SCHEME & SYLLABUS
B.Sc. Animation & Multimedia

(Choice Based Credit System)

Department of Animation & Multimedia
UICAIS
Sant Baba Bhag Singh University
2021

ABOUT THE DEPARTMENT

The Department of Computer Science and Applications strives for excellence in creating, applying and imparting knowledge in computer science through comprehensive educational programs, research & dissemination through scholarly publications and service to professional societies, the community, the state and the nation. The department imparts quality education ranging from the expertise in traditional software development to the modern computing technologies.

SALIENT FEATURES OF THE DEPARTMENT

- Research oriented curriculum designed to enable students to acquire all the skills needed to collect and analyze the data.
- The Institute drawing upon its strength of highly qualified well-trained faculty, state of art infrastructure and innovative teaching methodology.
- Elective courses that brides the gap between industry requirements and academia.
- Hands on experience in most of the courses of computer applications so as to impart practical knowledge in the relevant field.
- To keep the students at par with the emerging technologies prevailing in the market, the institute is furnished with various specialized research labs and software labs.

B.Sc. AM (Animation & Multimedia)

the course curriculum emphasizes on the use of specialized software applications such Corel Draw, Adobe, Photoshop, 3-D Max, Autodesk Maya, Sound Forge, Z Brush and Auto-CAD. Animation and multimedia offer diverse career options ranging from software designing to advertising. The work involved requires both knowledge and creativity, making it one of the most sought-after careers in the rapidly progressing global entertainment spectrum.

VISION

Our Mission is to educate and thus create free thinking individuals who would bring about positive changes within society through their creative endeavor's.

MISSION

The discipline would strive to impart quality education in the field of multimedia and animation and training for the betterment of indigenous design thought and praxis.

ELIGIBILITY CRITERIA

10+2 or its equivalent examination in any stream conducted by a recognized Board/ University/Council

DURATION

3 Years

B.Sc. AM (Lateral Entry)

It is an Under Graduate (UG) Programme of 2 years duration (4 semesters)

ELIGIBILITY CRITERIA

Pass with 50% aggregate marks in Diploma (Engg.) (any stream) (3 years after 10th) OR Diploma in Computer Applications/ Information Technology (2 years/ 1 year after 10+2) or equivalent from a recognized University with Mathematics as course at 10+2 or DIT / DCA level

DURATION

2 Years

CAREER PATHWAYS

A student pursuing a diploma course in animation and gaming can pursue job roles such as Graphic Designer, Web Designer, 2D/3D Animator, 2D/3D Designer, AV Editor, Technical Trainer, 3D Modeler, Multimedia Programmers, Compositors, Visualizers, Content Developers and Pre and Post Production executives in leading animation studios and entertainment companies.

Government Jobs

Prepare students for various government jobs such as banking sector, civil services etc. Many government information technology companies and government like BHEL, NSDL, MTNL and BSNL are hiring BCA graduates.

- **Corporate Jobs**

  Multiple pathways designed according to the level of the students to prepare them for different job profiles as per needs of industrial sector.

- **Higher Studies**

  This pathway prepares students for Higher Studies and helps in their research also.

- **Entrepreneurship**

  To set up new ventures

PROGRAMME EDUCATIONAL OBJECTIVE (PEO)

PEO1: To provide the necessary skills and knowledge to the students so that they can achieve success in the rapidly growing world.

PEO2: By using technical methods, students are able to solve the real time computerized problems by analyzing, designing, implementing and evaluating the problems.

PEO3: To polish their skills and knowledge this helps them to build their career in IT world.

PEO4: To illustrate that the communication skills and critical thinking are necessary.

PROGRAMME OUTCOMES (PO)

PO1: Employability: Students will able to get employed in public and private sector. Moreover, they will be able to set up their own business.

PO2: Modern Tool Usage: Students will able to cope up with new tools and techniques under which they use appropriate techniques to understand the complex engineering activities with their limitations.

PO3: Environment and Sustainability: To find the solution of problems in such a way that professional engineering solutions do not affect our environment and will able to meet the needs of future generations.

PO4: Design and Development of Solutions: To layout the solutions for various IT problems and develop a new system that helps in achieving a specific requirement.

PROGRAMME SPECIFIC OUTCOMES (PSO)

PSO1: To cover the vast area of computer application with experience that help in building their successful career. Moreover, it also helps in their higher education and setting up their own business.

PSO2: Students will able to choose the data model with appropriate architecture and implement a system with high efficiency

PSO3: Prepare user familiar solutions for the society which is based on machine learning.

PSO4: Make it possible to find the solutions for complicating hardware and software problems.

ABOUT THE CHOICE BASED CREDIT SYSTEM (CBCS)

The CBCS provides an opportunity for the students to choose courses from the prescribed courses comprising core, elective/minor or skill-based courses. The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. The basic idea is to look into the needs of the students so as to keep up-to-date with development of higher education in India and abroad. CBCS aims to redefine the curriculum keeping pace with the liberalization and globalization in education. CBCS allows students an easy mode of mobility to various educational institutions spread across the world along with the facility of transfer of credits earned by students.

Curriculum Structure: B.Sc. AM degree programme will have a curriculum with Syllabi consisting of following type of courses:

1. **Core Course (CC)**: A course which should compulsorily be studied by a candidate as a core requirement is termed as a core course.
2. **Elective Course (EC)**: Generally, a course which can be chosen from a pool of course and which may be very specific or specialized or advanced or supportive to the discipline/subject of study or which provides an external scope or which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill is called an Elective course.

2.1 Discipline Specific Elective (DSE) Course: Elective courses may be offered by the main discipline/subject of study is referred to as Discipline specific Elective. The University/Institute may also offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).

2.2 Dissertation Project: An Elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher/faculty member is called dissertation/project. Two different projects in under graduate course.

- Minor Major (MI)
- Major Project (MJ)

2.3 Generic Elective (GE course): An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a Generic Elective.

2.4 Skill Enhancement Course (SEC): Value Based and Practical Oriented Courses (skill Enhancement Course).

2.5 Interdisciplinary Courses (ID): These courses answer the questions, solve the problems or address the problem related to the topic. Courses on Humanities, Basic Sciences, Value Education, Environmental Science and Professional Development.

3. **Ability Enhancement Course (AEC)/Competency Improvement Courses/Skill Development Curse/Foundation Course**: The Ability Enhancement (AE) courses may be of two kinds: -AE Compulsory course (AECC) and AE Elective courses (AEEC).

- AECC course like English/MIL communication/Environmental science.
- AEEC course like value based and skill-based course. These courses may be chosen from a pool of courses designed to provide University/Institute.

4. **Project work/Dissertation:** Project work is considered as a special course involving application of knowledge in solving/analyzing/exploring a real-life situation/difficult problem. A project/Dissertation work would be 6 credits. A Project /Dissertation work may be given in lieu of a discipline specific elective paper.

Details of course Under Undergraduate Programe (UGC)

	Theory+ Practical	Theory+Tutorials
I. Core Course	12X4= 48	12X5=60
(12 Papers)		
04 Courses from each of the		
03 disciplines of choice		
Core Course Practical / Tutorial*	12X2=24	12X1=12
(12 Practical/ Tutorials*)		
04 Courses from each of the		
03 Disciplines of choice		
II. Elective Course	6x4=24	6X5=30
(6 Papers)		
Two papers from each discipline of choice		
including paper of interdisciplinary nature.		
Elective Course Practical / Tutorials*	6 X 2=12	6X1=6
(6 Practical / Tutorials*)		
Two Papers from each discipline of choice		
including paper of interdisciplinary nature		
III. Ability Enhancement Courses		
1. Ability Enhancement Compulsory	2 X 2=4	2X2=4
(2 Papers of 2 credits each)		
Environmental Science		
English/MIL Communication		
2. Ability Enhancement Elective	4 X 2=8	4 X 2=8
(Skill Based)		
(4 Papers of 2 credits each)		
	Total credit= 120	**Total credit= 120**

- **Optional Dissertation or project work in place of one Discipline elective paper (6 credits) in 6th Semester**

Institute should evolve a system/policy about ECA/ General Interest/Hobby/Sports/NCC/NSS/related courses on its own.

***wherever there is practical there will be no tutorials and vice -versa**

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(Unique Program Code-UG002)

23	CC	AM205	3D Architectural Visualization Lab	3	40
24	CC	AM207	3D Texturing & Shading Lab	3	41
25	CC	AM209	3D Lighting Lab	3	42
26	CC	AM211	Cinematography Lab	3	43
27	CC	AM213	Video Editing Lab	3	44
28	CC	AM202	Essentials of Execution & Post-Production	4	46
29	CC	AM204	History of Motion Picture Industry	4	47-48
30	CC	AM206	History of Visual Effects	4	49-50
31	CC	AM208	Introduction to Web Development	4	51-52
32	CC	AM212	3D Rigging Lab	4	53
33	CC	AM210	3D Animation Lab	4	54
34	CC	AM214	Architecture Pre-Viz Lighting & Rendering Lab	4	55
35	CC	AM216	Motion Graphic Lab	4	56
36	CC	AM218	3D Dynamics Lab	4	57
37	CC	AM301	Fundamentals of aesthetics	5	59
38	CC	AM303	Media Theory	5	60
39	ID	EVS001*	Environmental Science	5	61-62
40	SEC-1	AM305	Hard Surface Modeling Lab	5	64
41	SEC-1	AM307	Texturing & Shading for Production Lab	5	65
42	SEC-1	AM309	Architecture Pre-Viz - Advanced Modeling & Texturing Lab	5	66
43	SEC-1	AM311	Digital Sculpting Lab	5	67
44	SEC-2	AM315	Tracking and Match Moving Lab	5	69
45	SEC-2	AM317	Compositing for VFX Lab	5	70
46	SEC-2	AM319	Chroma Lab	5	71
47	SEC-2	AM321	Lighting & Rendering for VFX Lab	5	72
48	SEC-3	AM325	Body Mechanics Lab	5	74
49	SEC-3	AM327	Rigging for Production Lab	5	75

50	SEC-3	AM329	Acting for Animation Lab	5	76
51	SEC-3	AM331	Pre-Visualization Lab	5	77
52	P	AM333	Minor Project	5	78
53	CC	AM302	Publicity Designing & Media Laws	6	80
54	CC	AM304	Special Effects in Feature Films	6	81-82
55	P	AM306	Major Project	6	83
56	SEC-1	AM308	Character Modeling & Sculpting Lab	6	85
57	SEC-1	AM310	Lighting & Rendering for Production Lab	6	86
58	SEC-1	AM312	Architecture Pre-Viz - Advanced Lighting and Rendering Lab	6	87
59	SEC-2	AM314	Art of Compositing Lab	6	89
60	SEC-2	AM316	Fluid Fx Simulation Lab	6	90
61	SEC-2	AM318	Dynamics for Effect Animation Lab	6	91
62	SEC-3	AM320	Lip Sync and Facial Animation Lab	6	93
63	SEC-3	AM322	Muscle System Lab	6	94
64	SEC-3	AM324	Prop Animation Lab	6	95
65	I	AM326	Six Week Industrial/Institutional Training	NA	NA

COURSE CLASSIFICATION					
1. **Ability Enhancement Compulsory Course, and ID Courses**		**L**	**T**	**P**	**Credits**
1.	Communication Skills I	2	0	0	2
2.	Introduction to Information Theory and Applications	4	1	0	5
3.	Communication Skills II	2	0	0	2
4.	Human values and Professional Skills	3	0	0	3
5.	Gender Equity	3	0	0	3
6.	Environmental Science	3	0	0	3
Total Credits					**18**
2. Professional Core Courses (Theory)		**L**	**T**	**P**	**Credits**
1.	Principle of Animation	4	0	0	4
2.	Color Theory and Image Graphics	4	0	0	4
3.	Graphic Tools	3	0	0	3
4.	Fundamentals of Pre-Production	4	0	0	4
5.	Design and Communication Process	3	0	0	3
6.	Essentials of Execution & Post-Production	4	0	0	4
7.	History of Motion Picture Industry	3	0	0	3
8.	History of Visual Effects	3	0	0	3
9.	Introduction to Web Development	3	0	0	3
10.	Fundamentals of aesthetics	4	0	0	4
11.	Media Theory	4	0	0	4
12.	Publicity Designing & Media Laws	4	0	0	4
13.	Special Effects in Feature Films	4	0	0	4
Total Credits					**47**
3. Professional Core Courses (Practical)		**L**	**T**	**P**	**Credits**
1.	Introduction to Information Theory and Applications (Lab)	0	0	4	2
2.	Communication Skills -I (Practical)	0	0	2	1
3.	Story Design & Development Lab	0	0	4	2
4.	Creative Compositing & FX Lab	0	0	4	2
5.	Digital Photography Lab	0	0	4	2
6.	Experimental Animation Lab	0	0	4	2
7.	Communication Skills II(Practical)	0	0	2	1
8.	Art of Visualization Lab	0	0	4	2
9.	Vector Graphics for Production Lab	0	0	4	2
10.	Print Media Lab	0	0	4	2
11.	2D Animation Lab	0	0	4	2
12.	3D Modeling Lab	0	0	4	2
13.	3D Architectural Visualization Lab	0	0	4	2
14.	3D Texturing & Shading Lab	0	0	4	2
15.	3D Lighting Lab	0	0	4	2
16.	Cinematography Lab	0	0	4	2

17.	Video Editing Lab	0	0	4	2
18.	3D Rigging Lab	0	0	4	2
19.	3D Animation Lab	0	0	4	2
20.	Architecture Pre-Viz Lighting & Rendering Lab	0	0	4	2
21.	Motion Graphic Lab	0	0	4	2
22.	3D Dynamics Lab	0	0	4	2
23.	Minor Project	0	0	6	3
24.	Major Project	0	0	10	5
Total Credits					**50**
4. Skill Enhancement Subjects		**L**	**T**	**P**	**Credits**
1.	SPECIALIZATION - CG ASSEST DEVELOPMENT	0	0	28	14
2.	SPECIALIZATION - VISUAL EFFECTS	0	0	28	14
3.	SPECIALIZATION – Animation	0	0	28	14
Total Credits					**14**

Total Credit to award the degree-129

Table 1: SPECIALIZATION

Sr. No.	Course Type	Course Title	Remark
1.	CC	SPECIALIZATION - CG ASSEST DEVELOPMENT	Student can choose one subject out of these three Specialization subjects in 5th Semester.
2.	CC	SPECIALIZATION - VISUAL EFFECTS	
3.	CC	SPECIALIZATION - Animation	

COURSE SCHEME (B.Sc. (Animation& Multimedia))
Semester 1

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	AECC	ENG121*	Communication Skills I	2:0:0	2:0:0	2	2
2	AECC	CSA131*	Introduction to Information Theory and Applications	4:1:0	4:1:0	5	5
3	CC	AM101	Principle of Animation	4:0:0	4:0:0	4	4
4	PT	PT10-1/PT103/PT105	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	AECC	CSA135*	Introduction to Information Theory and Applications (Lab)	0:0:4	0:0:2	4	2
2	AECC	ENG123*	Communication Skills -I (Practical)	0:0:2	0:0:1	2	1
3	CC	AM103	Story Design & Development Lab	0:0:4	0:0:2	4	2
4	CC	AM105	Creative Compositing & FX Lab	0:0:4	0:0:2	4	2
5	CC	AM107	Digital Photography Lab	0:0:4	0:0:2	4	2
6	CC	AM109	Experimental Animation Lab	0:0:4	0:0:2	4	2

* Subjects taken from B.Sc(IT) Semester 1st.

Total Credits: 22

Total Contact Hours: 35

Semester 2

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	AECC	ENG114*	Communication Skills II	2:0:0	2:0:0	2	2
2	CC	AM102	Color Theory and Image Graphics	4:0:0	4:0:0	4	4
3	CC	AM104	Graphic Tools	3:0:0	3:0:0	3	3
4	PT	PT102/ PT104/ PT106	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	AECC	ENG116*	Communication Skills II(Practical)	0:0:2	0:0:1	2	1
2	CC	AM106	Vector Graphics for Production Lab	0:0:4	0:0:2	4	2
3	CC	AM108	Art of Visualization Lab	0:0:4	0:0:2	4	2
4	CC	AM110	Print Media Lab	0:0:4	0:0:2	4	2
5	CC	AM112	2D Animation Lab	0:0:4	0:0:2	4	2
6	CC	AM114	3D Modeling Lab	0:0:4	0:0:2	4	2

* Subjects taken from B.Sc(IT) Semester 2nd .

Total Credits: 20

Total Contact Hours: 34

Semester 3

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM201	Fundamentals of Pre-Production	4:0:0	4:0:0	4	4
2	CC	AM203	Design and Communication Process	3:0:0	3:0:0	3	3
3	ID	SSC005*	Human values and Professional Skills	3:0:0	3:0:0	3	3
4	ID	SSC001*	Gender Equity	3:0:0	3:0:0	3	3
5	PT	PT201/ PT203/ PT205	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM205	3D Architectural Visualization Lab	0:0:4	0:0:2	4	2
2	CC	AM207	3D Texturing & Shading Lab	0:0:4	0:0:2	4	2
3	CC	AM209	3D Lighting Lab	0:0:4	0:0:2	4	2
4	CC	AM211	Cinematography Lab	0:0:4	0:0:2	4	2
5	CC	AM213	Video Editing Lab	0:0:4	0:0:2	4	2

Total Credits: 23
Total Contact Hours: 35

Semester 4

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM202	Essentials of Execution & Post-Production	4:0:0	4:0:0	4	4
2	CC	AM204	History of Motion Picture Industry	3:0:0	3:0:0	3	3
3	CC	AM206	History of Visual Effects	3:0:0	3:0:0	3	3
4	CC	AM208	Introduction to Web Development	3:0:0	3:0:0	3	3
5	PT	PT201/ PT203/ PT205	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM210	3D Rigging Lab	0:0:4	0:0:2	4	2
2	CC	AM212	3D Animation Lab	0:0:4	0:0:2	4	2
3	CC	AM214	Architecture Pre-Viz Lighting & Rendering Lab	0:0:4	0:0:2	4	2
4	CC	AM216	Motion Graphic Lab	0:0:4	0:0:2	4	2
5	CC	AM218	3D Dynamics Lab	0:0:4	0:0:2	4	2

Total Credits: 23
Total Contact Hours: 35

Semester 5

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM301	Fundamentals of aesthetics	4:0:0	4:0:0	4	4
2	CC	AM303	Media Theory	4:0:0	4:0:0	4	4
3	ID	EVS001*	Environmental Science	3:0:0	3:0:0	3	3
4	PT	PT201/ PT203/ PT205	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-1	AM****	SPECIALIZATION - CG ASSEST DEVELOPMENT	0:0:4	0:0:2	16	8
2	SEC-2	AM****	SPECIALIZATION - VISUAL EFFECTS	0:0:4	0:0:2	16	8
3	SEC-3	AM****	SPECIALIZATION - Animation	0:0:4	0:0:2	16	8
4	P	AM333	Minor Project	0:0:6	0:0:3	6	3

Total Credits: 22

Total Contact Hours: 35

SPECIALIZATION - CG ASSEST DEVELOPMENT

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-1	AM305	Hard Surface Modeling Lab	0:0:4	0:0:2	4	2
2	SEC-1	AM307	Texturing & Shading for Production Lab	0:0:4	0:0:2	4	2
3	SEC-1	AM309	Architecture Pre-Viz - Advanced Modeling & Texturing Lab	0:0:4	0:0:2	4	2
4	SEC-1	AM311	Digital Sculpting Lab	0:0:4	0:0:2	4	2

SPECIALIZATION - VISUAL EFFECTS

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-2	AM315	Tracking and Match Moving	0:0:4	0:0:2	4	2
2	SEC-2	AM317	Compositing for VFX	0:0:4	0:0:2	4	2
3	SEC-2	AM319	Chroma Lab	0:0:4	0:0:2	4	2
4	SEC-2	AM321	Lighting & Rendering for VFX	0:0:4	0:0:2	4	2

SPECIALIZATION - Animation

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-3	AM325	Body Mechanics Lab	0:0:4	0:0:2	4	2
2	SEC-3	AM327	Rigging for Production Lab	0:0:4	0:0:2	4	2
3	SEC-3	AM329	Acting for Animation Lab	0:0:4	0:0:2	4	2
4	SEC-3	AM331	Pre-Visualization Lab	0:0:4	0:0:2	4	2

Semester 6

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM302	Publicity Designing & Media Laws	4:0:0	4:0:0	4	4
2	CC	AM304	Special Effects in Feature Films	4:0:0	4:0:0	4	4
3	PT	PT201/ PT203/ PT205	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	P	AM306	Major Project	0:0:10	0:0:5	10	5
2	SEC-1	AM****	SPECIALIZATION - CG ASSEST DEVELOPMENT	0:0:4	0:0:2	12	6
3	SEC-2	AM****	SPECIALIZATION - VISUAL EFFECTS	0:0:4	0:0:2	12	6
4	SEC-3	AM****	SPECIALIZATION - Animation	0:0:4	0:0:2	12	6
5	I	AM326	Six Week Industrial/Institutional Training	NA	NA	NA	NA

Total Credits: 19

Total Contact Hours: 32

SPECIALIZATION - CG ASSEST DEVELOPMENT

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-1	AM308	Character Modeling & Sculpting Lab	0:0:4	0:0:2	4	2
2	SEC-1	AM310	Lighting & Rendering for Production Lab	0:0:4	0:0:2	4	2
3	SEC-1	AM312	Architecture Pre-Viz - Advanced Lighting & Rendering Lab	0:0:4	0:0:2	4	2

SPECIALIZATION - VISUAL EFFECTS

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-2	AM314	Art of Compositing Lab	0:0:4	0:0:2	4	2
2	SEC-2	AM316	Fluid Fx Simulation Lab	0:0:4	0:0:2	4	2
3	SEC-2	AM318	Dynamics for Effect Animation Lab	0:0:4	0:0:2	4	2

SPECIALIZATION - Animation

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-3	AM320	Lip Sync and Facial Animation Lab	0:0:4	0:0:2	4	2
2	SEC-3	AM322	Muscle System Lab	0:0:4	0:0:2	4	2
3	SEC-3	AM324	Prop Animation Lab	0:0:4	0:0:2	4	2

COURSE SCHEME (B.Sc. (Animation& Multimedia))
Semester 1

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	AECC	ENG121*	Communication Skills I	2:0:0	2:0:0	2	2
2	AECC	CSA131*	Introduction to Information Theory and Applications	4:1:0	4:1:0	5	5
3	CC	AM101	Principle of Animation	4:0:0	4:0:0	4	4
4	PT	PT10-1/PT103/PT105	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	AECC	CSA135*	Introduction to Information Theory and Applications (Lab)	0:0:4	0:0:2	4	2
2	AECC	ENG123*	Communication Skills -I (Practical)	0:0:2	0:0:1	2	1
3	CC	AM103	Story Design & Development Lab	0:0:4	0:0:2	4	2
4	CC	AM105	Creative Compositing & FX Lab	0:0:4	0:0:2	4	2
5	CC	AM107	Digital Photography Lab	0:0:4	0:0:2	4	2
6	CC	AM109	Experimental Animation Lab	0:0:4	0:0:2	4	2

* Subjects taken from B.Sc(IT) Semester 1st.

Total Credits: 22

Total Contact Hours: 35

Semester 2

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	AECC	ENG114*	Communication Skills II	2:0:0	2:0:0	2	2
2	CC	AM102	Color Theory and Image Graphics	4:0:0	4:0:0	4	4
3	CC	AM104	Graphic Tools	3:0:0	3:0:0	3	3
4	PT	PT102/ PT104/ PT106	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	AECC	ENG116*	Communication Skills II(Practical)	0:0:2	0:0:1	2	1
2	CC	AM106	Vector Graphics for Production Lab	0:0:4	0:0:2	4	2
3	CC	AM108	Art of Visualization Lab	0:0:4	0:0:2	4	2
4	CC	AM110	Print Media Lab	0:0:4	0:0:2	4	2
5	CC	AM112	2D Animation Lab	0:0:4	0:0:2	4	2
6	CC	AM114	3D Modeling Lab	0:0:4	0:0:2	4	2

* Subjects taken from B.Sc(IT) Semester 2nd .

Total Credits: 20

Total Contact Hours: 34

Semester 3

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM201	Fundamentals of Pre-Production	4:0:0	4:0:0	4	4
2	CC	AM203	Design and Communication Process	3:0:0	3:0:0	3	3
3	ID	SSC005*	Human values and Professional Skills	3:0:0	3:0:0	3	3
4	ID	SSC001*	Gender Equity	3:0:0	3:0:0	3	3
5	PT	PT201/ PT203/ PT205	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM205	3D Architectural Visualization Lab	0:0:4	0:0:2	4	2
2	CC	AM207	3D Texturing & Shading Lab	0:0:4	0:0:2	4	2
3	CC	AM209	3D Lighting Lab	0:0:4	0:0:2	4	2
4	CC	AM211	Cinematography Lab	0:0:4	0:0:2	4	2
5	CC	AM213	Video Editing Lab	0:0:4	0:0:2	4	2

Total Credits: 23

Total Contact Hours: 35

Semester 4

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM202	Essentials of Execution & Post-Production	4:0:0	4:0:0	4	4
2	CC	AM204	History of Motion Picture Industry	3:0:0	3:0:0	3	3
3	CC	AM206	History of Visual Effects	3:0:0	3:0:0	3	3
4	CC	AM208	Introduction to Web Development	3:0:0	3:0:0	3	3
5	PT	PT201/ PT203/ PT205	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM210	3D Rigging Lab	0:0:4	0:0:2	4	2
2	CC	AM212	3D Animation Lab	0:0:4	0:0:2	4	2
3	CC	AM214	Architecture Pre-Viz Lighting & Rendering Lab	0:0:4	0:0:2	4	2
4	CC	AM216	Motion Graphic Lab	0:0:4	0:0:2	4	2
5	CC	AM218	3D Dynamics Lab	0:0:4	0:0:2	4	2

Total Credits: 23
Total Contact Hours: 35

Semester 5

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM301	Fundamentals of aesthetics	4:0:0	4:0:0	4	4
2	CC	AM303	Media Theory	4:0:0	4:0:0	4	4
3	ID	EVS001*	Environmental Science	3:0:0	3:0:0	3	3
4	PT	PT201/ PT203/ PT205	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-1	AM****	SPECIALIZATION - CG ASSEST DEVELOPMENT	0:0:4	0:0:2	16	8
2	SEC-2	AM****	SPECIALIZATION - VISUAL EFFECTS	0:0:4	0:0:2	16	8
3	SEC-3	AM****	SPECIALIZATION - Animation	0:0:4	0:0:2	16	8
4	P	AM333	Minor Project	0:0:6	0:0:3	6	3

Total Credits: 22
Total Contact Hours: 35

SPECIALIZATION - CG ASSEST DEVELOPMENT

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-1	AM305	Hard Surface Modeling Lab	0:0:4	0:0:2	4	2
2	SEC-1	AM307	Texturing & Shading for Production Lab	0:0:4	0:0:2	4	2
3	SEC-1	AM309	Architecture Pre-Viz - Advanced Modeling & Texturing Lab	0:0:4	0:0:2	4	2
4	SEC-1	AM311	Digital Sculpting Lab	0:0:4	0:0:2	4	2

SPECIALIZATION - VISUAL EFFECTS

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-2	AM315	Tracking and Match Moving	0:0:4	0:0:2	4	2
2	SEC-2	AM317	Compositing for VFX	0:0:4	0:0:2	4	2
3	SEC-2	AM319	Chroma Lab	0:0:4	0:0:2	4	2
4	SEC-2	AM321	Lighting & Rendering for VFX	0:0:4	0:0:2	4	2

SPECIALIZATION - Animation

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-3	AM325	Body Mechanics Lab	0:0:4	0:0:2	4	2
2	SEC-3	AM327	Rigging for Production Lab	0:0:4	0:0:2	4	2
3	SEC-3	AM329	Acting for Animation Lab	0:0:4	0:0:2	4	2
4	SEC-3	AM331	Pre-Visualization Lab	0:0:4	0:0:2	4	2

Semester 6

I. Theory Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	CC	AM302	Publicity Designing & Media Laws	4:0:0	4:0:0	4	4
2	CC	AM304	Special Effects in Feature Films	4:0:0	4:0:0	4	4
3	PT	PT201/ PT203/ PT205	Physical Training (NSO/NCC/NSS)	0:0:2	NC	2	NC

II. Practical Subjects

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	P	AM306	Major Project	0:0:10	0:0:5	10	5
2	SEC-1	AM****	SPECIALIZATION - CG ASSEST DEVELOPMENT	0:0:4	0:0:2	12	6
3	SEC-2	AM****	SPECIALIZATION - VISUAL EFFECTS	0:0:4	0:0:2	12	6
4	SEC-3	AM****	SPECIALIZATION - Animation	0:0:4	0:0:2	12	6
5	I	AM326	Six Week Industrial/Institutional Training	NA	NA	NA	NA

Total Credits: 19
Total Contact Hours: 32

SPECIALIZATION - CG ASSEST DEVELOPMENT

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-1	AM308	Character Modeling & Sculpting Lab	0:0:4	0:0:2	4	2
2	SEC-1	AM310	Lighting & Rendering for Production Lab	0:0:4	0:0:2	4	2
3	SEC-1	AM312	Architecture Pre-Viz - Advanced Lighting & Rendering Lab	0:0:4	0:0:2	4	2

SPECIALIZATION - VISUAL EFFECTS

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-2	AM314	Art of Compositing Lab	0:0:4	0:0:2	4	2
2	SEC-2	AM316	Fluid Fx Simulation Lab	0:0:4	0:0:2	4	2
3	SEC-2	AM318	Dynamics for Effect Animation Lab	0:0:4	0:0:2	4	2

SPECIALIZATION - Animation

S No.	Course Type	Sub Code	Subject Name	Contact Hours (L:T:P)	Credits (L:T:P)	Total Contact Hours	Total Credit Hours
1	SEC-3	AM320	Lip Sync and Facial Animation Lab	0:0:4	0:0:2	4	2
2	SEC-3	AM322	Muscle System Lab	0:0:4	0:0:2	4	2
3	SEC-3	AM324	Prop Animation Lab	0:0:4	0:0:2	4	2

Summary of Scheme

Sem.	L	T	P	Project/ Training/ Seminar	Contact Hours week	Credits
1	10	1	24		35	22
2	9	0	24		33	20
3	13	0	22		35	23
4	13	0	22		35	23
5	11	0	24	Minor Project (1)	35	22
6	8	0	24	Six Week Industrial/Institutional Training (1) Major Project (10)	32	19
Total	64	1	140	12	205	129

First Semester

Course Code	**ENG121***
Course Title	**Communication Skills-I**
Type of Course	AECC
L T P	2:0:0
Credits	2
Course pre-requisite	NA
Course Objectives	The objective of this course is to develop comprehension, improve writing skills, and enhance skills in spoken English.
Course Outcomes (CO)	The student will able to: 1. Assist the students to acquire proficiency, both in spoken and written language 2. Develop comprehension, improve writing skills, and enhance skills in spoken English. 3. Get the skills about listening 4. Get the oral presentation skills

SYLLABUS

UNIT-I:

Basics of Communication Skills: Communication, Process of Communication, Types of Communication-Verbals and Nonverbal communication, Channels of Communication- Upward, Downward, Horizontal, Barriers to Communication, Role of Communication in society.

UNIT-II:

Listening Skills: Listening Process, Hearing and Listening, Types of Listening, Effective Listening, Barriers of Effective Listening, Note Taking

Reading Skills: Purpose of reading, Process of reading, reading skills Models and strategies, scanning, skimming, SQ3R, Approaches of Reading, Comprehension passages for practice.

UNIT III:

Writing Skills: Purpose of writing, Effective writing, Types of writing, Business Correspondence, Precise writing, Memo writing, minutes of meeting.

UNIT-IV:

Speaking Skills: Speech process, Skills of effective speaking, Role of audience, Feedback Skill, Oral Presentation.

RECOMMENDED BOOKS

Sr No	Author(s)	Title	Publisher
1.	Bhupender Kour	Effectual Communication Skills	S.K. Kataria and Sons
2.	R. Datta Roy and K.K. Dheer	Communications Skills	Vishal Publishing Company
3.	The Essence of Effective Communication	Ludlow and Panthon	Prentice Hall of India

Course Code	**CSA131***
Course Title	**Introduction to Information Theory and Applications**
Type of Course	AECC
L T P	4 1 0
Credits	5
Course Prerequisites	Basics of Computer
Course Objective	The objective of this course is to prepare students with the latest knowledge in Computer Hardware & Networking.
Course Outcome (CO)	The student will able to: 1. Learn Basic Computer Concepts 2. Become aware of some of the ways that information technology continues to change everything 3. Prepare students with the latest knowledge in Computer Hardware & Networking. 4. Prepare students with the latest. Software and relationship between Hardware and software

SYLLABUS

UNIT I:

Information - Definition, Characteristics & Interpretation, Data & it's logical & physical concepts, Windows OS and its installation, Control Panel

Computers: History of Computers and their classification, Block Diagram of Computer, Basic Organization, Memory: - Units of memory, bit, byte, word, Primary RAM, ROM, EPROM etc. Secondary: - Magnetic-Floppy and Hard disks. Optical: - CDROM, WORM etc. Concept of Virtual Memory and Cache Memory and their needs, Computer Operation, Instruction Cycle, Program flow of control with and without interrupts

Computer Arithmetic: - Number systems binary, Octal, Hexadecimal, Binary Addition, Subtraction and Multiplication, Floating point representation and arithmetic.

UNIT II:

Input/ Output Peripherals: Keyboard, Mouse, Joy stick, Digitizer, Light Pen, track Ball, Voice and Speech Recognition, Scanners, Vision Input Output Devices, Monitor, Printer, Plotter.

UNIT III:

Computer Software: Software, Relationship between Hardware and Software, Logical System Architecture showing relationship between hardware

Types of Software: System Software, Application Software, Firmware, Functions of System Software

Types of System Software: Operating Systems, Language Translators, Utility Programs, Communications Software.

UNIT IV:

Application Software: Word Processing, Spreadsheet, Database, Graphics Personal Assistance, Education, Entertainment Software.

Networks: Type of Networks (LAN, MAN, WAN, etc), Network configuration: Basic ISO - OSI, Protocols: - Protocol and its need, Internet -Introduction to Internet terminologies and concept of WWW, HTTP, e-mail, Search engine, Domain name etc.

RECOMMENDED BOOKS			
Sr. no.	**Name**	**AUTHOR(S)**	**PUBLISHER**
1.	Computer Organization & Architecture- Designing & Performance	William Stallings	Prientice Hall of India
2.	Computer Networks	Andrew S. Tanenbaum	Prientice Hall of India
3.	Information Technology the Breaking Wave	Denis P Curtin, Kim Foley, KunalSen, Cathleen Morin	TMG

Course Code	**AM101**
Course Title	**Principle of Animation**
Type of Course	**CC**
L T P	**4:0:0**
Credits	**4**
Course pre-requisite	Knowledge of Principle of Animation
Course Objective (CO)	The main objective of this subject is to s impart strong knowledge about the fundamental principles of animation in addition to an invaluable appreciation for observational techniques & the art of planning.
Course Outcomes (CO)	The student will able to: 1. Understand how to create realistic and impressive animation. 2. Produce an illusion of characters adhering to the basic laws of physics. 3. Get knowledge of Cel Animation Processes. 4. Understand the process of computer Animation in 2D and 3D.

SYLLABUS

UNIT-I

What is Animation: -Its definition, early examples of Animation.

History of Animation: - Stop Motion Photo Animation, Zoetrope, Thaumatrope, Cel and Paper Animation, early Disney's Cel Animation Processes.

Types of Animation: -Cel Animation, Stop Motion Animation, Computer Animation, 2-D Animation, 3-D Animation.

UNIT-II

Skills for an Animation Artist: -Visual and creative development of an Artist, importance of observation with minute details, efficiency to draw gestures, facial expressions, good listener, hard work and patience, creative and innovative.

UNIT III

Basic Principles of Animation: - Illusion of Life, straight action and pose to pose Timing, Exaggeration, Drama and Psychological Effect, Fade in and fade out, Squash and Strecth, Anticipation, staging, follow through and overlapping action, Arcs, Solid Drawing, Appeal, slow in and slow out, Secondry Action.

UNIT-IV

Various Terms: -Animation Drawings/Cels, Rough Drawings, Clean ups, Color reference drawings, Layout, Model Sheet, Key Drawings and in Betweens, Master Background, Concept Piece, Character drawing, Story Board.

RECOMMENDED BOOKS

Sr. No	Author(s)	Title	Publisher
1.	Chris Patmore	The complete animation course	Baron's Educational Series. (New York)

CSA135* Introduction to Information theory and applications Lab

L T P
0 0 4

Objectives: This subject will give students basic information about computers and students will able to work in Word, Power Point & Excel.

1. Installation of operating systems.
2. Working with control panel
3. Working with Word: Typing, Formatting, Border & Shading, Tables, Chart, Mail Merge etc.
4. Working with Power Point: Simple presentation, inserting image, charts, clip art, animation etc.
5. Working with Excel: Applying Formulas, Drawing Charts etc.

ENG123*Communication Skills-1 (Practical)

L T P
0 0 2

UNIT-I

Speaking and Discussion Skills:

Oral Presentation, Planning and organizing content for presentation, use of audio /Visual Aids, Making Slides for presentation, Group Discussion, Debate, Extempore speaking, Interview Skills, Mock interview, Mock Dialogues (Pair Speaking), Cue Card Speaking, Meeting/ Conferences.

UNIT-II

Listening Skills:

Listening to any recoded material and asking oral/written questions for listening comprehension.

Reading Skills:

Active Reading of passages for Reading comprehensions, paraphrase, Summary writing.

UNIT III

Writing Skills:

Guidelines of effective writing, Paragraph Writing, Email Writing.

UNIT-IV

Grammar and Vocabulary:

Parts Of Speech, Tenses, GRE words (List of 50 Words).

AM103 Story Design & Development Lab **L T P**
0 0 2

Objective:
This Course lay strong foundation to story visualization ability for Animation. Introduce methods and techniques of story writing and Visual narration of the story with thumbnails and images.

Story: Elements of story – Resources and ideas from life
Narrative modes
Aesthetics of narration
Narrative point of view.
Voices of the story
Character voice
Unreliable voice
Epistolary voice.
Structuring the story
Setting mood
Rising action
Falling Action
Dénouement
Resolution Story Genres;
Characters and the story - Developing Characters,
Story, Telling and its relevance in society-
character driven stories – Event driven stories.

AM105 Creative Compositing & FX Lab **L T P**

0 0 2

Objective:

The course aims to equip the students to enhance their knowledge in the field of compositing the course includes learn about compositing in after effects and learn about camera and effects used in compositing

- **Adobe After Effects:** Understanding User Interface, Understanding Project, Footage, Composition, Timeline. Animation: Basic Animation Advanced Animation, Temporal Interpolation, Spatial Interpolation and Motion Paths, Motion Sketch and Smoothing.
- **Layers & Compositing:** Layers & Composition: Layers, trimming layers, Blending Modes and Adjustment Layers, Pre-Composing, Frame Rate, Time Stretch and Time Remapping, Masking, Parenting
- **Text Animation:** Text & Transitions: Animator, Advanced Text Effect, Pick Whip Expressions, Wiggle Expressions, Transitions.2.5D: Understanding 3D Space, animating in 3D Space, Lights, Camera, Using Effects and Stack order, Using Brainstorm, The Puppet
- **Effects:** Effects and Rendering: Chroma & keying, Rotoscopy, Color Correction fundamentals, Blur and Sharpen Effects, Using Effects and Presets, Channels and other effects, Fundamental of Rendering, Output formats, Codec, Compression

Practical/Submission:

1. Video with FX

2. Typography

AM107 Digital Photography Lab **L T P**
0 0 2

Objective:
The course aims to equip the students with history of photography and camera. The course includes about working of DSLR camera, photography and Editing software such as Adobe Photoshop be used for Picture editing

- **Introduction to Photography**: Origin of Photography, History of Camera, and Early-stage challenges, Building blocks, Lenses and Cameras. Understanding Framing, Understanding Composition, and Understanding Rule of third. Understanding Nature, People, Product, Still Life, City & Architecture, Landscape, Experimental and HDR Photography.
- **Cameras, Lenses & its fundamentals:** Understanding different types of Cameras, Understanding DSLR Camera and its fundamentals and techniques, understanding different types of lenses and its uses, Zoom Lens, Prime Lens. HD Cameras.
- **Lighting:** Understanding Natural Light, Understanding Studio Light, working with various types of Lights
- **Photo Editing and Color Correction:** Techniques of Photo editing and color correction using Adobe Photoshop

Practical/Submission:

1. Portrait Photograph.

2. Nature photograph.

3. Extreme close short.

AM109 Experimental Animation Lab **L T P**
0 0 2

Objective: The course includes storyboarding concept and how to create a storyboard for a project, Students will able to create different types of traditional animation techniques like flipbook, stop motion, clay animation etc.

- **Storyboarding**: Rules of making storyboard, Techniques of Storyboard.
- **Animation:** Stop motion Animation, stop motion using (Video), Photograph, and Sketch, Objects, (Cut-out), Paper Animation: Animation using paper shapes, Flip Book: Rules of making flip book, Techniques of flip book.
- **Clay Modeling & Animation:** Designing Character, Props using box and oil-based clay, Animation using Clay Characters and props
- **Set designing**: An Introduction to Experimental work using different medium like Stone, Grass, Sand, Hardboard, Pen and ink, Water Colors, Poster Color, Dry brush etc.

Practical/Submissions

1. Flip Book
2. Cut out animation

Second Semester

Course Code	**ENG114***
Course Title	**Communication Skills-II**
Type of Course	AECC
L T P	2 0 0
Credits	2
Course Prerequisites	NA
Course objective	The main objective of this course is to provide students about the communication skills
Course Outcome (CO)	After completion of this course students will be able to: 1. Formulate an effective communication strategy for any message, in any medium, and in any situation. 2. Write clearly, concisely, and convincingly. 3. Develop skills of effective communication – both written and oral. 4. Acquaint with application of communication skills in outside world.

SYLLABUS

UNIT I:
Grammar: Parts of Speech, use of appropriate tense, Voice, Reported Speech, Sentence Structure; Simple, Compound, Complex, Vocabulary-One word substitution.

UNIT II:
Writing Skills: Application for employment, Resume Writing, Paragraph Writing Construction-Kinds of Paragraphs, Preparing of Matter for meeting: Notice, agenda, Conference

UNIT III:
Speaking Skills: Effective oral Presentation, Slide making, Use of audio-Visual aids

UNIT IV:
Oral Communication and its Application:
Group Discussion, Customer Care Relations (PR Skills), Interview Skills (Conducting and appearing for interviews) and Telephone handling manners.

RECOMMENDED BOOKS			
Sr. no.	**Name**	**AUTHOR(S)**	**PUBLISHER**
1.	Business Communication	K. K. Sinha Galgoti	Galgotia Publishing Company
2.	Media and Communication Management	C. S. Rayudu -	Himalaya Publishing House, Bombay.
3.	Essentials of Business Communication	Rajendra Pal and J. S. Korlhalli -	Sultan Chand & Sons, New Delhi

Course Code	**AM102**
Course Title	**Color Theory and Image Graphics**
Type of Course	**CC**
L T P	**4:0:0**
Credits	**4**
Course Prerequisites	Knowledge of Software
Course Objective	The main objective of this course is to provide students with an overall foundation of systems analysis and design to effectively and efficiently design and implement system.
Course Outcomes (CO)	The student will able to: 1. Analyze the system. 2. Design and implement effective and efficient system. 3. Learn Outdoor drawing 4. Understand print ads, layouts.

SYLLABUS

UNIT I:
Color Pallets: Mixing of Primary, Secondary and tertiary colors, tint, tones and Shades Color Wheel

UNIT II:
Color Scheme: Complementary, split complementary, analogues, warm and cool, working in series, Outdoor drawing

UNIT III:
Color in Practice: Color in advertising and graphic design Colors used logos, print ads, layouts.

UNIT IV:
RGB colors and CMYK colors: HUE, Intensity/Chrome/saturation, value, Spectrum Manipulating images by using contrast, Brightness Hue, saturation, channel mixer

RECOMMENDED BOOKS			
Sr. no.	**Name**	**AUTHOR(S)**	**PUBLISHER**
1.	Color Theory Made Easy: A New Approach to Color Theory and How to apply it to Mixing Paints	Jim Ames	Watson-Guptill
2.	Design Elements, Color Fundamentals: A Graphic Style Manual for Understanding How Color Affects Design	Aries Sherin	Rockport Publishers

3.	Color Theory Made Easy: A New Approach to Color Theory and How to Apply it to Mixing Paints	Jim Ames	Watson-Guptill

Course Code	**AM104**
Course Title	**Graphic Tools**
Type of Course	CC
L T P	3 0 0
Credits	3
Course Prerequisites	Basic knowledge of computers
Course Objective	The objective of study is to make students efficient in the working of MS-Word, MS-Excel, Power Point & MS Access
Course Outcome (CO)	The students will be able to: 1. Use knowledge of HTML and CSS code and an HTML editor to create personal and/or business websites following professional and industry standards. 2. Implement HTML coding and its tags. 3. Use critical thinking skills to design and create websites. 4. Understand cascading style sheets and javascript with HTML

SYLLABUS

UNIT I:

Introduction to HTML: Overview of HTML. Rules of HTML documents. Structure of HTML documents, Tags-Definition, Classification of Tags.Basic Tags-HTML, U.R.L. concept. Hyperlink (Anchor) Tag & its attribute, Creating Email Hyperlinks. Introduction: Image & image formats. <img> tag & its attributes. Using Images as links. Image Map- Client side & Server-side Image maps.

UNIT II:

Tables, Frame and Frame: Introduction to Tables. Table Tags: TABLE, TR, TH, TD & all Attributes. Rowspan, Colspan, Cellspacing, Cellpadding. Table examples, Overview of frames. FRAMESET & FRAME tags & its attributes. Simple frame Examples.

Introduction to forms. FORM tag & its attributes and tags (Action, Method, Name)

UNIT III:

Cascading Style Sheets: Declaration, Types of CSS: External CSS, Internal CSS, Inline CSS. Applications of CSS

Java Script: Introduction, adding script to documents, Data types, operators, Variables, Input and Output statements, looping statements: While, Do-While, For loop.

UNIT III:

Photoshop: The Photoshop Environment, Understanding Workspace, Pixel vs. Vector, File types, Selection Tools, Healing Tools Importing Files Understanding, Layers & Masking, how layers work, creating layers, blending modes, styles, renaming & grouping layers.

RECOMMENDED BOOKS			
Sr. no.	**Name**	**AUTHOR(S)**	**PUBLISHER**
1.	Teach yourself office 97/2000 for windows	Corey Sandler, Tambadgett, Jan Weingarten	BPB
2.	Microsoft Office 2000	COMPLETE	BPB
3.	Mastering Word 2000	Mansfield	BPB

ENG116* Communication Skills-II Practical

L T P
0 0 2

UNIT-I: Grammar:

To recognize part of speech of particular word in given sentence, to use appropriate tense, Exercise on- Voice, Reported speech and Sentence Structure, Vocabulary-One word substitution.

UNIT-II: Writing Skills:

Job Application, Resume Writing, Paragraph Writing, Preparing of Matter for meeting: Notice, agenda, Conference.

UNIT III: Speaking Skills: How to deliver an effective power point Presentation, Slide making, Effective use of audio-Visual aids

UNIT-IV: Oral Communication and its Application:

Group Discussion, Mock Interview (Conducting and appearing for interviews), and Role plays. Conducting a successful official meeting.

AM106 Vector Graphics for Production Lab **L T P**
0 0 2

Objective: A study and use of vector graphics for production. Skill development in the use of the tools and transformation options of Adobe Illustrator to create complex vector illustrations for print and web-based media. Mastery in manipulation of both text and graphics with emphasis on the use of the pen tool as well as the correct use and management of different color modes.

Course Contents:

1. llustrator Workspace
2. File Management
3. Drawing with the Pen tool
4. Creating Compound Paths
5. Creating Shapes and Using Fills & Strokes
6. Image Trace and Puppet Warp
7. Point Type Basics, Area Type & Type on a Path
8. Creating Paragraph and Character Styles for Type
9. Using Text Wrap around Graphics
10. Using Libraries (Pantone Colors)
11. Layer Management
12. Using the Width Tool and Width Profiles
13. Converting Type to Outlines to Modify Letterforms

Practical/Submission:

1. Vector Pitcher
2. Visiting Card
3. Magazine Design
4. Poster Design
5. Website Banner Design

AM108 Art of Visualization Lab **L T P**
0 0 2

Objective: The course includes outdoor sketching and drawing and able to visualize a story and create storyboards for the same

Studying colors and color mediums: To understand the formal structure of color through analysis of color theory and notation.
Experience of color through experiments in various mediums: Poster colors, water colors, Pastels, Acrylic etc.
Color Harmonies: Complementary, Split Complementary, Warm Colors, Cool Colors, Hue, Tint and Shades etc
Sketching: Indoor and outdoor Studies, Landscape in pencil Crayons, Pen and ink, Water Color, Poster colors etc.
Introduction to gesture drawings, Quick Figures, 5-minute figure studies.
Story Boarding: To understand the formal structure of story through storyboard drawings, creating storytelling images, working with single images to tell stories and do gag drawings,
Structuring a scene,
Finding ways to have progression and punctuation in a sequence.
Cartoon Character Anatomy: Cartoon Drawing, Proportions,
Weight and Balance,
Stick figures,
Gesture drawing, Expressions.
Model Sheet: To understand the different poses of any character through model sheets.

Practical/Submissions

1. model sheets of character
2. storyboard drawing

AM110 Print Media Lab **L T P**
0 0 2

Objective:

- To impart knowledge about fundamentals and basics of Printing and Advertisement designing.
- To make students learn about various aspects of Advertisement Layout.
- To impart practical knowledge about designing an Advertisement using Adobe Illustrator.

Course Contents:

1. Introduction to Print Media & Advertisement
2. **Fundamentals of Various Aspects in Advertisement Layout:** Understanding Size, Balance, Typography.
3. **Fundamentals of Design Elements:** Understanding the design elements of logo, Signage, Branding and creating office stationeries.
4. **Graphic Design for Media House:** Understanding Book design, Magazine, Advertisement full page, Half page and for magazine/newspaper and its essentials.
5. **Designing for Advertisement:** Understanding Poster designing and its essentials, Poster as a strong medium of Advertising Innovative Designs for Animation Films, Slogan, Designing brochure.

Practical/Submission:

1. Office Stationery: Visiting Card, Letter Head, Calendar for the office.

2. Magazine Advertisement: Full Page Ad, Teaser Ad.

3. Poster Design: Poster of an Event.

4. Brochure: Brochure for Any Company.

AM112 2D Animation Lab **L T P**

0 0 2

Objective: The main objective of this course is to provide students with an overall foundation of systems analysis and design to effectively and efficiently design and implement system.

Introduction: 2D graphics editing features: Basic geometric transformations – Boolean, operations on shapes – Object stroke attributes, Objects fill attributes – Shading, techniques (blends – gradients) Packaged effects (extensions – plug-ins), Features specific to the program in use, History and future trends of computer animation application in the visual arts. Drawing in System, working with timeline, Working in flash

2D animation frame: sequencing features, Straight-ahead animation, Key frames animation, Motion paths, applying geometric transformation over time, intertwining options, Looping and palindrome motion, Tools used for 2D Animation, Key framming, how to animate frame by frame

Animation Secondary Motion: Walk cycle, run cycle, jump, Document and timeline window feature, Tools and commands palettes, Media-selection tools and techniques Asset-management features.

Stop Motion Animation: using characters in stop motion animation

Compositing: Process, Tools used, Timing, Spacing, Overlapping, Slow in, slow out, In between, How to adjust, increase and decrease timing & spacing, Understanding & application of overlapping, Tangent editing.

Practical/Submissions:

1. Walk cycle
2. 2D Animation

AM114 3D Modeling Lab **L T P**
0 0 2

Objective: The course includes modeling of 3d object such as interior and exterior modeling and hard surface modeling.

- **Introduction to Maya:** Understanding User Interface**,** understanding 3D Concept, Understanding transforming objects**,** Nodes & Attributes, Preferences and customization.

- **Nurbs & Polygon Modeling:** Introduction to Nurbs, Understanding Surfaces, Understanding Edit Nurbs, Understanding Edit Curves, Techniques of creating Props & Environments, Introduction Polygon, Understanding Edit Mesh, Understanding Mesh, Technique of creating props & environments,

- **Subdivision Modeling:** Introduction to Subdivision, Understanding Subdivision Surfaces and Technique of Creating Props & Environment

- **Interior/Exterior**: Understanding the height, width of interior and exterior objects, Mesh, Edit mesh, Booleans, Sculpting tools, Duplicate and special duplicate,

Practical/Submissions:

1. interior model

2. exterior model

Third Semester

Course Code	**AM201**
Course Title	**Fundamentals of Pre-Production**
Type of Course	**CC**
L T P	**4:0:0**
Credits	**4**
Course Prerequisites	Knowledge of Fundamentals of Pre-Production
Course Objectives	The main objective of the subject is to impart the knowledge of animation pre-production pipeline & workflow.
Course Outcomes (CO)	The students will able to: 1. Learn fundamentals of Pre-Production of Digital film making. 2. Get knowledge of animation pre-production pipeline & workflow. 3. Get knowledge of Essentials Elements of a story 4. Get knowledge of Visual appearance, Nature, Characteristics

SYLLABUS

UNIT 1:

Introduction to Pre-production: -

- The basics of Pre-Production.
- Importance of pre-Production in creating a Project.

Concept, Story writing: -

- Developing a Concept for Animation.
- Essentials Elements of a story: Start, Middle and Ending of a story.

UNIT II:

Screenplay: -

- Definition and Elements of Screenplay.
- Creating a Screenplay.

Character development: -

- Physical Attributes.
- Visual appearance.
- Nature.
- Characteristics.
- Model Sheet.

UNIT III:

Props & Environment development: -

- Props & Environment illustration.

- Blueprint.

Storyboarding: -

- Process of creating storyboard.
- Importance of storyboard in Film making.

UNIT IV:

Visual references: -

- Types of visual references.

Dubbing, Songs: -

- Process of Dubbing of Dialogues, Voiceovers, songs etc.

Practical's/Submissions:

- Concept for a Short Animation Movie.
- Screenplay for a Short Animation Movie.
- Story Board using Storyboarding Software.
- Small Project (minimum 5 minutes) of Dubbing/Song/Dialogue Recording.

RECOMMENDED BOOKS

Sr. no.	Name	AUTHOR(S)	PUBLISHER
1.	How to write for animation	Jeffrey Scott,	Overlook TP

Course Code	**AM203**
Course Title	**Design and Communication Process**
Type of Course	**CC**
L T P	**3:0:0**
Credits	**3**
Course Prerequisites	Knowledge of Design Process
Course Objective	To develop intellectual awareness and curiosity to acquire the knowledge necessary to sustain effective work in visual communication design.
Course Outcomes	The student will able to: 1. Understand the basics principles of composition 2. Get the knowledge of textures and materials 3. Get the knowledge of shapes and arcs 4. Understand the process of reflection and refraction

SYLLABUS

UNIT I:

Basic Principles of composition: -

Introduction

- What is composition
- Why learns these principles
- Fulfilling the purpose

The Subject

- Selection and study
- Drawing steps

Three Principles

- Unity
- Balance
- Center of interest

Achieving Emphasis

- Light and shade
- Details
- contrasts

UNIT II:

Six Visual elements: - Color, Line, Shape, Value & Tone, Texture, Volume. era.
Balance: - Asymmetrical balance, informal balance, radial balance.

UNIT III:

Complementary relations between art & Design: -

- Cognitive - Instrumental
- Abstraction of the concrete - concretization of the abstract

- Artist as notator - Designer as tool maker
- Inductive, classificatory -deductive

UNIT IV:

Pictorial principles: -

- Contrast
- Harmony
- Emphasis
- Movement
- Proportion
- Pattern
- Variety
- Rhythm
- Repetition.
-

RECOMMENDED BOOKS			
Sr. no.	**Name**	**AUTHOR(S)**	**PUBLISHER**
1.	Design and Communication: A Foundation Course	Peter Gowers	Blackie, 1988 pub. (UK)

Course Code	**SSC005***
Course Title	**Human Values & Professional Skills**
Type of Course	ID
L T P	3 0 0
Credits	3
Course Prerequisites	Nil
Course Objective(s)	To create an awareness on Engineering Ethics and Human Values. To study the moral issues and decisions confronting individuals and organizations engaged in engineering profession.
Course Outcomes	The students will able to: 1. Learn the need, guidelines and process of Value Education. 2. Understand the Harmony in the Human Being. 3. Understand the Harmony in the Family and Society. 4. Understand the Harmony in the Professional Ethics.

SYLLABUS

UNIT I

Introduction: Need, Basic Guidelines, Content and Process for Value Education Understanding the need, basic guidelines, content and process for Value, Education. Self-Exploration- its content and process; Natural Acceptance and Experiential Validation- as the mechanism for self-exploration. Continuous Happiness and Prosperity- A look at basic Human Aspirations, Right understanding.

UNIT II

Understanding Harmony in the Human Being: Harmony in Myself! Understanding human being as a co-existence of the sentient, I and the material "Body" Understanding the needs of Self ("I") and "Body"–Sukh and Suvidha, Understanding the Body as an instrument of Understanding the characteristics and activities of "I" and harmony in "I".

UNIT III

Understanding Harmony in the Family and Society: Harmony in Human, Human Relationship Understanding harmony in the Family- the basic unit of human interaction, understanding values in human-human relationship, Trust (Vishwas) and Respect (Samman) as the foundational values of relationship Understanding the meaning of Vishwas; Difference between intention and competence Understanding the meaning of Samman, Difference between respect and differentiation.

Understanding Harmony in the Nature and Existence: Whole existence as Co-existence Understanding the harmony in the Nature, Interconnectedness and mutual fulfillment among the four orders of nature recyclability and self-regulation in nature.

UNIT IV

Professional Ethics: Implications of the above Holistic Understanding of Harmony on Professional Ethics Natural acceptance of human values, Definitiveness of Ethical Human Conduct, Basis for Humanistic Education, Humanistic Constitution and Humanistic, Universal Order Competence in professional ethics: Ability to utilize the professional competence for augmenting universal human order, Ability to identify the scope and characteristics of people friendly and ecofriendly production systems.

RECOMMENDED BOOKS			
Sr. no.	**Name**	**AUTHOR(S)**	**PUBLISHER**
1	Small is Beautiful: a study of economics as if people mattered	E.F. Schumacher	Blond & Briggs, Britain.
2	Science and Humanism	PL Dhar, RR Gaur	Commonwealth Purblishers
3	Human Values	A.N. Tripathy	New Age International Publishers

Course Code	**SSC001***
Course Title	**Gender Equity**
Type of course	Theory
L T P	3:0:0
Credits	3
Course prerequisite	ID
Course Objectives (CO)	The students will acquire knowledge and understanding of theory and concepts related to gender and gender relations The students will analyse the evolution of thinking and approaches around gender and development.
Course Outcome	The students will able to: 1. Understand the concept of women empowerment. 2. Learn how to develop the overall personality of the women. 3. Understand the impact of development on gender. 4. Know about the policies on women rights and role of UN in establishing gender equality.

Syllabus

UNIT I

Concept of sex and gender, Gender attributes and questions of identity.

UNIT II

Empowerment- concept and meaning, Definition of feminism, feminist and women movements in U.S.A, U.K., France and India

UNIT III

Women development and development organizations, Impact of development on gender.

UNIT IV

Policies and current debates on women rights, Role of UN in establishing gender equality.

Violence against women and need for reforms.

Text and Reference Books:

S.No.	Author(S)	Year	Title	Publisher
1	Jayachandran, Seema	2014	The Roots of Gender Inequality in Developing Countries	NBER Working Paper No.20380. Issued in August 2014
2	Duflo, Esther	2012	Women's Empowerment and Economic Development	*Journal of Economic Literature, 50(4): 1051-79.*

AM205 3D Architectural Visualization Lab **L T P**
0 0 2

Objective: Understand the mechanics of 3ds Max. Create 3d models using a variety of techniques. Work with materials to texture your models. Understand how to light a scene. Create animations. Stage a scene and understand cinematography

Course Contents:

- **Getting to Know 3ds Max: -** Touring the Interface, The Viewports, Getting to Know the Command Panel, Working with Objects, Transforming Objects, Copying an Object, Understanding the Perspective Viewing Tools, Using Multiple Viewports.
- **Introducing 3ds Max Objects: -** Understanding Standard Primitives, Adjusting Objects' Parameters, Accessing Parameters, Modeling Standard Primitives with Modifiers, Using the Modifier Stack Tools, Making Clones That Share Properties, Using Various Modifiers, Understanding Extended Primitives, Working with Groups.
- **Creating Shapes with Splines: -** Drawing using Splines, lathing a Spline, modifying a Shape Using Sub-Object Levels, Flipping Surface Norma's, Creating Thickness with a Spline, Combining and Extruding Splines, Introducing Other Spline Types, Editing Splines
- **Editing Meshes and Creating Complex Objects: -** Polygon Modeling Techniques, Using Graphite Modeling Tools, creating buildings using modifiers.
- **Working with External Design Data: -** Importing AutoCAD Plans into 3ds Max, Extruding the Walls
- **Organizing and Editing Objects: -** Naming Objects, Organizing Objects by Layers, Setting Up Layers, Assigning Objects to Layers, Assigning Color to Layers, Lofting an Object, lofting a Shape Along a Path, Using Different Shapes Along the Loft Path, extruding with the Sweep Modifier, Aligning Objects.

Practical/Submission:

- Object modeling.
- Virtual set.
- Credit sequences (for films and animation).
- 3D Animated Logo.
- Architectural walkthroughs.

AM207 3D Texturing & Shading Lab **L T P**
0 0 2

Objective: To make students able to understand Role of texturing in 3D Pipeline.
To be able to understand natural behavior of textures and create similar in software's.

Texturing & Shading:

Introduction to texturing and shading,

working with Shader –

Blin, Phong and Lambert etc.

Working with Shader Properties –

Ambient, Diffuse, Specular, Shininess etc.

2D & 3D Procedural Maps.

Understanding UVW Map

Unwrapping Complex Meshes

Working with Maps Bump and Opacity, Reflection & Refraction.

Applying two materials on either sides of a surface

Planar, Cylindrical, Spherical

Basics of unwrapping the UVs

Transparency.

Alpha layering

Practical/Submissions:

1. Texturing interior model

2.Texturing exterior model

AM209 3D Lighting Lab **L T P**
0 0 2

Objective: The course includes natural behavior of lighting and create similar in software's and knowledge of camera parameters.

Lighting:

Introduction to lighting,

Nature of light

Indoor & outdoor lighting

Understanding different types of Lights,

3 Point Light Setup,

Working with Advanced Properties,

shadows in Maya

Cameras in Maya

framing objects

Types of conventional cameras & its functioning

Lenses, exposure & focus

Depth of Field

Practical/Submissions:

1. Lighting on interior model

2. 3-point lighting

AM211 Cinematography Lab

L T P
0 0 2

Objective: To impart practical knowledge about working of DSLR camera, cinematography. To learn about the Editing software Adobe Premiere to be used for video editing.

Video Pre-Production Process: Pre-production, Shooting and post-production, white balance, Aperture, Shutter speed, and focus in a video camera to optimize the picture quality in video images, utilize different shot types including the wide shot, establishing shot, long shot, medium shot, close up, point-of-view, and over-the-shoulder.

Introduction to Cinematography: Introduction to Digital Video Cinematography, Building blocks, Lenses and Cameras.

Types of lenses: Zoom Lens, Prime Lens.

Types of Cameras: HD Cameras, Basics of Film Camera, Difference between Film Camera and Digital Camera, DSLR and HDSLR Cameras, Lighting, Psychology of light, Visual Environment, Directional Effect of Light, Lighting design.

Introduction to Adobe Premiere: User Interface, Basic Editing knowledge.

Practical/Submission:

1. Short Film.

2. Product video

3. Short advertisement video

AM213 Video Editing Lab

L T P
0 0 2

Objective: To make students learn about video Editing techniques used in Industry. To impart practical knowledge about Abode Premier used for video editing.

Introduction to Editing: Introduction and history of evolution of the specialized stream called Editing.

Develop an understanding of the digital video production process: pre-production, shooting, editing, and post-production, Understanding importance of editing in the flow of a narrative, Pace and Rhythm in editing, Linear and Non-Linear Film Editing.

Editing with Premiere Pro: Working with Footage, Basic Video Editing, Composition and Animation tools, Title Designer, Photoshop Graphics, Video Transition Effects, and Nest Sequence, Working with Color correction, Audio Effects, and Video Output.

Understanding about: L cut and J cut, key framing, Masking,

Audio editing: How to attach audio with video, Level, Pitch, Audio transition.

Practical/Submission:

1. Teaser.

2. One-minute edited video

Fourth Semester

Course Code	**AM202**
Course Title	**Essentials of Execution & Post-Production**
Type of Course	**CC**
L T P	**4:0:0**
Credits	**4**
Course pre-requisite	Knowledge of Post-Production
Course Objectives	The main objective of the subject is to impart the knowledge about Animation execution, workflow & post-production.
Course outcomes (CO)	The student will able to: 1. Get the knowledge about Publicity Designing, promotion of Projects/Products which plays an important role in the success of the Project. 2. Get the knowledge about the Film Criticism /developing reviews. 3. Get the knowledge about Publicity Designing, promotion of Projects/Products which plays an important role in the success of the Project. 4. Get the knowledge about the Film Criticism /developing reviews.

SYLLABUS

UNIT-I
Modeling: - Types of 3D Modeling, Advantages & Disadvantages Polygon Modeling.
Texturing: - UV texturing: Texturing of Characters and Props. Shading: Different Maya Shaders.

UNIT-II
Lighting: Sources of light: Natural and artificial Lights, Types of lights in Maya, Types of Shadows in Maya,
Rigging: Joints, Inverse Kinematics, Forward Kinematics, Types of Skinning.

UNIT III
Animation: Types of Animation,
Rendering: Process, Types of Renderers,
Data Management: How to manage 3D Assets,
Compositing: Process, Tools used,
Visual Effects: Process of Nurbs modeling, Tools used

UNIT-IV
Music & Dubbing: Process, Tools used,
Editing: Process. Tools used,
Output: Types of Output format.

RECOMMENDED BOOKS			
Sr. No	**Author(s)**	**Title**	**Publisher**

Course Code	**AM204**
Course Title	**History of Motion Picture Industry**
Type of Course	**CC**
L T P	**3:0:0**
Credits	**3**
Course Prerequisites	Knowledge of Picture Industry
Course Objection	The main objective of the subject is to impart the knowledge about growth and development Motion picture industry.
Course outcomes (CO)	The student will able to: 1. Get the knowledge about Publicity Designing, promotion of Projects/Products which plays an important role in the success of the Project. 2. Understand about the Film Criticism /developing reviews. 3. Understand history of Indian television. 4. Understand distributed channels for television.

SYLLABUS

UNIT I:

Understanding television - Difference between television and cinema A window to the world? Issues of ownership and control; Television as a great unifier, educator and salesman.

History of Indian television: The first two decades of Indian television; Asian Games and setting up of the National Network; Gulf War and the rise of cable TV; Passing of the Broadcast Bill; Global TV channels on Indian soil; The present scenario.

UNIT II:

Evolution of Cinema - the early days, Emergence of the narrative cinema and American, German, French and Russian Cinema in the era of silent motion pictures, Advent of sound and color in motion picture, cinemas of the world in post salient motion picture era.

UNIT III:

Ratings & Economics of Production: Mechanisms of rating: The diary system; Set top boxes, TAM; Nielsen Corporation and other market research groups, Limitations and shortcomings of the rating system; sponsored programmers

Distribution channels for television: Cable TV and DTH system; Television on the internet and phone

UNIT IV:

Cinematograph Act 1952: Introduction and its role in Motion pictures Business, Significant Indian Films (Synopsis, Producer, Director, Actors.), Evolution of Film Indian Animation Film Industry and its Growth, Present scenario of Indian Film Industry.

RECOMMENDED BOOKS			
Sr. no.	**Name**	**AUTHOR(S)**	**PUBLISHER**
1.	Frames of Fame: A Visual Voyage through Bollywood 1913 - 2004	Shahab Ahmed, Pub	Landmark Ltd.
2.	Indian Cinema: The Bollywood Saga	Dinesh Raheja and Jitendra Kothari	Roli Books

Course Code	**AM206**
Course Title	**History of Visual Effects**
Type of Course	**CC**
L T P	**3:0:0**
Credits	**3**
Course Prerequisites	Knowledge of VFX
Course Objectives	Visual effects have become a mainstay in modern filmmaking. The tools are new, but the principles have been the same since the dawn of cinema. In this course we will cover all the important principles and tools of modern visual effects and we will recapitulate the history and development of modern techniques. This class will teach the fundamentals of After Effects. The students will become familiar with the interface and the basic concepts of the software and will gain some insight in the compositing tools and how they apply to the creation of visual effects.
Course Outcome (CO)	The student will able to: 1. Get the knowledge about Publicity Designing, promotion of Projects/Products which plays an important role in the success of the Project. 2. Understand about the Film Criticism /developing reviews. 3. Understand Photographic Principles. 4. Understand visual effects.

SYLLABUS

UNIT I:
Introduction: Introduction to the class. What are Visual Effects?
Photographic principles: Photographic principles. Forced perspective:
Intro to After Effects: Introduction to the Interface. Basic Animation. Basic Rendering.

UNIT II:
Basic tools: Rear Projection, Stop Motion Animation, Matte Paintings.
Advanced Animation: Anchor point, Keyframes, Motion Sketch.
Special vs Visual Effects: Stunts, explosions, water.
Transparency: Masks and the Pen tool.

UNIT III:
Planning a visual effect: Storyboards, pre-viz, planning workflows. Assignment #3 is due.
MID---TERMS: In-class animation exercise.
Modern tools: Models, Miniatures, Green Screen, Motion Control.
Time & Layer control: More on transparency. Editing in After Effects. Layer control.
The VFX Pipeline: Planning & Management. Job specialization.
Painting & Puppet: Introducing two more tools.

UNIT IV:
Motion Capture, Intro to CGI: Old ideas – new technology. Peter Jackson's Lord of the Rings.
Parenting & Nesting: Creating more complex animations through layer control.

Computer-generated Images. Performance capture: Advanced visual effect techniques: Avatar.
Track & Key Demo: Introducing the tools in After Effects for advanced compositing

RECOMMENDED BOOKS

Sr. no.	Name	AUTHOR(S)	PUBLISHER
1.	After Effects Apprentice - Real World Skills for the Aspiring Motion Graphics Artist	After Effects Apprentice	Focal Press; 3rd edition (August 23, 2012)

Course Code	**AM208**
Course Title	**Introduction to Web Development**
Type of Course	CC
L T P	3 0 0
Credits	3
Course Prerequisites	Knowledge of Computers and Internet
Course Objective(s)	Create an HTML Documents, and establish adequate formatting for presentation purposes. To build web applications using CSS and JavaScript.
Course Outcome (CO)	The students will be able to 1. Use knowledge of HTML and CSS code and an HTML editor to create personal and/or business websites following professional and industry standards. 2. Use critical thinking skills to design and create websites. 3. Develop a dynamic webpage by the use of java script. 4. Gain knowledge about web hosting.

SYLLABUS

UNIT I:

Introduction to HTML: Overview of HTML. Rules of HTML documents. Structure of HTML documents, Tags-Definition, Classification of Tags.Basic Tags-HTML, U.R.L. concept. Hyperlink (Anchor) Tag & its attribute, Creating Email Hyperlinks. Introduction: Image & image formats. <img> tag & its attributes. Using Images as links. Image Map- Client side & **Server-side** Image maps.

UNIT II:

Tables, Frame and Frame: Introduction to Tables. Table Tags: TABLE, TR, TH, TD & all Attributes. Rowspan, Colspan, Cellspacing, Cellpadding. Table examples, Overview of frames. FRAMESET & FRAME tags & its attributes. Simple frame Examples.

Introduction to forms. FORM tag & its attributes and **tags (**Action, Method, Name)

Cascading Style Sheets: Introduction to Cascading Style Sheets: Types of CSS, CSS **Selectors, Universal Selector, ID Selector, Sub Selector, First**-line and First-letter **selector, Before** and After **Selector, CSS Properties, Type Properties, Background Properties, Block Properties, Box Properties, List Properties, Border Properties, Positioning Properties, Implementation Conversation** of Table to CSS **Layout, CSS** Menu Design (Horizontal, Vertical).

UNIT III:

Java Script: Introduction to **Client-Side** Scripting: Introduction to Java Script (JS)**, Java** script **Types, Variables** in **JS, Operators** in **JS, Conditions Statements, Java** Script **Loops, JS** Popup **Boxes, JS Events, JS Arrays, Working** with **Arrays, JS Objects, JS Functions, Using** Java Script in Real-**time, Validation** of Forms.

UNIT IV:

Web Hosting: Web Hosting, Basics Types of Hosting Packages, **registering** domains, Defining Name Servers Using Control Panel, Creating Emails in **Cpanel Using** FTP Client, Maintaining a **website**.

Photoshop: The Photoshop Environment, Understanding Workspace, Pixel vs. Vector, File types, Selection Tools, Healing Tools Importing Files Understanding, Layers & Masking, **how**

layers work, creating layers, blending modes, styles, renaming & grouping layers.

Sr. no.	Name	AUTHOR(S)	PUBLISHER
1.	Web Technologies	Achyut S. Godbole, AtulKahate	Tata McGraw Hill
2.	Web Tech. & Design	C.Xavier	New Age
3.	Multimedia & Web Technology	Ramesh Bangia	Firewall Media

AM210 3D Rigging Lab **L T P**
0 0 2

Objective: The course includes 3d character Rigging and rigging techniques

- Introduction to Rigging: Introduction to Skeleton
- Introduction to Joints & Joint chain
- Introduction to Parent child Relationship
- Understanding Joints and hierarchies & Concept of Skeleton
- Introduction to Kinematics (IK & FK): Introduction to IK handle tool
- IK Solvers & IK Spline
- Intro to IK/FK arm & leg setup
- learning how to switch between IK/FK
- Skinning & Binding: Introduction to how to skin your character
- Introduction to types of Bind Skin
- Introduction to edit smooth Skin
- Deformers: Introduction to Deformers, Introduction how to create & edit deformers
- Understanding different types of deformers & their uses

Practical/Submissions:

1. Human skeleton setup.

2. switch between IK/FK.

AM212 3D Animation Lab **L T P**
0 0 2

Objective: The course includes understand the purpose of timing & emotion and to generate reference footage for animation.

- **Introduction to UI and Animation Tools:** Introduction to Time Slider, Introduction to Playback options, Introduction to preferences for Animation or Animation Settings, Playblast animation, Difference between Frame per second and render every frame.

- **Introduction to key settings:** Introduction to Key frame options, Introduction to Graph Editor, Dope Sheet Editor & Tracks Editor,

- **Human Walk Animation:** Introduction to Human walk animation, Walk Cycle techniques, Animation keys, Playblast rendering, Blend shape, Props Animation. Learning the art of setting the in-betweens for the eye movement & head turns, Adjusting the timing and spacing of the head movements.

Practical/Submissions:

1.Walk Cycle

2.Blend shape

AM214 Architecture Pre-Viz Lighting & Rendering Lab **L T P**
0 0 2

Objective: - The course aims to equip the students to understand the photometric lighting technique. The course includes 3Ds Max Design lighting and rendering techniques.

Course Contents:

- **Introduction to 3Ds Max Design Lighting: -** Autodesk 3ds Max Design Lighting Overview, Local vs. Global Illumination, Choosing a Lighting Strategy. Fundamentals of Standard Lighting, Types of Standard Lights, Shadow Types, Photometric Light Objects, Exposure Control, Daylight Lighting, Soft Shadows and Ambient Occlusion.
- **Lighting and Rendering using Mental ray: -** Scene Preparation for mental ray, Fundamentals of mental ray, rendering with mental ray, Mental ray Interior Rendering, Controlling mental ray Quality, Mental ray proxies.
- **Rendering Engines:** Iterative Rendering, Single vs. Double-sided, Camera Parameters, Background Images, The Print Size Wizard, Selected Rendering Options, and Rendering Presets.
- **IRay Basics**: Physically based lighting, working with materials, Interactive rendering, Light path expression.

Practical/Submission:

1. Interior Design
2. Exterior Design
3. Game Set Design
4. Studio Light

AM216 Motion Graphic Lab **L T P**
0 0 2

Objective: To impart knowledge about motion graphics and how to create them by using adobe after effects software. And also, student get to know about adobe after effects software.

Introduction to Motion graphics: Introduction to Motion graphics, Design Concepts, Showcase of Promos, Teasers, Typography and understanding workflow for creating motion graphics.

Introduction to Adobe After Effects: Understanding User Interface, Understanding Project, Footage, Composition, Timeline.

Animation: Basic Animation, Advanced Animation, Spatial Interpolation and Motion Paths.

Layers & Composition: Layers, trimming layers and Slip Editing, Blending Modes and Adjustment Layers, Pre-Composing, Frame Rate, Time Stretch and Time Remapping, Masking, Parenting and Nesting

Text &Transitions: Animator, Advanced Text Effect, Pick Whip Expressions, Wiggle Expressions, Transitions.

2.5D: Understanding 3D Space, animating in 3D Space, Lights, Camera, Using Effects and Stack order, Using Brainstorm, The Puppet.

Effects and Rendering: Chroma & keying, Rotoscopy, Color Correction fundamentals, Blur and Sharpen Effects, Using Effects and Presets, Channels and other effects, Fundamental of Rendering, Output formats, Codec, Compression.

Practical/Submission:
1. Mate painting
2. vector animation
3. Motion graphics video

AM218 3D Dynamics Lab **L T P**
0 0 2

Objective: The course includes Fluid Effects and create a wide variety of 2D and 3D atmospheric, pyrotechnic, space, and liquid effects and creating Hair using Hair and Fur

- **Introduction to Dynamics and Particles:** Understanding Concepts of Dynamics, uses of dynamics in production pipeline, Introduction to particle system, Introduction to Dynamic Fields, Techniques of creating particle simulations like Fire, Smoke, Water, Fireworks

- **Fluid Effects:** Introduction to 2D & 3D containers, Introduction to Maya Ocean, Learning the interaction of objects with dynamic fluids, Basic introduction to Fluids n Cache.

- **Hair & Fur:** Introduction to Hair & Fur system, Introduction to Paint hair tool, introduction to Hair & Fur simulation in Maya, Introduction to Active Passive bodies, working with Constraints
-

Practical/Submissions:

1.Create smoke using 3D containers

2. Water simulation

Fifth Semester

Course Code	**AM301**
Course Title	**Fundamentals of aesthetics**
Type of Course	**CC**
L T P	**4:0:0**
Credits	**4**
Course Prerequisites	Knowledge of aesthetics
Course Objective	The main objective of the subject is to impart the knowledge about complete and theoretical studies of Aesthetics.
Course Outcomes (CO)	The student will able to: 1. Learn About complete and theoretical studies of Aesthetics. 2. Get knowledge of fundamental Elements of Applied Media Aesthetics 3. Get knowledge of principle study of Rasa 4. Get knowledge of principle study of Behaves

SYLLABUS

UNIT I:

Defining Aesthetics: What is Aesthetics, Aesthetic Experience, Plato, Aristotle.

History of Indian Aesthetics: Five Schools, Bharatmuni, Natyashashtra

UNIT II:

Nine types of Rasas: The principal study of Rasa like: Love, Joy, Wonder, Peace, Anger, courage, Fear, Sadness, Disgust.

UNIT III:

Six types of Bhavas: The principal study of Bhavas like: Unruffled feeling, Comrade feeling, Servent-Master attitude, Mother Child feeling, Loved-Beloved feeling, Oneness with God.

UNIT IV:

Applied Media Aesthetics: What is Applied Media Aesthetics, Fundamental Elements of Applied Media Aesthetics, difference between Applied Media Aesthetics and Traditional Aesthetics.

RECOMMENDED BOOKS			
Sr. no.	**Name**	**AUTHOR(S)**	**PUBLISHER**
1.	Indigenous Aesthetics: Native Art, Media, and Identity by Steven Leuthold	University of Texas Press	University of Texas Press.
2.	Art Beauty and Creativity: Indian and Western Aesthetics	Shyamala Gupta	D K Print World.

Course Code	**AM303**
Course Title	**Media Theory**
Type of Course	**CC**
L T P	**4:0:0**
Credits	**4**
Course Prerequisites	Knowledge of Film and TV,
Course objectives	The main objective of the subject is to impart the knowledge about Media and various Media Theories.
Course Outcome (CO)	The student will able to: 1. Learn about Publicity Designing, 2. Understand Promotion of Projects/Products which plays an important role in the success of the Project. 3. Learn about the Film Criticism /developing reviews.

SYLLABUS

UNIT I:

General Introduction: Film and TV, Theory of Production & Consumption of Media Content, Theories of Spectatorship.

UNIT II:

Feminism and Film Theory, Reception Theory, Film Genres.

UNIT III:

Advertisements, Film Criticism, Film Theory.

UNIT IV:

Video: - Media and Cultural Theory, everyday uses of Video, Video Art and Digital Video Transformation of Consumer to User

RECOMMENDED BOOKS			
Sr. no.	**Name**	**AUTHOR(S)**	**PUBLISHER**
1.	Movies & Methods: Vol. 1 & 2	Bill Nichols,Publisher-	University of California Press
2.	Modern Criticism and Theory	David Lodge,	Longman
3.	Concepts in Film Theory	Dudley Andrew	Oxford University Press.

Course Code	**EVS001***
Course Title	**Environmental Science**
Type of Course	ID
L T P	3 0 0
Credits	3
Course Prerequisites	Knowledge of chemistry
Course objectives	Evaluate local, regional and global environmental topics related to resource use and Management. Propose solutions to environmental problems related to resource use and Management. Describe threats to global biodiversity, their implications and potential solutions
Course Outcome (CO)	The student will able to: 1. Evaluate local, regional and global environmental topics related to resource use 2. Management. Propose solutions to environmental problems related to resource use 3. Management. Describe threats to global biodiversity, their implications and potential solutions 4. Get knowledge of use and over exploitation, case studies of forest resources and water resources.

SYLLABUS

UNIT I:

Introduction: Definition and scope and importance of multidisciplinary nature of environment. Need for public awareness.

Natural Resources: Natural Resources and associated problems, use and over exploitation, case studies of forest resources and water resources.

UNIT II:

Ecosystems: Concept of Ecosystem, Structure, interrelationship, producers, consumers and decomposers, ecological pyramids-biodiversity and importance. Hot spots of biodiversity

UNIT III:

Environmental Pollution: Definition, Causes, effects and control measures of air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, nuclear hazards. Solid waste Management: Causes, effects and control measure of urban and industrial wastes. Role of an individual in prevention of pollution. Pollution case studies. Disaster Management: Floods, earthquake, cyclone and landslides

UNIT IV:

Social Issues and the Environment: From Unsustainable to Sustainable development, Urban problems related to energy, Water conservation, rain water harvesting, watershed management. Resettlement and rehabilitation of people; its problems and concerns. Case studies. Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.

RECOMMENDED BOOKS			
Sr. no.	**Name**	**Authors**	**Publications**
1.	Environment Biology.	K. C. Aggarwal	Nidhi Publications.
2.	Environment Protection and Laws	Jadhav, H &Bhosale, V.M	Himalaya Publications
3.	Principle of Environment Science	Cunninghan	Wiley

CG Asset Development (Elective-I)

AM305 Hard Surface Modeling Lab **L T P**
0 0 2

Objective: The course includes to impart the practical knowledge of creating hard surfaces. To learn about how to create realistic 3D assets

- **Creating Concept**: Working out rough designs on paper, finishing base shape, Crease line, Defining, Sharpening, Cutting, Refining.
- **Modeling Hard Surfaces with NURBS**: Project Overview, Preparing the scene, blocking in the Body, Detailing the body, Finishing.
- **Product Visualization**: Creating Initial Geometry, converting to polygon/nurbs, closing geometry, Cleaning and redirecting, Trimming, Using Fillets, adding and separating various sections.
- **Understanding of Automotive Modeling**: Drawing and setting up of references, Extruding, Bridging, Separating, Detailing, Finishing and polishing.
- **Adding details with Hard Surface Sculpting**: Sculpting the primary forms, Retopology to create the panels, Creating thickness for the panels,Creating insert brushes for added details.

Practical/Submission:
1. Creating an Automobile Model.
2. Modeling a Sci-Fi Weapon.

AM307 Texturing & Shading for Production Lab **L T P**
0 0 2

Objective: The course includes difference between Shaders, Textures and Materials and able to make realistic textures that behaves similar to real world environment

- **Utilizing shading techniques:** Shader components, Using DMC Sampling to interact with Shaders, layering specular, Layering options.

- **Applying color utilities:** Creating Custom Connections, Cleaning Up, Shifting Colors, Converting RGB to HSV, Converting RGB to Luminance, Blending Colors, Remapping Color, Remapping HSV, Remapping Value, Correcting Gamma, Adjusting Contrast, Clamping Values, Reading Surface Luminance.

- **Sample nodes, improving textures through custom maps:** Employing Sample, Using the Sampler Info Utility, Using the Light Info Utility, Using the Particle Sampler Utility, Redirecting the Initial Shading Group Node, Connecting Multiple Materials in One Network. Using the 3D Paint Tool, PSD Support, Normal and Displacement Mapping, Creating Light maps.

- **Paint brush, Projection**: Baking, Effects, Smart Materials and Masks, Advanced Channel Painting, UV Re-Projection, Iray Render, Custom Shaders, Texture Set, Layer Stack, Shelf, Quick Mask, Clone Tools, Smudge Tools

Practical/Submissions
1.Character texturing
2. vehicle texturing

AM309 Architecture Pre-Viz - Advanced Modeling & Texturing Lab L T P
0 0 2

Objective: The course aims to equip the students to model and texture a 3D asset and integrate it into a photographic plate. The course includes the understanding and workflow of 3D Modeling and Architectural Modeling.

- **Introduction to 3DS Max:** Understanding User Interface, Standard Primitives, Extended Primitives, Customizing the Units, Basic Models using Parametric Deformers, AEC Extended objects, Advanced Set Modeling-Buildings, Foliage-Exterior- Landscaping, 3D Boolean, Compound Objects, 2D Boolean.
- **Modeling Techniques in 3Ds max:** Understanding the Modifier Stack, Modeling with polygons and subdivision surfaces, Freeform sculpting, Modeling with Splines and NURBS, Linking objects in hierarchies.
- **Architectural Modeling:** Understanding the workflow of Architecture models, Interior Modeling, Exterior Modeling, Techniques used in Architectural modeling.
- **Texturing and shading in 3Dsmax:** Introduction to Texturing & Shading, building materials, Texturing with bitmaps and procedurals, Painting objects with Viewport Canvas, rendering a sequence, Adding special effects with mental ray.

Practical/Submissions
1.Character texturing
2. vehicle texturing

AM311 Digital Sculpting Lab **L T P**
0 0 2

Objective:

- To impart knowledge about the digital sculpting techniques using Z-brush.
- To learn practical approach of Z-Modeler.
- To gain practical knowledge of using Dynamesh.

- **Introduction to zbrush:** Introduction to user Interface, Customizing ZBrush interface, Understanding Edit mode, Different 3D primitives, Edge Control
- **3D brush basics:** Brush adjustments, Strokes, alpha, Masking
- **Working with shadow box:** Entering Shadow Box Mode, Modify, Resolution, using references in working plane
- **Introduction to dynamesh, usage of zmodeler:** Inserting additive and negative meshes, Intersecting Meshes, adding shell, Actions and Targets, Edge Selector Widget, Working with Polygroups, Replay the Action, Masking, Actions, Targets

Practical/Submissions

monster Sculpting

character Sculpting

VFX (Elective-II)

AM315 Tracking and Match Moving Lab **L T P**
0 0 2

Objective: The course aims to equip the students with knowledge of Tracking Techniques and Camera Extraction. The course includes 2d & 3d tracking, exporting data for 3d and compositing packages.

Methods of extracting/reproducing camera motion: Understanding Motion Control Rig, Understanding Matchamation and Matchmoving, Footage Preprocessing: Understanding Stabilization, Understanding, Distortion, Understanding Shutter fix

Tracking: Using Geometry, 2d Tracking, 3d Tracking, OBJ and FBX to track an objector camera, Nonconventional tracking, tracking non rigid objects and deformations, Camera and object Solution: Calibrating multiple cameras with and without motions and important steps for object tracking and mocap tracking.

Introduction to Pf Track: Pf track User Interface, Understanding Camera properties (Fallback, Focal Length, Resolution), Import/Export tracking data, Merge/Split tracks, Hide, Remove, Disable, Tracking Multiple Footage, Auto track, User track, Geometry tracking.

Exporting Solution: Exporting data for 3d Packages, Exporting data for Compositing Packages.

Integration: Importing data into compositing software, Compositing live action and CG.

Practical/Submissions

1. Video included with 3d objects

2. live action video included with graphics

AM317 Compositing for VFX Lab **L T P**
0 0 2

Objective: To be able to do multi pass compositing using Adobe after effect. To be able to keying using Adobe after effect.

Introduction to After Effects: Setting up a project, creating a project, importing footage Item, opening & closing a project, saving a project

Importing media: File formats supported for import in After Effects, preparing still image file for import into After Effects, using interpretation rules, importing image containing alpha channel, importing layered adobe Photoshop files, importing layered Adobe illustrator files
Understanding key frame, setting key frames, Moving & copying key frames, Setting & animating a layer property in timeline window, Setting & animating anchor point, Setting & animating mask property, modifying mask, putting mask in motion, Using mask with effects

Tracking and Keying: Understanding different types of tracking techniques, Understanding Warp and Transform, Understanding Matte (Alpha Divide, Alpha Multiply, Chroma Keyer, Difference Keyer, Luma Keyer, Matte Control, Ultra keyer .

Compositing CGI: Compositing the real-life shoot with CG (Computer Generated) characters or Environment. Blending of CG (Computer Generated) lightsCameras with real shoot.

Particles: Introduction to Particles, Understanding its usage.

Practical/Submission:

1. Live Action Composite Shot.

2 3d tracking video minimum 1 minute.

AM319 Chroma Lab **L T P**
0 0 2

Objective: This course introduces the student to advanced tools and compositing techniques. And students get to know about the advance term of VFX.

Cameras: Types of Cameras**,** Handling the Camera, understanding different kinds of camera and exposures, Understanding different kinds of films**,** Camera– Parts & Lenses

Function– Aperture, Shutter Speed, Film, ISO**,** Experiment with different light & angles**,** Composition& layout**,** Table Top Photography

Camera Angles: What are camera angles, how its help in film making.

Brainstroming: Idea or Concept for shoot.

Croma key: Basics of chroma keying, what is Blue/Green Screen Imaging., Why Blue/Green color be used, Lighting Chroma Key Properly, Green screen, blue screen removal.
Wire removal.
Introduction to Visual effects, Difference between visual effects and special effects, Chroma key compositing - Principles of chroma key compositing, Pulling the matte using keyer. Despill operation to avoid spill contamination (hue operation), Garbage mattes to support keying, Colour correction and composite the foreground and background, Chroma shoot, Materials used for chroma screen, Lighting techniques for chroma shoot, Shooting the chroma. Advantages of video cameras with little compression (4:2:2,4:4:4) for chroma shoots, motion tracking in chroma screen for camera movements.

Practical/Submission:

1 Shoot Short video with angles on croma key

2 Shoot Product video with angles on croma key

AM321 Lighting & Rendering for VFX Lab **L T P**
0 0 2

Objective: To understand UV map texturing techniques. To learn about the shading network and hyper shade. To gain practical knowledge of Render engine.

Texturing & Shading: Introduction to texturing and shading, working with Shader - Blinn, Phong and Lambert etc. Working with Shader Properties - Ambient, Diffuse, Specular, Shininess etc. 2D & 3D Procedural Maps.

UV Mapping: Understanding UVW Map, Unwrapping Complex Meshes, Working with Maps Bump and Opacity, Reflection & Refraction.

Concepts of Lighting: Introduction to lighting, understanding different types of Lights, 3 Point Light Setup, Working with Advanced Properties, Volume Lights.

Camera: Camera set up, Camera types, framing objects, Motion blur, Depth of field, using a stereoscopic camera.

Process of Rendering: Understanding the Rendering Basics, Introduction to Mental Ray, Mental Ray Setup, Global Illumination and Final Gather, Introduction to Caustics.

Practical/Submissions:

1. Exterior lighting/ Interior lighting (Day/Night).
2. Character lighting.

Animation (Elective-III)

AM325 Body Mechanics Lab **L T P**
0 0 2

Objective: - To learn the basic principles of body mechanics- timing, spacing and scaling. To make student understand difference between cartoon & realistic animation. To create realistic animation of 3D objects & character.

- **Acquiring Reference data:** Recording video or acquiring data from live performance as a reference to create a good animation shot & give a little extra realistic motion that makes it come alive.
- **Line of Action:** Creating Line of action using sketch, giving your poses an even flow increasing readability & making them easier for viewer to look at.
- **Opposing actions, breaking of Joints:** Understanding two or more motions that are going in different directions. Learning how joint breaking adds a lot of motion to the Animation.
- **Walk Cycles:** Human walk cycle animation, Arcs, Timing of motion, understanding center of mass and which foot is carrying most of the weight

Practical/Submission:

1. Recording data for required live action performances
2. Learn to give extra realistic motion to the characters
3. Create line of action by sketching
4. Give characters poses, gestures and expressions to look like real
5. Adding and breaking a joint in the motion animation
6. Human walk cycle
7. Centre of mass and weight

AM327 Rigging for Production Lab **L T P**
0 0 2

Objective: - To impart knowledge about different types of rigging setup used in production. To provide practical knowledge about bones and muscle system. To be able to create rigged characters, that can be further animated in any 3D environment.

- **Character Setup:** Learning to use character setup controls & creating Human IK structure in Maya, Understanding the role of control rigs, Effectors & pivots.
- **Rigging Arms & Legs:** Ik/Fk leg setup, Reverse foot rig, Foot bending controls, Stretchy system for IK legs arms & hand setup, Finger joints, Bend controls for arms.
- **Skinning:** Learning direct & indirect skinning methods, editing node behavior to improve performance, understanding bind pose, smooth skinning & rigid skinning, Painting skin weight, using skin weight tool.
- **Constraints, Vehicle Rigging:** Using different types of constraints, Blending Animation & constraints, modify constraint axes, Using pole vector constraints & geometry constraints. Understanding car movements, using constraints for wheels & steering wheel, Driver & driven setup controls for movable body panels, manual body reaction to acceleration, Suspension system setup, Manual rear wheel spinning system for burn-out animations and sliding.

Practical/Submission:

1. Human skeleton setup.
2. Jump & walk animation
3. Introduction to walk cycle by creating IK/FK (kinematics) structures
4. Working with the key frame options, graph editor and tracks editor.
5. Introduction to skeleton, joints and joints chain
6. Introduction to bind the skin and understand the types of skin
7. Introductions to deforms and also understand their types and uses.

AM329 Acting for Animation Lab **L T P**

0 0 2

Objective: - To make student understand the purpose of timing & emotion. To learn how to generate reference footage for animation. To be able to understand integration of acting with animation.

- **Introduction to Acting:** Learning the importance of Acting for Animation.
- Integration of Body Mechanics & Acting: Understanding elements of well Animated Performance, simplifying motion & acting for a single time line.
- **Action & Reaction Between two Characters:** Show emotion without narration or dialogue through pantomime acting.
- **Relation of Body and Voice, Advance Acting:** Understanding Elements of voice Acting performance, Pacing, Volume, Range, Articulation, Diction, Rhythm, Timing, Phasing. Acting within the Pose, Engaging the body, Identification of character's emotional state of mind.

Practical/Submission:

1. Learning the importance of art of acting
2. Understanding the integration and mechanics of body
3. Ik/FK Kinematics
4. Simplifying the motion and the acting
5. Understand the action and reaction between the characters
6. Relation of voice and body
7. Acting with different pose and the character's emotional state of mind

AM331 Pre-Visualization Lab **L T P**
0 0 2

Objective: - To learn the process of making stripped down version of your film. To learn the process of creating 3D animatic. To be able to create a layout of narrative or creative concept.

- **Story Boarding:** Learning Tools & Methods for story board creation, applying effective boarding strategies to create good story boards.
- **Conveying the mood:** Scene tone (comedic, dramatic or action based) to the audience Blocking: creating key poses and establishing timing and placement of characters and props in a given scene or shot.
- **Animatic:** Developing preliminary version of a film using successive sections of a story board &adding a sound track & dialogue.
- **Editing:** Learning to edit the segments of Animatic to create a Pre-visualization, rearranging shot& sequences.

Practical/Submission:

1. Design of cartoon character with different poses.
2. Create a storyboard for a short-animated movie.
3. Study about color and color notations
4. Indoor and outdoor sketching
5. Creating scenes, storyboarding for required sequence
6. Model sheets include character sheets, character study, looks, gestures and portions.
7. Character's proportions like weight balance and stick figures

AM333 Minor Project Lab **L T P**
0 0 2

Objective: The main objective of the subject is to make a short animation film by students as their Individual Show reel.

The student is required to make a Show reel Project of minimum 2 Minutes. The student can choose the technology according to their specialization.

Six Semester

Course Code	**AM302**
Course Title	**Publicity Designing & Media Laws**
Type of Course	**CC**
L T P	**4:0:0**
Credits	**4**
Course Prerequisites	Knowledge of English Language
Course objective	The main objective of the subject is to impart the knowledge about Publicity Designing, promotion of Projects/Products which plays an important role in the success of the Project.
Course Outcome (CO)	The student is able to: 1. Get knowledge about Publicity Designing, 2. Promotion of Projects/Products which plays an important role in the success of the Project. 3. Get knowledge about the Film Criticism /developing reviews. 4. Get knowledge about the Film Criticism /developing reviews.

SYLLABUS

UNIT 1:

Print Media - Newspapers, Magazines, Brochures, Posters, Leaflets, Pamphlets, Danglers, posters etc.

Outdoor Advertising - Hoardings, Cutouts, Bus Panels, Posters.

UNIT II:

Electronic Media - Audio (Radio, FM), Audio-Visual (Television), Internet- Websites, Online advertising, Blogs, Banners, Emails.

UNIT III:

Cinema, Exhibitions, Trade Fairs.

UNIT IV:

Indian print Media in the context of Globalization, Copyright Act - Recent Indian Laws, Contempt of Court- Civil and Criminal Contempt, Defamation.

RECOMMENDED BOOKS			
Sr. no.	**Name**	**AUTHOR(S)**	**PUBLISHER**
1.	Truth, Lies and Advertising: The Art of Account Planning	John Steel,	Wiley

Course Code	AM304
Course Title	Special Effects in Film Feature
Type of Course	CC
L T P	4:0:0
Credits	4
Course Prerequisites	Knowledge of Film Making
Course objective	The main objective of the subject is to impart the knowledge about Publicity Designing, promotion of Projects/Products which plays an important role in the success of the Project. The other part of the subject is to impart knowledge about the Film Criticism /developing reviews.
Course Outcome (CO)	The student will able to: 1. Get knowledge about Publicity Designing, promotion of Projects/Products which plays an important role in the success of the Project. 2. Get knowledge about the Film Criticism /developing reviews. 3. Learn about Matte Creation and Manipulation 4. Understand Nodes and the Node Graphs

SYLLABUS

UNIT 1:

Introduction to Digital Compositing, Historical Perspective, Terminology.The Digital Representation of Visual Information. Image Generation, Image Input Devices, Digital Image File Formats,Basic Image Manipulation, Colour Manipulations, Geometric Transformation. Basics of Compositing, the Matte Image, Multisource Operators, Masks, Compositing with Pre-multiplied Images.

UNIT II:

Matte Creation and Manipulation, Procedural Matte Extraction, Matting Techniques , Image Tracking and Stabilization ,Tracking and Element Into a Plate ,Manual Manipulation of Tracking curves, Stabilizing a Plate, Tracking Multiple Points , Interface Interaction , The Nuke Window.

UNIT III:

Understanding Nodes and the Node Graphs, the Properties Panel,Other Controls On All Properties Panels.Indicators on Nodes, Viewer Nodes and Viewer Pane, Timeline Controls, Key frame Indication, The Curve Editor Pane, Displaying a Channel Set.

UNIT IV:

Display Gain and Gamma,Viewer Composite Display Modes 26, Region of Interest (ROI), Customizing Your Layout Image Viewing and Analysis.

RECOMMENDED BOOKS			
Sr. no.	**Name**	**AUTHOR(S)**	**PUBLISHER**
1	Magic: Stage Illusions, Special Effects and Trick Photography (Dover Magic Books)	Albert A. Hopkins	Wiley

AM306 Major Project **L T P**
0 0 10

Objectives: The main objective of the subject is to make a short animation film by students as their Project Show reel so that the student can be easily assimilated in the industry. The students can choose the area of Specialization keeping in view their interest.

- Project (As per Student's Chosen Stream in 5th Semester)

Note: The students shall work partly in the college and partly in the concerned Industry.

CG Asset Development (Elective-I)

AM308 Character Modeling & Sculpting Lab L T P

0 0 2

Objective: The course includes to understand the production pipeline of Character Modeling. To learn practical understanding of Sculpt-mesh

- **Building a Sculpt Mesh in Maya**: Using references for concept creation, Understanding of anatomy,
  Head measures and proportions for fictional character,
  Topology and loops,
  Poly count,
  Exporting of the base mesh.
- **Usage of ZSpheres**: Introduction, Sketch brush, Optimize, Binding, Smooth, Straight lines, Armature brush, Bulge, Float-Push-Pull, Unified Skin, Adaptive skin, Mannequins.
- **Adding Details:** 3D layers, Surface noise, Projection master, Transpose, Noise maker, Topology and geometry.

- **Texturing:** Materials, Matcap materials, Polypaint, spotlight, UV Master.

- **Rendering:** BPR Enhancement, Environment Map support, Lightcap Creation, BPR Filter, Vector displacement maps.

Practical/Submissions:

1. Sculpting Creature in Zbrush
2. Prop's modeling

AM310 Lighting & Rendering for Production Lab **L T P**
0 0 2

Objective: The course includes to learn production lighting techniques. impart the practical knowledge of production lighting techniques using mental ray

- **Light Linking Modes**: Determine a light's area of illumination, Link light sources to surfaces, Link sets of lights and objects, select objects illuminated by a specific light, select lights illuminating a specific object.
- **Utilizing Viewport** 2.0: Benefits and limitations, lighting scene, improving playback performance, fixing transparency errors, Rendering with Maya hardware.
- **Mental Ray Workflows**: Controlling the physical sun and sky lighting systems, Using Final Gather, creating a motion blur effect, understanding photons (GI), Using (GI) photons, combined, Depth, setting up for caustics, Creating the caustic effect, Saving and reusing indirect illumination map files, Altering objects irradiance values, Density and Distribution.
- **Camera Fundamentals**: Aspect ratio, Camera lenses, Motion blur, Depth of field.
- **Render Passes**: Layers, Passes, Creating and associating render passes, Light centric contribution maps, advanced render pass attributes.

Practical/Submissions

1. IBL lighting
2. Exterior lighting Using Final Gather

AM312 Architecture Pre-Viz - Advanced Lighting and Rendering Lab **L T P**
0 0 2

Objective: To learn production lighting techniques using mental ray. To impart the practical knowledge of production lighting techniques using v-ray. To learn production rendering techniques using mental ray and v-ray for architectural visualization

- **Mental ray:** Understanding of Final gathering, Accuracy, Point density, Interpolation, Diffuse scale, Diffuse bounce, Final Gathering map, Final gathering quality, Tracing, Using Global Illumination & Caustics, Understanding Photons, Photons emission and photon energy properties, Color attributes, Accuracy, Photon Tracing, Working with direct and indirect lighting, Caustic photons, Controlling caustic emission, Energy properties, Direct illumination, Using ray tracing attributes, Caustic patterns, Caustic photon map.
- **Camera parameters:** Environment range group, Match camera to view, Camera path animation**.**
- **Creating high resolution studio renders, linear workflow rendering strategies**: Real time lighting workflow, HDR light studio, HDRI, Finalizing the scene, back burner. Understanding linear workflow, Gamma-correcting textures, Rendering and compositing.

Practical/Submissions

6. Mental ray interior and exterior renders
7. Camera parameters, background images
8. Design lighting in 3ds max such as local and global illuminations.
9. Lighting and working with materials

VFX
(Elective-II)

AM314 Art of Compositing Lab **L T P**
0 0 2

Objective: - To be able to do Roto and Paint. To be able to do multi pass compositing using Adobe after effect. To be able to keying using Adobe after effect.

- **Introduction to Roto and Paint:** Introduction to Rotoscopy, Introduction to Paint, Principles of Rotoscopy, Importance of Rotoscopy and Paint in Visual Effects Production Pipeline.
- **Rotoscopy Techniques:** Drawing Complex Shapes,Point Consistency control, Beauty Retouch, Working with Motion Blur.
- **Tracking:** Understanding Planer Tracker, Understanding Point Tracker, Other tracking techniques.
- **Paint**: Introduction to Paint, Understanding Brushes, Understanding Motion tracking, Wire removal techniques.
- **Rendering:** Understanding Files and Formats, understanding preview and Select Render.

Practical/Submission:

1. 10 Sec Roto Shot.

2. Wire Removal Shot

AM316 Fluid Fx Simulation Lab

L T P
0 0 2

Objective: - To be able to do Rigid body Simulation using Realflow in FX pipeline. To be able to do water Simulating using Realflow in FX pipeline. To be able to export data into other 3D softwares

- **Introduction to RealFlow:** Introduction to User Interface, Understanding RealFlow Project management, working with RealFlow particle emitters.
- **Particles:** Understanding Particles (Gas, Liquid, Dumb, Elastics, Scripted), Understanding Objectparticle Interaction parameters, Understanding Containers.
- **Deamons:** Introduction to Deamons, Understanding K Volume, K Age, K Speed, K Isolated, K collision, K Sphere, Gravity, Attractor, D Spline, Wind, Vortex etc.
- **Rendering:** Rendering Meshes, rendering particles, Rendering Wet maps, Rendering Mesh Attributes.

Practical/Submission:

1. Water Splashing from glass shot.

AM318 Dynamics for Effect Animation Lab **L T P**
0 0 2

Objective: - To be able to use particle flow for Fx pipeline. To be able to use After burn for Fx pipeline. To be able to use Fume Fx for Fx pipeline.

- **Non-Event- Driven Particle Systems**: Introduction to Non-Event-Driven particle system, Spray particle System, Snow particle System, Super Spray particle System, Blizzard Particle System, PCloud Particle system.
- **Understanding Forces:** Push Space Warp, Motor Space Warp, Vortex Space Warp, Drag Space Warp, pbomb Space Warp, Path Follow space Warp, Gravity Space Warp, Wind Space Warp, Displace Space Warp.
- **Deflectors:** PomniFlect Space Warp, SomniFlect Space Warp, UomniFlect Space Warp, SDeflector Space Warp, Deflector Space Warp.
- **Particle Flow:** Understanding particle flow User interface, understanding operators, understanding flows, Understanding tests.
- **Geometric/Deformable:** FFD (Box) Space Warp, FFD (Cyl) Space Warp, Wave Space Warp, Ripple Space Warp, Conform Space Warp, Bomb Space Warp.
- **AfterBurn**: Introduction to Afterburn, UnderstandingWorkflow, Understanding Rendering, Understanding Shadows, Understanding Noise, Understanding Deamons.
- **FumeFX:** Introduction to FumeFX, Understanding Effectors, Understanding RenderWarps, Understanding N-Sim, Understanding Daemons, Rendering.

Practical/Submission:

1. Create Fireworks using Particle Flow.

2. Create Flamethrower Effect.

Animation (Elective-III)

AM320 Lip Sync and Facial Animation Lab **L T P**
0 0 2

Objective: - To learn innovative & time saving facial animation & lip sync techniques. To learn the importance of timing in animation when creating dialogues. To make students learn the importance of audio sync in animation.

- **Mechanics of Facial Animation:** Learning to animate head turns blinks & eye movement, keying the arcs & animating the head bops, adding personality to the head turns.
- **Character Lip Syncing:** Creating horizontal movements of the jaw, keying the extreme for major lip shapes, blocking phonemes & expressions, sync tongue.
- **Adding in-betweens**: Learning the art of setting the in-betweens for the eye movement & head turns, Adjusting the timing and spacing of the head movements.
- **Animating Facial Expressions with Dialogue:** adding blinks & modifying expressions, finalizing the timing & spacing, adding appeal to the eye movements & developing personality of the character by tweaking eye brows.

Practical/Submission:

1. Learning the mechanics of facial expressions
2. Animate the head turns and blinking the eyes
3. Adding personality to the head turns
4. Creating movements of jaw, lip shapes
5. Animating dialogues with the head turns and movements
6. Adding blink and modifying expressions

AM322 Muscle System Lab **L T P**
0 0 2

Objective: - To learn the anatomy of humans & other creatures for understanding muscle system. To learn hierarchical naming system of creating muscle system. To impart practical knowledge about muscle system for creating realistic rigs in Maya.

- **Introduction to Maya Muscle:** Starting up with Maya Muscle system, Components of Maya muscle system, Accessing Maya muscle features from muscle menu, learning types of Muscles
- **Maya Muscle Anatomy:** Adding capsules, building capsules chains & creating spline & stretch based muscles.
- **Creating Muscles:** Understanding Muscle work flow, converting skin to muscle, create a capsule, Convert Maya joints to capsules, Set up muscle attach points.
- **Skin Deformation, Collision:** Understanding difference between Sticky deformation & sliding deformation, learning the techniques of force deformation & per-point jiggle deformation. Understanding different types of collision system, set up smart collision region weights, connect muscles to keep out.

1. **Practical/Submission:**
2. Learn the anatomy of humans
3. Learning types of Maya muscles
4. Creating skin to muscle
5. Set up Maya muscle attach points
6. Types of deformations
7. Collision system

AM324 Prop Animation Lab **L T P**
0 0 2

Objective: - To learn creating efficient prop animation and merging it into animation shot. To create more organic and realistic motion for props. To learn the techniques of constraints and applying them onto the props further enhancing the appeal of character.

- **Constraints Using for Two-Handed Props:** Learning the techniques of two-handed prop interactions where one of the hands is leading the action & secondary hand will follow the prop.
- **Animating with Constraints for Props Leading Hands:** Linking props to hands, creating grouping system for hand controllers.
- **General Prop Setup:** Learning to create repeatable system for putting a prop into a character's hand and retain the ability to animate the prop independently, while still following the character's hand.
- **Constraint Switching:** Understanding the techniques of setting up multiple constraint systems and switching them on and off correctly.

Practical/Submission:

1. Creating efficient prop animation
2. Techniques of two-handed animation
3. Creating systems for hand controllers
4. General prop setup
5. Setting multiple constraint system
6. Realistic and organic motion for props.