisation,		CO3
2		Types of Research Report,		CO3
3		Quotation, Footnotes, Endnotes, Referencing Style: APA, MLA Chicago, Harvard		CO3

Unit 4	**Report Writing - II**		
1	Research Database		CO4
2	Writing abstract, Introduction, literature review		CO4
3	Writing conclusion & Results		CO4
Unit 5	**Report Writing - III**		
1	Skills of writing the Results		CO5
2	Discussion and skills are needed when writing the Conclusions		CO6
3	Plagiarism, similarity checker, Turnitin		CO5
Mode of examination	Jury		
Evaluations	CA 25%	CE(Viva) 25%	ETE 50%
Text Book/s	• Abdul Rahim, F. Thesis Writing: A Manual for Researchers. New Delhi: New Age International, 2005		
Other References	• Adam Sirjohn. Research Methodology: Methods & Techniques. Delhi: New Age International Ltd, 2004. • Barker, Nancy and Nancy Hulig. A Research Guide for Under Graduate Students: English and American Literature. New York : MLA of America, 2000		

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	1	3	2	3	3	3	3	2	3
CO2	3	3	3	3	2	2	3	3	3	3
CO3	3	2	2	3	3	3	3	2	3	2
CO4	3	2	1	2	2	3	3	3	2	2
CO5	3	1	3	3	3	3	3	2	3	3
CO6	3	3	3	3	3	2	3	2	3	3
Average	***3***	***2***	***2.5***	***2.6***	***2.6***	***2.***	***3***	***2.5***	***2.6***	***2.6***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2027-28**			
Branch: Mass Communication		**Semester: 8**			
1	**Course Code**	**OPE**			
2	**Course Title**	**Digital Media Marketing**			
3	**Credits**	**4**			
4	**Contact Hours (L-T-P)**	**0-3-2**			
5	**Course Type**	**Compulsory**			
6	**Course Objective**	The main objective of the course is to impart skills of creating digital marketing content. This course will help the students to use digital media to amplify messages. The students will be able to make content discoverable in search, run ad campaigns and advertise it on various social media handles.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Explain basics of digital media marketing		
		CO2	Develop a perspective to use content strategy in digital media marketing		
		CO3	Evaluate the social media presence and its importance in digital media marketing		
		CO4	Outline the social media advertising in digital media marketing		
		CO5	Explain the concepts of SEO & SEM		
		CO6	Create contents and creatives for digital media marketing		
8	**Course Description**	The course is designed with the aim to impart the knowledge, skill and competency of digital media marketing among the students. The course will help the students to understand and apply the concepts, tools of digital media marketing.			
9	**Outline Syllabus**				**CO Mapping**
Unit 1		**Marketing Fundamentals**			
1		Introduction to Digital Marketing and Digital Marketing Framework			CO1
2		Identifying Customers (Who & where)			CO1
3		Marketing Channels and Marketing Objectives			CO1
Unit 2		**Content Strategy**			
1		Plan and create marketing content			CO2
2		Distribute and Promote content			CO2
3		Optimize websites & Landing Pages			CO2
Unit 3		**Social Media Presence**			
1		Social Media Landscape			CO3
2		Social Media Channels& content			CO3
3		Implement and monitoring campaigns			CO3
Unit 4		**Social Media Advertising**			
1		Introduction to social media advertising			CO4
2		Platforms for Social Ads			CO4
3		Hand-on exercise			CO6
Unit 5		**SEO & SEM**			
1		Search Engine Optimization (SEO)			CO5
2		Search Engine Marketing with AdWords (SEM)			CO5
3		Hand-on Exercise			CO6
Mode of examination		Jury/Practical			
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	
Text Book/s		• B2B Digital Marketing Strategy: How to Use New Frameworks and Models to Achieve Growth by Simon Hall			
Other References		• Digital + Marketing & Vice Versa: Featuring Digital Strategies like the I-Journey, the I-Relevant content, the Spiral Strategy and much more by Juan			

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	3	3	3	3	3	3	3	2	3
CO2	2	3	2	2	3	3	3	3	1	2
CO3	3	2	3	3	2	3	2	2	3	3
CO4	3	3	3	2	3	3	3	3	2	2
CO5	3	2	2	2	2	2	3	2	3	3
CO6	3	2	3	3	3	3	3	2	3	3
Average	***2.8***	***2.5***	***2.6***	***2.5***	***2.6***	***2.8***	***2.8***	***2.5***	***2.3***	***2.6***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**

School: SSMFE		**Batch 2024-28**			
Program: B.Sc. (Animation ,VFX and Gaming Design)		**Current Academic Year: 2027-28**			
Branch: Mass Communication		**Semester: 8**			
1	**Course Code**	**BCJ421**			
2	**Course Title**	**Media & Communication Dissertation - Project**			
3	**Credits**	**9**			
4	**Contact Hours (L-T-P)**	**0-3-12**			
5	**Course Type**	**Compulsory**			
6	**Course Objective**	The objective of this course is to: Strengthen the academic research ability of the students. Evolve the inquisitiveness of the students towards society and various factors affecting media and society at a large. Enhance the problem solving skills of the students.			
7	**Course Outcomes**	**After completing the course, the student will be able to:**			
		CO1	Relate the theoretical knowledge of research		
		CO2	Demonstrate their problem-solving skills through research on the topics related to media and communication which directly impacts the society		
		CO3	Identify research problem and specific research objectives		
		CO4	Outline the research process		
		CO5	Develop report on the research problem and the proposed solution		
		CO6	Present their research work with proper ethics of research		
8	**Course Description**	The course is designed to inculcate the research value and skills among the students.			
9	**Outline Syllabus**				**CO Mapping**
Unit 1-5		Complete the master's thesis/dissertation under the supervision of the assigned faculty in given time			**CO1, CO2, CO3, CO4, CO5, CO6**
Guidelines for the students		• Each student is required to write a dissertation on any topic related to communication and will have to seek approval of the faculty supervisor for her/his dissertation. • The final dissertation report duly signed by the supervisor and head of the center has to be submitted to the center before the summative examination of the last semester. • Students will apply similarity checker before submitting final copy of dissertation and submit self-declaration that similarity in dissertation content, excluding review of literature, is not more than 15 percent.			
Mode of examination		Jury			
Evaluations		CA 25%	CE(Viva) 25%	ETE 50%	

Course Articulation Matrix

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	3	3	3	3	3	3	3	2	3
CO2	2	3	2	2	3	3	3	3	1	2
CO3	3	2	3	3	2	3	2	2	3	3
CO4	3	3	3	2	3	3	3	3	2	2
CO5	3	2	2	2	2	2	3	2	3	3
CO6	3	2	3	3	3	3	3	2	3	3
Average	***2.8***	***2.5***	***2.6***	***2.5***	***2.6***	***2.8***	***2.8***	***2.5***	***2.3***	***2.6***

1- Slight (Low) **2- Moderate (Medium)** **3- Substantial (High)**