UNIVERSITY OF MYSORE

Estd.1916

Vishwavidyanilaya Karyasoudha
Crawford Hall, Mysuru- 570 005

———— (Re-accredited by NAAC at 'A') ————
———— (NIRF-2022 Ranked 33 in University Category & 54 in Overall Category) ————

No.: PMEB-1/Spl./28(13)/2021-22   **Date: 03-11-2022**

NOTIFICATION

Sub.: Syllabus and Examination pattern of **B.Sc. (Graphics, Animation & VFX) B.Sc.(Animation Gaming) and M.Sc.(Graphics, Animation & VFX)** courses under Specialized Programmes from the academic year 2022-23-reg.

Ref.: 1. Decision of the BOS Meeting held on 07-09-2022.
2. Decision of the Faculty of Science & Technology meeting held on 15-09-2022.
3. Decision of the Academic Council meeting held on 23-09-2022.

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The Board of Studies in **B.Sc. (Graphics, Animation & VFX) B.Sc.(Animation Gaming) and M.Sc.(Graphics, Animation & VFX) (CB)** at its meeting held on 07-09-2022 has recommended to approve the scheme of examination and 4 years syllabus of **B.Sc. (Hons.) (Graphics, Animation & VFX)** and **B.Sc. (Hons.) (Animation Gaming)** courses in University of Mysore under specialized/specified programs from the academic year 2022-23 as per NEP-2020 and also recommended to approve the scheme of examination and syllabus of **M.Sc. (Graphics, Animation & VFX)** course under the CBCS Scheme from the academic year 2022-23.

The Faculty of Science & Technology and the Academic Council at their meetings held on 15-09-2022 and 23-09-2022 respectively, have also approved the above said proposal and the same is hereby notified.

The syllabus of **B.Sc. (Hons.) (Graphics, Animation & VFX) B.Sc. (Hons.) (Animation Gaming)** and **M.Sc.(Graphics, Animation & VFX)** courses may be downloaded from the University website **https://uni-mysore.ac.in/PMEB/**.

REGISTRAR
REGISTRAR
University of Mysore
MYSURU - 570 005

To;
1. The Registrar (Evaluation), University of Mysore, Mysuru.
2. The Dean, Faculty of Science & Technology, DoS in Earth Science, Manasagangothri, Mysuru.
3. Prof. Suresha, DoS in Computer Science, Manasagangothri, Mysuru.
4. The Principal, Gupta College of Design, C/o RK Educational Institution, S.No.192/2, K.Honnalagere, Maddur (Tq.), Mandya Dist.
5. The Deputy Registrar/ Asst. Registrar/ Superintendent, Examination Branch, UOM, Mysuru.
6. The PA to Vice-Chancellor/Registrar/Registrar (Evaluation), University of Mysore, Mysuru.
7. Office Copy.

ANNEXURE
Bachelor of Honour's
(Animation and Game Design)

As per NEP Regulations
To be implemented from the Academic year 2022-23

Proposed Scheme & syllabus for BSc Hon's (Animation and Game Design)
As per NEP 2020 regulations

I.OBJECTIVES:

1. To develop skills required to be an expert in the field of Animation and Game Design
2. To provide competent and technical skills personnel to the industry in the area of Animation and Game Design.
3. To enhance the employability skills.
4. To encourage entrepreneurship among student pursuing the education.
5. To ensure holistic development of students.

II. ELIGIBILITY FOR ADMISSION:

Candidates who have passed two years Pre-University course of Karnataka State in any discipline or its equivalent (Viz., 10 + 2 of other states, ITI, Diploma etc) are eligible for admission into this program. Foreign nationals are also eligible to take admission into this course subjected to eligibility clearance from University of Mysore. Admission will be done as per the norms set by University of Mysore.

III. DURATION OF THE PROGRAM:

The program of study is 4 years with 8 semesters. A candidate shall complete his or her degree within 8 academic years from the date of his or her admission to the first semester. The NEP 2020 provides multiple exit options first students as specified below.

EXIT OPTIONS:
The students who successfully complete one year or two semesters and leave the program will be awarded Certificate (in Animation and Game Design)
The students who successfully complete 2 years or 4 semesters and leave the program will be awarded Diploma (in Animation and Game Design)
Students who successfully complete 3 years or 6 semesters and leave the program will be awarded Bachelors degree (in Animation and Game Design)

An option is given to the students to continue their education to the fourth year and those who successfully complete 4 years or 8 semesters will be awarded Bachelor's degree in honours (Animation and Game Design)

IV. MEDIUM OF INSTRUCTION

The medium of instruction shall be English

V. ATTENDANCE.

a. For the purpose of calculating attendance each semester shall be taken as a Unit.

b. A student shall be conserved to have satisfied the requirement of attendance for the semester, if he/she has attended not less than 75% in aggregate of the number of working periods in each of the subjects compulsorily.

c. A student who fails to complete the course in the manner stated should not be permitted to take the University examination

VI. TEACHING AND EVALUATION

As basic degree from recognised University are only eligible to teach and to evaluate all the honours courses except languages constitution of India and environmental studies health wellness social and emotional learning/ sports/ NCC/ NSS others

VII.SKILL DEVELOPMENT SESSIONS

a.   Every college is required to establish a dedicated computer lab for the purpose of conducting practical classes and working on assignments.

b.   In every semester the students should maintain a record book in which a minimum of 4 exercises or activities for course are to be recorded.

VIII. SCHEME OF EXAMINATION

a.   There shall be a University examination at the end of each semester the maximum marks of the universities examination in each people shall be 60 marks for DSC /DSE /Vocational / SEC and OEC.

b.   Internal assessment 40 marks for DSC /DSE /Vocational / SEC and OEC.

Guidelines for continuous internal evaluation and semester end examination

The CIE and SEE will carry 40% and 60% weightage each to enable the course to be evaluated for a total of 100 marks it is respective of its credits. The evaluation system of the course is comprehensive and continuous during the entire period of the semester. For a course the CIE and SEE evaluation will be on the following parameters.

Sl.No	Parameters for the evaluation	Marks
	Continuous Internal Evaluation (CIE)	
1	Continuous and comprehensive Evaluation (CCE)-(A)	20
2	Internal Assessment Test (IAT) (B)	20
	Total of CIE(A+B)	40
3	Semester End Examinations (SEE)-(C)	60
	Total of CIE and SEE (A+B+C)	100 Marks

Continuous Internal evaluation:

a. Continuous and comprehensive evaluation (CCE):

The CCE will carry a maximum of 20% weight age (20 Marks) of total marks of a course before the start of academic session in each semester, a faculty member should choose for his/ her course.
 Minimum for 4 of the following assessment methods with 5 marks each (4X5=20)
i. Individual Assignment
ii. Seminars classroom presentations quizzes
iii. Group discussion class discussion group assignments
iv. Case studies / Caselets
v. Participatory and Industry Integrated Learning/ Industrial Visits
vi. Practical activities / Problem solving exercises
vii. Participation in seminars / Academic events/ Symposia.
viii. Mini projects/Capstone projects

a. Internal Assessment Test (IAT)

The IAT will carry a maximum of 20% weightage (20 Marks) of total marks of a course. Under this component, two test will have to be conducted in semester for 40 marks each and the same is to be scaled down to 10 marks each

Internal Assessment Test

Course Code: Name of the Course:
Duration: 1 Hour   Total Marks: 40

Part A

Answer any one of the following questions. (10 Marks)
   (1X10=10)
1..
 2. ....

Part B

Answer any one of the following questions. (10 Marks)
   (1X10=10)
3. ....
4. ....

Part C

Answer any two of the following questions. (10 Marks)
   (2X10=20)
5. ....
 6. ....
7……………………………………………………………………………………

Semester End Examination (SEE):
The semester end examination will be conducted for all the students who eligible to take the exam. SEE of the course shall be conducted after fulfilling the minimum attendance requirement as per the university norms and completing CCE as prescribed above. The BOS constituted by the University has prepared the seep framework and the question paper for SEE is presented below for 60 marks.

PATTERN OF QUESTION PAPER

Time: 3 Hours   Marks: 60

Answer the following questions. (15 Marks)   (15X4=60)
1...
 2...
                                    OR
 3. . ...
4. . . ..

 5. . ...
 6. . ...
                                    OR
 7. . ...
 8. ....

Proposed Syllabus for B.Sc Honour's in Animation & Game Design

9. ....
10. . ...

<div align="center">OR</div>

11. . ...
12. ....

13. ....
14. . ...

<div align="center">OR</div>

15. . ...
16...

Minimum Marks for a Pass:

Candidates who have obtained a minimum of 35% marks in semester end examination i.e, 21 marks out of 60 marks of theory examination and 40% in aggregate i.e, total 40 marks out of 100 marks of semester End Exam marks and Continuous Internal Evaluation Marks.

Year 1 Semester I							
Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	Functional English - 1	AECC 1A	3+0+0	60	40	100	3
2	Language – 1 (Kan/Tel/Hin/Tam/San/Mal)	AECC 2A	3+0+0	60	40	100	3
3	Digital Art	DSC 1	3+0+2	60	40	100	5
4	Introduction to Graphic Design & Creating Illustrations	DSC 2	0+2+3	60	40	100	5
5	Fundamentals of Art	DSC 3	0+0+3	60	40	100	3
6	Digital Fluency	SEC SB	2+0+0	25	25	50	2
7	Yoga, Health and Wellness	SEC VB	0+0+2	25	25	50	2
	Total Credits			**350**	**250**	**600**	**23**
Year 1 Semester II							

Proposed Syllabus for B.Sc Honour's in Animation & Game Design

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	Functional English - 2	AECC 1B	3+0+0	60	40	100	3
2	Language – 2 (Kan/Tel/Hin/Tam/San/Mal)	AECC 2B	3+0+0	60	40	100	3
3	Game Art Fundamentals	DSC 4	0+2+3	60	40	100	5
4	Introduction to Audio & Video Editing	DSC 5	0+2+3	60	40	100	5
5	Cinematography and Photography Concepts	DSC 6	0+0+3	60	40	100	3
6	Environmental Studies	SEC SB	1+0+2	25	25	50	2
7	Open Elective	OEC	3+0+0	60	40	100	3
8	Sports/NCC/NSS/R&R(S&G)/ Cultural	SEC VB	0+0+2	25	25	50	2
	Total Credits			**410**	**290**	**700**	**26**

Year 2 Semester III

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	Functional English - 3	AECC 1C	3+0+0	60	40	100	3
2	Language – 3 (Kan/Tel/Hin/Tam/San/Mal)	AECC 2C	3+0+0	60	40	100	3
3	Introduction to 3D	DSC 7	0+2+3	60	40	100	5
4	3D Game Props	DSC 8	0+0+3	60	40	100	3
5	2D Game Essentials	DSC 9	0+2+3	60	40	100	5
6	AI or some other SEC	SEC SB	1+0+2	25	25	50	2
7	Sports/NCC/NSS/R&R(S&G)/ Cultural	SEC VB	0+0+2	25	25	50	2
	Total Credits			**350**	**250**	**600**	**23**

Year 2 Semester IV

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	Functional English - 4	AECC 1D	3+0+0	60	40	100	3
2	Language – 4 (Kan/Tel/Hin/Tam/San/Mal)	AECC 2D	3+0+0	60	40	100	3
3	3D Modelling & Texturing	DSC 10	0+2+3	60	40	100	5
4	Game Assets Pipeline and Level Design	DSC 11	0+0+3	60	40	100	3
5	Lighting and Rendering	DSC 12	0+2+3	60	40	100	5
6	Personality Development & Career Management	SEC SB	2+0+0	25	25	50	2

Proposed Syllabus for B.Sc Honour's in Animation & Game Design

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
7	Open Elective	OEC	3+0+0	60	40	100	3
8	Sports/NCC/NSS/R&R(S&G)/ Cultural	SEC VB	0+0+2	25	25	50	2
	Total Credits			**410**	**290**	**700**	**26**

Year 3 Semester V

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	3D Rigging and Animation	DSC 13	0+2+3	60	40	100	5
2	Internship	DSC 14	0+3+3	100	100	100	6
3	Game Character Animation	DSC 15	0+2+3	60	40	100	5
4	Elective 1: 1. Portfoio Development (Game Assets Design) 2. Portfoio Development (Game character Animation)	DSE 1	2+0+3	60	40	100	5
5	Cyber Security or some other SEC	SEC SB	1+0+2	25	25	50	2
6	Sports/NCC/NSS/R&R(S&G)/ Cultural	SEC VB	0+0+2	25	25	50	2
	Total Credits			**330**	**270**	**500**	**25**

Year 3 Semester VI

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	Particle & Shaders	DSC 16	0+3+3	60	40	100	6
2	Camera and Cinemachine	DSC 17	0+3+3	60	40	100	6
3	Internship	DSC 18	0+3+3		100	100	6
4	Elective 2: 1. Project Work on Game Portfolio using Unity 3D (Prototype of Interactive Level Design) 2. Project Work on Game Portfolio using Unreal (Prototype of Interactive Level Design)	DSE 2	2+1+3		100	100	6
5	Professional Communication	SEC SB	2+0+0	25	25	50	2
6	Sports/NCC/NSS/R&R(S&G)/ Cultural	SEC VB	0+0+2	25	25	50	2
	Total Credits			**370**	**330**	**500**	**25**

Year 4 Semester VII

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	Immersive Design - VR Specalization	DSC 19	0+3+3	60	40	100	6
2	Digital Sculpting	DSC 20	0+3+3	60	40	100	6
3	Pre-Visualization	DSC 21	0+3+3	60	40	100	6

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
4	Elective 3: Mini Project on 1. Media Advertising 2. Concept Art for Gaming	DSE 3	3+3+0	100	100	100	6
	Total Credits			**340**	**260**	**500**	**24**

Year 4 Semester VIII							
Sl. No	**Title of Course**	**Category of Courses**	**Teaching Hrs per Week (L+T+P)**	**SEE**	**CIE**	**Total Marks**	**Credits**
1	Immersive Design - AR Specalization	DSC 22	0+0+3	60	40	100	3
2	Game Textures and Effects	DSC 23	0+0+3	60	40	100	3
3	Movie Project Planning	DSC 24	0+0+3	60	40	100	3
4	Elective 4: 1. Advanced Game Level Design 2. Advanced Rigging & Animation	DSE 4	3+3+0	100	100	100	6
5	Research Project (Work/Internship with VIVA)	DSE 5	0+0+6	100+20	80	200	6
	Total Credits			**280**	**300**	**600**	**21**

BACHELOR DEGREE WITH HONOURS – Experience of workplace problem solving in the form of internship or research experience preparing for higher education or entrepreneurship experience.

Notes:
- One hour of lecture is equal to 1 Credit
- Two hours of tutorial is equal to 1 credit (Except Language)
- Two hours of tutorial is equal to 2 hours of teaching.
- Two hours of practical is equal to 1 credit
- Two hours of practical is equal to 1 hour of teaching

Practical class may be conducted in the Computer lab depending on the requirements. One batch of students should not exceed half (i.e, 40 or less than 40 students) of the number of students in each class/section. 2 hours of practical class is equal to 1 hour of teaching, however, whenever it is conducted for the entire class (i.e,) more than 40 students) 2 hours of Practical class is equal to two hours of teaching.

Acronyms Expanded

AECC : Ability Enhancement Compulsory Course
DSC : Discipline Specific Course
SEC : Skill Enhancement Course – Skill Based/ Value Based SB/VB
OEC : Open Elective Course
DSE : Discipline Specific Elective

SEE : Semester End Examination
CIE : Continuous Internal Evaluation
L+T+P : Lecture+Tutorial+Practical(s)

Detailed Syllabus for B.Sc (Animation and Game Design)

Year: 1	Semester: 1	AECC 1A	Functional English - 1	Credits: 3:0:0

Objectives:

1. To introduce students to the theory, fundamentals and tools of communication and to develop in them vital communication skills that is integral to personal, social and professional interactions.
2. Inculcate abilities needed to students such as: ability to share thoughts, emotions and ideas through various means of communication: both verbal and non-verbal. In the context of rapid globalization and increasing recognition of social and cultural pluralities, the significance of clear and effective communication has substantially enhanced
3. Fulfil the above state goals through an interactive mode of teaching-learning process and by focusing on various dimensions of communication skills: language of communication, various speaking skills such as personal communication, social interactions and communication in professional situations such as interviews, group discussions and office environments, important reading skills as well as writing skills such as report writing, note-taking etc.
4. While, to an extent, the art of communication is natural to all living beings, in today's world of complexities, it has also acquired some elements of science. It is hoped that after studying this course, students will find a difference in their personal and professional interactions.

SYLLABUS

UNIT I: Introduction to Grammar – What is grammar – Its importance, etc; - Different approaches to grammar: Traditional – Generative – Transformative – Communicative.

UNIT II: Articles and Determiners – Forms and Functions of Nouns, Pronouns and Prepositions

UNIT-III: Verbs (Transitive & Intransitive, Regular & Irregular) – Tense & Aspect – Auxiliaries (Primary & Modal) – Negatives – Questions – Agreement and Concord.

UNIT-IV: Forms and Functions of Adjectives, Adverbs, Agreement and Concord.

Text Books and References:
1. *"A Communicative Grammar of English"*, by G Leech and J Svarvik
2. *"Complete Grammar"*, by J H Pandey
3. *"Advanced English Grammar"*, P C Wren and H Martin

Year: 1	Semester: 1	AECC 2A	Language – 1 (Kan/Tel/Hin/Tam/San/Mal)	Credits: 3:0:0

Proposed Syllabus for B.Sc Honour's in Animation & Game Design

Objectives: To impart working knowledge of multi-lingual ability to students as part of projecting the composite culture of our country envisaged under Article 351 of the Indian Constitution and for strengthening national integration, Indian languages like Kannada, Tamil, Telugu, Malayalam and Hindi are offered. Students can choose any one of the above languages for study.

SYLLABUS
As stipulated by the University of Mysore

Year: 1	Semester: 1	DSC 1	Digital Art	Credits: 3:0:2

Objectives:
To familiarize the students with the tools used in Adobe Photoshop and its application for typography, image editing, digital painting etc. for print and digital media.

SYLLABUS

UNIT I: Getting started with Adobe Photoshop CC – Overview of Adobe Photoshop CC, Features, Overview of tools used, Importance of Adobe Photoshop CC

UNIT II: Working with Typography – Creating Typographies, Choosing the right font and color

UNIT III: Working with Layers and Images – Cropping a Photo, Resizing Images, Basics of Layers, Creating Layers for Print and Digital Media, Aligning Images with Multiple Layers, Merging Layer Techniques

UNIT IV: Working with Filters – Photoshop Filters, Smart Filters, Common Features of Filters

UNIT V: Digital Painting – working with brush tool, importance of using colors

UNIT VI: Masking and File Formats – Introduction to Mask, Creating Vector and Layer Masks, Essential File Formats, Choosing the Right format for Print and Digital Media

REFERENCES

1. Basic Drawing Techniques by Richard Box Pub: Winsor & Newton, (U.S.A)
2. Still Life by Sanjay Shelar, JyotsanaPrakashan(India).Pub.
3. Drawing and Anatomy by Victor Perard , Kingsport Press Pub(U.K).

Year: 1	Semester: 1	DSC 2	Introduction to Graphic Design & Creating Illustrations	Credits: 0:2:3

Objectives:
To learn the process of graphic design including the principles and elements of design, different color types and visualization techniques that are required in making a good design using Adobe Illustrator.

Proposed Syllabus for B.Sc Honour's in Animation & Game Design

SYLLABUS

UNIT I: Design Basics - Introduction to Design, History of Design, Content and Form, Rules for making Good Design, Graphic Design Process, Creating Effective Layouts

UNIT II: Principles and Elements of Design - Principles of Design, Elements of Design, Design Problems to Avoid

UNIT III: Understanding Colors – Introduction, Color Wheel, Primary and Secondary Colors, Black and White, Tertiary Colors, Warm and Cool Colors, Color Models, Hue, Saturation, Value, Transparent and Opaque Colors, Indexed Color, True color

UNIT IV: Graphical Aspects of Design and Computer Graphics – Aspects of Design, Introduction to Computer Graphics, Effects

UNIT V: Visualization - Visualization and Imagery Techniques, Direct And Indirect Approach, Thinking in various points of view

UNIT VI: Resolution and File Formats – Understanding resolution, image resolution, device resolution, printer resolution, interpolated resolution, digital image, file size and bit depth, scanning images, graphic file format.

UNIT VII: Understanding and working with Graphics and Web Images – Understanding Graphic images, types of graphic program, file formats for web, colors and text for the web.

REFERENCES

1) Graphic Design for the 21st century - by Charlotte Fiell, Peter Fiell
2) What is Graphic Design - by Quentin Newark
3) Graphic Design - by AarisSherin
4) Adobe Photoshop - by Bittu Kumar
5) Adobe Illustrator - by Code Kart
6) Adobe Photoshop - by Code Kart
7) Adobe illustrator - by Schwabe

Year: 1	Semester: 1	DSC 3	Fundamentals of Art	Credits: 0:0:3

Objectives:
To understand the basics of Art such as light, color and perspectives from various elements of nature and learn fundamentals of character sketching.

SYLLABUS

UNIT I: Outdoor studies – observing forms and shapes, Adding Tones, Shading with Texture Quality, Contour Drawing, Cinematography Drawing, Creating Rough sketches, Shadows, Overlapping Objects, Time and Season, Layers and Character Staging

Proposed Syllabus for B.Sc Honour's in Animation & Game Design

UNIT II: Lighting and Color Concepts – Understanding Lights, Understanding proper light source, lighting and shading, drawing groups of basic shapes, Primary, secondary, tertiary and quaternary color, warm and cool color applications, greyscale keys

UNIT III: Perspective study – understanding perspective, one, two, three and four point perspective

UNIT IV: Character Design Concepts – Role of a character designer, designing character, creating character drawings, character based on age, creating four legged animal, add-on features

REFERENCES

1. Art fundamentals : Color, Light, Composition, Anatomy – 3Dtotal publishing
2. Light for visual artists : Understanding & using visual light in art & design – Richard Yot
3. Bridgman's complete guide to drawing from life – George B Bridgman
4. How to draw : Drawing and sketching objects and environments

Year: 1	Semester: 1	SEC SB	Digital Fluency	Credits: 2:0:0

Objectives:

a. Understand the Computer concepts and Operations
b. Design and Demonstrate the MS Office applications

SYLLABUS

UNIT I: Basic Computer Concepts and Operations – Introduction, Computer in Daily Activities, Computer Components, Windows – Basics, Windows Accessories, File creation, Modification, conversion

UNIT II: Introduction, Editing a Document – Move and Copy text – Formatting text and paragraph – Finding and Replacing text and spelling checking – Using tabs, tables, and other features, Enhancing document – using mail merge and other features.

UNIT III: MS Excel – Introduction, Getting started with Excel – Editing cells and using commands and functions – moving, copying, inserting, deleting rows and columns – getting help and formatting a worksheet – Printing the worksheet – creating tables and charts

UNIT IV: MS Powerpoint – Introduction, Menus, Home, Inserts, Design, Animation, Slideshow. Adding new slides, Adding text box, rearranging slides

UNIT V: Internet Fundamentals and Application – Using the internet, creation of email. Sending email with attachments, using google form, internet applications

References:
1. *Fundamentals of Computers*, by Rajaraman V , Adabala N
2. *Fundamentals of Computers* by Manoj Wadhwa (Author)
3. *Fundamentals of Computers* by (V. Rajaraman)
4. *Learning MS-Word and MS-Excel*, by Rohit Khurana

Year: 1	Semester: 2	AECC 1B	Functional English - 2	Credits: 3:0:0

SYLLABUS

UNIT I: Introduction to Linguistics and Phonetics – Air-stream mechanism – Organs of Speech Mechanism – Classification and description of speech sounds in English a. Vowels and Diphthongs b. Consonants – Elementary Phonetic Symbols in Transcription

UNIT II: Verbs – linking verbs, auxiliaries, transitive ad-intransitive verbs, negative verbs and infinitives – Tenses, concord, adverbs, confusion of adjectives and adverbs, degrees of comparison

UNIT III: Introduction to the Language of Communication: Theory of Communication, types and modes of communication; verbal and non-verbal (spoken and written), personal, social and business, Barriers and strategies, intra-personal, Inter-personal and group communication

UNIT IV: Speaking skills: Monologue, dialogue, group discussion, Effective Communication, Interview, Public Speech – Reading and Understanding: Close reading, comprehension, Summary, Paraphrasing, Analysis and Interpretation – Writing skills: Documenting, report writing, making notes, Letter writing, E-mail

Text books and reading reference:
1. "*Unlock: Reading and Writing Skills*", by Sabina Ostrowska
2. "*Soft Skills and Professional Communication*", by Francis Peter SJ
3. "*Basic Communication Skills*", by P Kiranmai Dutt and Geetha Rajeevan

Year: 1	Semester: 2	AECC 2B	Language – 2 (Kan/Tel/Hin/Tam/San/Mal)	Credits: 3:0:0

As stipulated by University of Mysore

Code:	Year: 1	Semester: 2	DSC-A2	Game Art Fundamentals	Credits: 3:0:2

Objectives:
The Game Art & Design program teaches students how to conceptualize and develop video games from scratch.
The program is ranked among the top 10 in India by Animation Career Review. The Game Art & Design program combines art, animation, computer technology, sound design, story development and game design.

SYLLABUS

UNIT I - Demonstrate knowledge of Design applied to computer games and graphics.

UNIT II - Demonstrate knowledge of Color theory applied to computer games and graphics.

UNIT III - Demonstrate a basic understanding of Design principles sufficient to understand and creating the new assets in the Game Art.

UNIT IV - Demonstrate perspective Art for computer games

UNIT V - Demonstrate competency in the writing the scripts and visualization for games.

Reference Books:
1.Fundamentals of Math and Physics for Game Programmers 28 July 2005 by Wendy Stahler

Code:	Year: 1	Semester: 2	DSC-C2	Introduction to Video Editing	Credits:0:2:3

Objectives:
To familiarize students about audio and video editing using Adobe Audition and Premiere Pro interface and to get started with editing, working with clips and adding different effects.

SYLLABUS

UNIT I: Introduction to Adobe Audition - Fundamentals of Sound, Understanding Adobe Audition Interface, Adjusting Audio Preferences, Creating and Opening Files

UNIT II: Working with Audio Editing - Editing Audio Clips, Saving and Exporting File, Batch Process, Converting Sample Type

UNIT III: Editing Video - Basic Workflow, Adding, Rearranging, and Working with Clips in a Sequence, Rendering and Previewing Sequences, Overview of Audio and Audio Track Mixer, Working with Clips, Channels, and Tracks, About Effects - Applying, Removing, Finding, and Organizing Effects, Applying Audio Effects and Transitions

REFERENCES

1. Sound and Recording: Francis Rumsey, Tim McCormick
2. Modern Recording Techniques: David Miles Huber
3. Audio post production for film and Video: Jay Rose
4. Non-linear Editing:Bryce Button
5. Notes on Digital Film Editing: Gerhard Schumm

Code:	Year: 1	Semester: 2	DSC-B2	Cinematography and Photography Concepts	Credits: 0:0:3

Objectives:
On completion of the course, students will gain knowledge about camera, type of lighting, composition techniques for photography and sensors involved in photography and cinematography

SYLLABUS

UNIT I: Photography Concepts – Camera, Lighting, Composition Techniques

UNIT II: Cinematography Concepts – Cameras and sensors, lighting, exposure, camera movement

REFERENCES

1. Cinema Studies, The Key Concepts (3rd Ed.): Susan Haywood, London: Routledge
2. How to Read A Film: James Monaco. New York: OUP, 2000
3. Genre and Contemporary Hollywood: Steve Neal (Ed.). London: BFI, 2002

Year: 1	Semester: 2	SEC SB	Environmental Studies	Credits: 2:0:0

Objectives:
To develop the sense of awareness among the students about environment and its various problems. To help the students in realizing the inter-relationship between man and environment.

SYLLABUS
Unit 1: the multidisciplinary nature of environmental studies
Unit 2: natural resources
Unit 3: ecosystems
Unit 4: biodiversity and its conservation
Unit 5: environmental pollution
Unit 6: social issues and the environment
Unit 7: human population and the environment
Unit 8: field work, visit to a local area to document environmental assets, river/forest/grasslands/hill/mountain and environmental problems

Code:	Year: 2	Semester: 3	AECC 1C	Functional English-3	Credits: 3:0:0

As stipulated by the University of Mysore

Code:	Year: 2	Semester: 3	AECC 2C	Language -3 (Kan/San/Hin/Tam/Mal)	Credits: 3:0:0

As stipulated by the University of Mysore

Code:	Year: 2	Semester: 3	DSC-B3	Introduction to 3D Modelling	Credits:0:2:3

Objectives:
To understand the basics of 3D modelling such as 3D axes, projections, workspace and coordinate system and understand the processes involved from modelling up to post production.

SYLLABUS

UNIT I: Overview of 3D - Understanding 3D, 3D Projection, 3D Geometry, 3D Workspace

UNIT II: 3D Modeling to Rendering Process – Modeling, Materials and Textures, Lighting, Rigging, Animation, Rendering

UNIT III: 3D Animation Environment and Post-Production – Views and Projections

Reference Books:
1. Animation: From Pencil to Pixels by Tony White
2. Animator's Survival Kit – Richard Williams
3. The Illusion of Life – Frank Thomas &OlieJohnstan
4. Animation Script to Screen (Author: Shamus Culhane)
5. Animation Writing and Development: From Script Development to Pitch By Jean AnnWright
6. The History of Moviemaking: Animation and Live-Action, from Silent to Sound, Black-AndWhite to Color (Voyages of Discovery), Scholastic Trade

Code:	Year: 2	Semester: 3	DSC-8	3D Game Props	Credits:0:0:3

Objectives:
Understanding the concepts and principles involved in creating 3D Game Props
SYLLABUS

UNIT I: Introduction to 3d interface, and using the view ports.Creating a Game Prop by reference importing and using Vertices ,Edges ,Faces.
UNIT II:Creating Low poly Weapons,Creating the Sword Blades,Modelling the Weapons Rack,Creating a Simple Shield Prop,
UNIT III: Preparing 3d model to unwrap for texturing and using deformer like solidfy , mirror,hair, boolean .
UNIT III: Creating the game environment .
UNIT V: Texturing the 3d prop with the shading options using texture coordinates, creating texture materials and applying texture maps.
UNIT VI: Introduction to basic animations to 3d game props. Usage if bone tool, and making parent and child animation.
UNIT VII: Introduction to Handling the camera and making the props render, and exporting the props for game engine.
REFERENCES

1) Blender 3D Basics Beginner's Guide by Gordon Fisher
2) Basic Drawing Techniques by Richards Box

Code:	Year: 2	Semester: 3	DSC-C3	2D Game Essentials	Credits:0:2:3

Objectives:
The 2D Game Essentials program teaches students how to conceptualize and develop 2d video games from scratch. It combines art, animation, computer technology, sound design, story development and game design.

SYLLABUS

UNIT I: Demonstrate knowledge of 2Design using the software tools applied to computer games and graphics.

UNIT II: Demonstrate knowledge of 2d Character Design applied to computer games and graphics.

UNIT III: Demonstrate a basic understanding of Design method sufficient to understand and creating the new 2assets in the Game Art.

UNIT IV: Demonstrate sprite sheet Art for computer 2d games.

UNIT V: Demonstrate competency in Creating UI Design and visualization for games.

Reference Books:
1.   D
     eveloping 2D Games with Unity: Independent Game Programming with C# Paperback – Import, 29 November 2018

Code:	Year: 2	Semester: 4	AECC 1D	Functional English-4	Credits: 3:0:0

As stipulated by the University of Mysore

Code:	Year: 2	Semester: 4	AECC 2D	Language -4 (Kan/San/Hin/Tam/Mal)	Credits: 3:0:0

As stipulated by the University of Mysore

Code:	Year: 2	Semester: 4	DSC-A4	Texturing and Shading 3D Models	Credits: 0:2:3

Objectives: On completion of this topic, students will be able to understand the concepts in shading and texturing 3D Models using Maya for various models and characters.

SYLLABUS

UNIT I: Introduction to Shading and Texturing - Materialistic Properties of Objects, Shader/Material, textures, UVW Co-ordinate System, Maya Hypershade, Working with Maya Shading Nodes - Blinn, Phong,an Lambert Shading Nodes

UNIT II: Working with 2D and 3D Textures - Procedural Textures - An Introduction, Difference between Bitmap and Procedural Textures, Working with 2D Procedural Textures, Working with 3D Procedural Textures

UNIT III: Basics of UV Mapping – Bump, Normal and Displacement Maps

UNIT IV: Layered Shader and Layered Texture - Understanding the Layered Shade, Applying Layer Shaders, Understanding the Layered Texture, Working with Layered Textures

UNIT V: Introduction to UV Unwrap – BG – UVs, UV Editor, UV Mapping Techniques

UNIT VI: Unwrapping and texturing a character – Skin shaders, Diffuse Maps, Specular Maps, creating Bump Maps, Texturing body and apparel

UNIT V: Fundamentals of Hypershade and Utilities

REFERENCES

1. Principles of Form and Design by Wucius Wong John Wiley & Sons, New York
2. Digital compositing for film & video by Steve Wright
3. Professional digital compositing: Essential Tools and Techniques by Lee Lanier, Pub. - Sybex.

Code:	Year: 2	Semester: 4	DSC-B4	Game Assets Pipeline and Level Design	Credits: 0:0:3

Objectives:
The Game Assets Pipeline and Level Design program teaches students how to conceptualize and develop 2d video games from scratch. It combines art, animation, computer technology, sound design, story development and game design.

SYLLABUS

UNIT I:Demonstrate knowledge of Assets using the software tools applied to computer games and graphics.

UNIT II: Demonstrate knowledge of Environment Design using Assets applied to computer games and graphics.

UNIT III: Demonstrate a basic understanding the method of basic game level design using the Game Art.

UNIT IV: Demonstrate of Advanced Game Level Design using the Game Art.

UNIT V: Game Level Design Prototype.

Reference Books:
1. Arte De Game Design: O Livro Original by Jesse Schell.

Code:	Year: 2	Semester: 4	DSC-C4	Lighting and Rendering	Credits: 0:2:3

Objectives:
To learn the Fundamentals and principles of Lighting of a 3D model and publishing it with rendering.

SYLLABUS

UNIT I: Fundamentals of Standard Lights and Shadows – Basic properties of Lights, Types of Lights in Maya, Types of Shadows

UNIT II: Studio Lighting and three-point lighting.-Principles of three-point lighting, planning the setup, lighting the character, shadows, important tips on light setup

UNIT III: Day Lighting- Exterior Model and fill lights – Creating a day light setup on a background, using fill lights, using rim and Hi Lights for the background, Character Lighting setup based on the background, Pre-compositing character and background

UNIT IV: Night light -Interior light and passes – Lighting the background, creating a Moonlight setup on an Interior Background

UNIT V: Image Based lighting – Introduction to HDRI, Lights and Shadows in the Live Plate, Adjusting the camera as per the Live Plate, Shading and Lighting for Cyborg Character, Color correction

REFERENCES

1.   Introducing Autodesk Maya 2014 Basic Guide By DariushDerakshani
2.   Color And Light : A Guide For The Realist Painter (James Gumey Art)
3.   Digital Lighting And Rendering – 1st And 2nd Edition. – By JermyBim

Code:	Year: 2	Semester: 4	SEC-SB	Personality Development and Career Management	Credits: 3:0:2

Objectives: The main objective of this scheme is to develop a critical mind, self-confidence and assurance to society. The students are given training in Personality development activities, self-employment and all possible other activities that enhance their social confidence. It is helpful to them to survive in any type of environment.
Unit 1: personality development
Unit 2: attitude & emotional intelligence
Unit 3 goal setting, motivation & time management
Unit 4: career development
Unit 5: profession al communication

Code:	Year: 3	Semester: 5	DSC-A5	3D Rigging and Animation	Credits:0:2:3

Objectives:
To understand the fundamentals of Rigging and Animation required to a good 3D Animation model that can be used for games, movies etc.

SYLLABUS

UNIT I: Introduction to Rigging – Concept of Rigging in Maya, Relation between Objects, Designing a chair Rig

UNIT II: Working with Constraints and Set Driven Key – Set Driven Key, Creating a Functional Rig Setup of a Cuckoo Clock

UNIT III: Mechanical Rig (Usage of constraints, utilities, SDK) – Aim Constraint, Developing a Functional Mechanical Rig

UNIT IV: Deformers - Lattice, Wrap, Cluster – What are Deformers?, Lattice Deformer, Wrap Deformers, Clusters

UNIT V: Working with Sculpt, Jiggle, and Wire Tool Deformer – Sculpt Deformer, Jiggle Deformer, Wire tool deformer

UNIT VI: Introduction to Character Rigging – Concept of Character Rigging, Introduction to joints, Joint creation process, develop a join system for a character

UNIT VII: Introduction to Timeline and Keyframe Animation – Animation Interface, Animation Preferences, Understanding Key frame Animation

UNIT VIII: Bouncing Ball – Introduction to Dope Sheet, Understanding the graph editor, tangents, Bouncing ball assignment, gravity

UNIT IX: Pendulum Exercise – Pendulum Animation Fundamentals, Arc of Motion, Animating the pendulum, Secondary Action (Drag)

UNIT X: Wave Exercise – working on wave animation

UNIT XI: Working with weights – Sack Exercise – Explain the basics of Weight, Adding emotions, Flour Sack – Jumping Actions

UNIT XII: Creating Strong Poses – Gesture Drawings – An introduction, Line of Action, Negative Space Versus Positive Space, Silhouettes, Creating a pose using line of action

REFERENCES

1) An Introduction to Rigging in the Entertainment Industry (Applications & Techniques)
2) Art of Rigging by George Biddlecombe, Pub.- Dover Publications by Chris Higs,Pub.- Entertainment Technology Press Ltd.
3)

Code:	Year: 3	Semester: 5	DSEC 14	Internship	Credits: 0:3:3

4)
5) The student is expected to work in any company for a minimum period of 6 weeks. He is supposed to work on the assignments given by the company and submit the same as per the schedule given. He is supposed to submit a report from the company on successful completion. Alternatively if he not able to get any company internship, the college can assign a simulated project to the student. On submission, the same can be evaluated by the respective lecturer.

Code:	Year: 3	Semester: 5	DSC-B5	Game Character Animation	Credits: 0:2:3

Objectives:
The Game Character Animation program teaches students how to Animate video games characters from scratch. It combines art, animation, computer technology, sound design, story development and game design.

SYLLABUS

UNIT I: Demonstrate knowledge of Character rigging using the software tools applied to computer games.

UNIT II:Demonstrate knowledge of first person Character rigging and animation using the software tools applied to computer games.

UNIT III: Demonstrate knowledge of third person Character rigging and animation using the software tools applied to computer games.

UNIT IV: Demonstrate knowledge of none playing Character rigging and animation using the software tools applied to computer games.

UNIT V: Introduction to the animation controller using the software tools.

Reference Books:
1.   G
     ame Anim Video Game Animation Explained Paperback by Jonathan Cooper, 25 January 2019.

Code:	Year: 3	Semester: 5	DSE-1	Elective 1:Portfolio Development	Credits: 2:0:3

Option 1: Portfolio Development in Game Assets Design
Option 2: Portfolio Development in Game Character Animation)

Objective:
To showcase the skills learnt in the Game Assets Design or Game Character Animation by creating a portfolio on any topic of their choice. One of the lecturer will be assigned as mentor who will guide throughout the period of portfolio development. The portfolio should be submitted in the format mentioned by the lecturer in the stipulated time frame.

Code:	Year: 3	Semester: 6	DSC-A6	Particle and Shaders	Credits: 3:0:2

Objectives:
The program teaches students how to generate Particle & Shaders for video games from scratch. It combines art, animation, computer technology, sound design, story development and game design.

SYLLABUS

UNIT I: Demonstrate Basic knowledge of Particle using the software tools applied to computer games.

UNIT II: Demonstrate knowledge of Particle and generate rain using the Particle System tools applied to computer games.

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UNIT III: Demonstrate knowledge of Particle and generate dust and storm using the Particle System tools applied to computer games.

UNIT IV: Demonstrate knowledge of Particle and generate fire and snow using the Particle System tools applied to computer games.

UNIT V: Introduction to the Shaders and Shaders controller using the software tools.

Reference Books:
1. Unity 2021 Shaders and Effects Cookbook.

Code:	Year: 3	Semester: 5	DSC-C5	Camera and Cinemachine	Credits: 0:2:3

Objectives:
The Camera and cinemachine program teaches students how to use the Camera and animate it For video games from scratch.
The program is ranked among the top 10 in India by Animation Career Review. The Game Art & Design program combines art, animation, computer technology, sound design, story development and game design.

SYLLABUS

UNIT I**:** Demonstrate knowledge of Camera using the software tools applied to computer games.

UNIT II: Demonstrate knowledge of Camera animation for first Person shooter using System tools applied to computer games.

UNIT III: Demonstrate knowledge of Camera animation for third Person shooter using System tools applied to computer games.

UNIT IV: Demonstrate knowledge of Camera animation for the path animation using System tools applied to computer games.

UNIT V: Introduction to the cinemachine and camera controller and rendering using the software tools.

Reference Books:
1. Game Anim Video Game Animation Explained Paperback by Jonathan Cooper
.- 25 January 2019.

Code:	Year: 3	Semester: 6	DSC-18	Internship	Credits: 0:3:3

The student is expected to work in any company for a period of 6 weeks. He is supposed to work on the assignments given by the company and submit the same as per the schedule given. He is supposed to submit a report from the company on successful completion. Alternatively if he not able to get any

company internship, the college can assign a simulated project to the student. On submission, the same can be evaluated by the respective lecturer.

Code:	Year: 3	Semester: 6	DSE-2	Elective 2: Project work	Credits: 2:0:3

Option 1: Project Work on Game Portfolio using Unity 3D (Prototype of Interactive Level Design)

Option 2 : Project Work on Game Portfolio using Unreal Engine (Prototype of Interactive Level Design)

Objective:

To showcase the skills learnt in the 3D Game Creation by creating a portfolio on any topic of their choice. One of the lecturer will be assigned as mentor who will guide throughout the period of portfolio development. The portfolio should be submitted in the format mentioned by the lecturer in the stipulated time frame.

Code:	Year: 4	Semester: 7	DSC A7	Immersive Design – VR Specialization	Credits: 0:3:3

Objectives:
At the end of this module, students will have a brief understanding of the techniques used for Virtual Reality Game applications and software's used to create such an immersive experience.

SYLLABUS

UNIT I: Introduction to virtual reality using software tools applied to computer games.

UNIT II: Demonstrate knowledge of virtual reality integration with level design using the software tools applied to computer games.

UNIT III: Demonstrate knowledge of virtual reality integration with Game UI design using the software tools applied to computer games.

UNIT IV: Demonstrate knowledge of basic scripts for virtual reality using the software tools applied to computer games.

UNIT V: Integration of virtual reality with the Controllers and console.

Reference Books:

1. The Game Console: A Photographic History from Atari to Xbox Hardcover – 30 September 2017

Code:	Year: 4	Semester: 7	DSC A8	Digital Sculpting	Credits: 0:3:3

Objectives:

To understand the basic tools in ZBrush, its interface, basics of sculpting, character creation process and advanced tools in sculpting for surface and procedural modelling.

SYLLABUS

UNIT I: Getting started with ZBrush - Introduction to Digital Sculpting, Getting Started with the ZBrush Interface, Getting Ready for Sculpting

UNIT II: Digital Sculpting and Retopolizing - Character Sculpting, Sculpting using Advance Tools, Retopolizing

UNIT III: Hard Surface Modeling, Texturing and Rendering - Hard Surface Modeling, Texturing and Polly painting, Lights and Rendering

References:
1. 1-Introducing Z-Brush by-Eric Keller
2. 2. Digital Sculpting Human anatomy By-Scott Spencer

Code:	Year: 4	Semester: 7	DSC A9	Pre-Visualization	Credits: 0:3:3

Objectives:
To understand the concept of pre-visualization involved before the creation of any film and to understand the storytelling and 3D Previs Process.

SYLLABUS

UNIT I: VFX Storytelling - What is VFX Storytelling, 3 Stages of VFX Film-Making, Steps of VFX Pre-Production process, What is Pre-visualization, Skills of a Previs Artist, Different Types of Previs (Postvis, Techvis), Interface & Features of iClone

UNIT II: 3D Previs Process
Casting : Customise your own animation-ready talking characters
Action : Generate motion with puppet animation tools, animate motions with Human IK, apply loopable motions
Scene Building : Construct 3D Scene using content library
Camera & Lighting : Create different Lighting inscenes, apply multiple cameras & camera movements and switch between them for enhanced storytelling
Compositing & Visual Effects : preview visual effect output in real-time

References
1. Building Interactive Worlds in 3D: Virtual Sets and Pre-visualization for Games, Film & the Web by Jean-Marc Gauthier, January 2018

Code:	Year: 4	Semester: 7	DSE 3	Elective 3: Option1Media	Credits: 3:0:3

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				Advertising	

Objectives:
The objective of this course it to distinguish between print and visual communication, identify the types and functions of print advertising and learn the use of fonts, colours and graphics for a campaign

SYLLABUS

UNIT I: Design for Print and Advertising, Types of Print Advertising

UNIT II: Working with Colors, Fonts and Graphics

UNIT III: Creating Stationery – Key points of a visiting card, different types of visiting cards, creating a visiting card, creating a letterhead, creating an envelope

UNIT IV: Creating a bottle in 3D and applying labels – Determining the right type of labels, creating a bottle outline, creating a label, creating a 3D Bottle

UNIT V: Creating a Brochure – Determining Dimensions of Folds, creating a Brochure

UNIT VI: Creating a Hoarding – Exporting files, Illustrator for web, Slices, Save the web, Scalable Vector Graphics, Data-driven graphics and variables, Printing

References
1. Agarwal C.D., Media and Advertising, Mohit publication,2008
2. Palmer, Frederic: Visual Elements of Art and Design, 1989, Longman
3. Porter, Tom and Goodman, Sue: Manual of Graphic Technique 2: For Architects, Graphic Designers and Artists, 1982, Astragal Books. London

Code:	Year: 4	Semester: 7	DSE 3	Elective 3: Option2 Concept Art for Gaming	Credits: 3:0:3

Objectives:
The objective of this course it to produce concept design for Game Characters and Game Environments for all Game Levels. This concept art shows the style and look of the game.

SYLLABUS

UNIT I: Design Characters and assets generally used in Game Design

UNIT II: Working with Colors, Fonts and Graphics

UNIT III: Creating Environments that suite the characters given to you.

UNIT IV: Creating a Game and making the Game Art Document

UNIT V: Creating a storyboard for a Game

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UNIT VI: Creating a Concept Art a Game – by using the Game Art Document

References
1Agarwal C.D., Media and Advertising, Mohit publication,2008

2Palmer, Frederic: Visual Elements of Art and Design, 1989, Longman

3 Porter, Tom and Goodman, Sue: Manual of Graphic Technique 2: For Architects, Graphic Designers and Artists, 1982, Astragal Books. London

Code:	Year: 4	Semester: 8	DSC-A10	Immersive Design – AR Specialization	Credits: 0:0:3

Objectives:
The Immersive Design - AR Specalization program teaches students how to Design AR based video games from scratch. Concepts from this course can be used by students to create Game UI designs that integrates Augmented Reality using various software tools.

SYLLABUS

UNIT I: Introduction to Augmented reality using software tools applied to computer games.

UNIT II: Demonstrate knowledge of Augmented reality integration with level design using the software tools applied to computer games.

UNIT III: Demonstrate knowledge of Augmented reality integration with Game UI design using the software tools applied to computer games.

UNIT IV: Demonstrate knowledge of basic scripts for AR using the software tools applied to computer games.

UNIT V: Integration of AR with the Controllers and console.

Reference Books:
1. The Game Console: A Photographic History from Atari to Xbox Hardcover – 30 September 2017

Code:	Year: 4	Semester: 8	DSC A11	Game Textures and Effects	Credits: 0:0:3

Objectives:
This module aims to familiarise students with various kinds of textures that can be used during a game design as well as effects that can be applied to computer and mobile games.

SYLLABUS

UNIT I: Demonstrate Basic knowledge of Particle using the software tools applied to computer games.

UNIT II: Demonstrate knowledge of Particle and generate rain, dust, storm, fire, snow using the Particle System tools applied to computer games.

UNIT III: Introduction to the Shaders and Shaders controller and using shader for the texting of the material using the software tools.

Reference Books:
1.   U
    nity 2021 Shaders and Effects Cookbook.

Code:	Year: 4	Semester: 8	DSC A12	Movie Project Planning	Credits: 0:0:3

Objectives:
To understand the different animation stages, recognize client requirements, estimate the project budget, create script and storyboard, plan and schedule the project, define production, create, compose and publish the project.

SYLLABUS

UNIT I: Production House Process – Introduction to a Production house, 2D and 3D Animation Stages

UNIT II: Pre-Production - Client Brief, Research, Create Story and Script, Visualization, Create Story Board, Planning and Scheduling

UNIT III: Production – Modelling, Materials, Light and Camera, Rigging, Animation

UNIT IV: Post Production – Editing, Compositing, Adding Sound, Publishing

References
1. The 3D production Pipeline by Fabio Pellacini
2. Film Art: An introduction by David Bordwell, Kristin Thompson, Publisher: McGraw- Hill Education, 2012

Code:	Year: 4	Semester: 8	DSE 5	Elective4: Option1 Advanced Game Level Design	Credits: 3:3:0

Objectives:
The Advanced Game Level course teaches students the entire game design pipeline on how to create game level designs and game environments using software tools like Unity.

SYLLABUS

Proposed Syllabus for B.Sc Honour's in Animation & Game Design

UNIT I: How to make 2D environment (Form and Shape, Anatomy and Proportions, Perspective, Breaking Down Color,Lighting and Shading) Unity 3D Level Design (Primitives, Textures, Creating Trees, Adding Lights , Adjusting Lighting, Particles, Game Controller, Building A Game C# in game development)

UNIT II: How to make 2D background (Form and Shape, Anatomy and Proportions, Perspective, Breaking Down Color,,Lighting and Shading) 2D Character Design (Primitives, Textures, Creating face,, expressions, anatomy, body parts, cartoon making)

UNIT III: Introduction to the advanced animation controller using visual scripting the software tools.

Reference Books:
1. Game Anim Video Game Animation Explained Paperback by Jonathan Cooper- 25 January 2019.
2. Fundamentals of Game Design, 3e Paperback – 2015 by Adams (Author)

Code:	Year: 4	Semester: 8	DSE 4	Elective 4 Option2 Advanced Fx and Simulation	Credits: 3:3:0

Objectives:
To understand the advanced concepts of Fx & Simulation required a good observation on real world fx simulations.

SYLLABUS

UNIT I: Advance Particles system - nDynamics
Creating fx simulation such as fire,water,snow,waterfalls,etc… , Create Passive Collider, Dynamic Properties, Creating nParticles Interaction, ncache Overview, nparticle to mesh , Adding particle ncache, Collisions, Dynamic Properties

UNIT II: Advance Cloth Simulations
Creating Clothing for Character, Create Passive Collider, Dynamic Properties, Creating nCloth and nParticles Interaction, nCloth Overview, nCloth Creation, Adding Dynamic Cloth to Character, cloth taring using ncloth, Work with transform constraint , Collisions, Dynamic Properties

UNIT III: Advance Hair Simulations
Creating Hair for Character, Create Passive Collider, Dynamic Properties, Creating nHair and nParticles Interaction, Hair Overview, Hair Creation, Adding Hair to Character, XGen in Maya, Work with Clump Modifiers, Collisions, Dynamic Properties

UNIT IV: Goals - Goals, particle goals, non particle goals, Goal waights.

UNIT V: Rendering Particles - Rendering particles, Hardware rendering Particle, Software rendering Particle, Arnold render , Particle cloud shader,Particle sampler info node, Particle Cash shadow .

UNIT VI: Advance Fur Simulation

Simulating Hair, Hair Modifications, Hair Rendering, Introduction to Fur, Fur Creation and Modification, Adding Fur to Character

UNIT VII: Advanced Bifrost Simulations
New Simulation Tools: Bifrost and Viewport 2.0, Boss Ocean Simulation, Bullet Physics

UNIT VIII: Advanced Realflow Simulations,Rigid Simulations, Elastics Simulations,Velocity & viscosity , Particle Clipping For Meshing, Ocean Simulation & Shading Effects, Rendering.

References
1. Autodesk Maya 2018: A Comprehensive Guide Paperback - by Tickoo Sham, November 1, 2017, BPB Publications
2.Maya Studio Projects: Dynamics - Todd Palamar, Nov 2, 2009, Sybex
3.The Art of Fluid Animation - Jos Star, Oct 30, 2015, A K Peters/CRC Press
4.Real Flow: Break the Burnout Cycle and Unlock High Performance in the New World of Work

Code:	Year: 4	Semester: 8	DSE 5	Research Project (Work/Internship with VIVA)	Credits: 0:0:6

The student is expected to work in any company for a period of 6 weeks. He is supposed to work on the assignments given by the company and submit the same as per the schedule given. He is supposed to submit a report from the company on successful completion. Alternatively if he not able to get any company internship, the college can assign a simulated project to the student. On submission, the same can be evaluated by the respective lecturer.

ANNEXURE
Bachelor of Honour's
(Graphics, Animation and VFX)

As per NEP Regulations
To be implemented from the Academic year
2022-23

Proposed Scheme & syllabus for BSc Hon's (Graphics, Animation and VFX)
As per NEP 2020 regulations

I.OBJECTIVES:

1. To develop skills required to be an expert in the field of Graphics, Animation and VFX
2. To provide competent and technical skills personnel to the industry in the area of Graphics, Animation and VFX.
3. To enhance the employability skills.
4. To encourage entrepreneurship among student pursuing the education.
5. To ensure holistic development of students.

II. ELIGIBILITY FOR ADMISSION:

Candidates who have passed two years Pre-University course of Karnataka State in any discipline or its equivalent (Viz., 10 + 2 of other states, ITI, Diploma etc) are eligible for admission into this program. Foreign nationals are also eligible to take admission into this course subjected to eligibility clearance from University of Mysore. Admission will be done as per the norms set by University of Mysore.

III. DURATION OF THE PROGRAM:

The program of study is 4 years with 8 semesters. A candidate shall complete his or her degree within 8 academic years from the date of his or her admission to the first semester. The NEP 2020 provides multiple exit options

first students as specified below.

EXIT OPTIONS:
The students who successfully complete one year or two semesters and leave the program will be awarded Certificate (in Graphics, Animation and VFX)
The students who successfully complete 2 years or 4 semesters and leave the program will be awarded Diploma (in Graphics, Animation and VFX)
Students who successfully complete 3 years or 6 semesters and leave the program will be awarded Bachelors degree (in Graphics, Animation and VFX)
An option is given to the students to continue their education to the fourth year and those who successfully complete 4 years or 8 semesters will be awarded Bachelor's degree in honours (Graphics, Animation and VFX)

IV. MEDIUM OF INSTRUCTION
The medium of instruction shall be English

V. ATTENDANCE.
a. For the purpose of calculating attendance each semester shall be taken as a Unit.
b. A student shall be conserved to have satisfied the requirement of attendance for the semester, if he/she has attended not less than 75% in aggregate of the number of working periods in each of the subjects compulsorily.
c. A student who fails to complete the course in the manner stated should not be permitted to take the University examination

VI. TEACHING AND EVALUATION
As basic degree from recognised University are only eligible to teach and to evaluate all the honours courses except languages constitution of India and environmental studies health wellness social and emotional learning/ sports/ NCC/ NSS others

VII.SKILL DEVELOPMENT SESSIONS
a.   Every college is required to establish a dedicated computer lab for the purpose of conducting practical classes and working on assignments.

b. In every semester the students should maintain a record book in which a minimum of 4 exercises or activities for course are to be recorded.

VIII. SCHEME OF EXAMINATION

a. There shall be a University examination at the end of each semester the maximum marks of the universities examination in each people shall be 60 marks for DSC /DSE /Vocational / SEC and OEC.

b. Internal assessment 40 marks for DSC /DSE /Vocational / SEC and OEC.

Guidelines for continuous internal evaluation and semester end examination

The CIE and SEE will carry 40% and 60% weightage each to enable the course to be evaluated for a total of 100 marks it is respective of its credits. The evaluation system of the course is comprehensive and continuous during the entire period of the semester. For a course the CIE and SEE evaluation will be on the following parameters.

Sl.No	Parameters for the evaluation	Marks
	Continuous Internal Evaluation (CIE)	
1	Continuous and comprehensive Evaluation (CCE)-(A)	20
2	Internal Assessment Test (IAT) (B)	20
	Total of CIE(A+B)	40
3	Semester End Examinations (SEE)-(C)	60
	Total of CIE and SEE (A+B+C)	100 Marks

Continuous Internal evaluation:

a. Continuous and comprehensive evaluation (CCE):

The CCE will carry a maximum of 20% weight age (20 Marks) of total marks of a course before the start of academic session in each semester, a faculty

member should choose for his/ her course.
 Minimum for 4 of the following assessment methods with 5 marks each
(4X5=20)
i. Individual Assignment
ii. Seminars classroom presentations quizzes
iii. Group discussion class discussion group assignments
iv. Case studies / Caselets
v. Participatory and Industry Integrated Learning/ Industrial Visits
vi. Practical activities / Problem solving exercises
vii. Participation in seminars / Academic events/ Symposia.
viii. Mini projects/Capstone projects

a.   **Internal Assessment Test (IAT)**

The IAT will carry a maximum of 20% weightage (20 Marks) of total marks of a
course. Under this component, two test will have to be conducted in
semester for 40 marks each and the same is to be scaled down to 10 marks
each

Internal Assessment Test

Course Code: Name of the Course:
Duration: 1 Hour   Total Marks: 40

Part A
 Answer any one of the following questions. (10 Marks)
      (1X10=10)
  1...
  2. ....

Part B
 Answer any one of the following questions. (10 Marks)
      (1X10=10)
  3. ....
  4. ....

Part C

Answer any two of the following questions. (10 Marks)
(2X10=20)

5. ....

6. ....

7.………………………………………………………………………………………………

Semester End Examination (SEE):

The semester end examination will be conducted for all the students who eligible to take the exam. SEE of the course shall be conducted after fulfilling the minimum attendance requirement as per the university norms and completing CCE as prescribed above. The BOS constituted by the University has prepared the seep framework and the question paper for SEE is presented below for 60 marks.

PATTERN OF QUESTION PAPER

Time: 3 Hours   Marks: 60

Answer the following questions. (15 Marks)   (15X4=60)

1...

2...

OR

3. . ...

4. . . ..

5. . ...

6. . ...

OR

7. . ...

8. ....

9. ....

10. . ...

OR

11. . ...

12. ....

13. ....

14. . ...

OR

15. . ...

16………………………………………………………..

Minimum Marks for a Pass:

Candidates who have obtained a minimum of 35% marks in semester end examination i.e, 21 marks out of 60 marks of theory examination and 40% in aggregate i.e, total 40 marks out of 100 marks of semester End Exam marks and Continuous Internal Evaluation Marks.

Proposed Scheme of Teaching Evaluation for B.Sc Hon's (Graphics, Animation and VFX)

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
	Year 1 Semester I						
1	Functional English - 1	AECC 1A	3+0+0	60	40	100	3
2	Language – 1 (Kan/Tel/Hin/Tam/San/Mal)	AECC 2A	3+0+0	60	40	100	3
3	Digital Art	DSC 1	3+0+2	60	40	100	5
4	Introduction to Graphic Design & Creating Illustrations	DSC 2	0+2+3	60	40	100	5
5	Fundamentals of Art	DSC 3	0+0+3	60	40	100	3
6	Digital Fluency	SEC SB	2+0+0	25	25	50	2
7	Yoga, Health and Wellness	SEC VB	0+0+2	25	25	50	2
	Total Credits			350	250	600	23

	Year 1 Semester II						
Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	Functional English - 2	AECC 1B	3+0+0	60	40	100	3
2	Language – 2 (Kan/Tel/Hin/Tam/San/Mal)	AECC 2B	3+0+0	60	40	100	3
3	Fundamentals of Pre-Production	DSC 4	0+2+3	60	40	100	5
4	Introduction to Audio & Video Editing	DSC 5	0+2+3	60	40	100	5
5	Cinematography and Photography Concepts	DSC 6	0+0+3	60	40	100	3
6	Environmental Studies	SEC SB	1+0+2	25	25	50	2
7	Open Elective	OEC	3+0+0	60	40	100	3
8	Sports/NCC/NSS/R&R(S&G)/ Cultural	SEC VB	0+0+2	25	25	50	2
	Total Credits			**410**	**290**	**700**	**26**

	Year 2 Semester III						
Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	Functional English - 3	AECC 1C	3+0+0	60	40	100	3
2	Language – 3 (Kan/Tel/Hin/Tam/San/Mal)	AECC 2C	3+0+0	60	40	100	3
3	Introduction to 3D	DSC 7	0+2+3	60	40	100	5
4	2D Animation	DSC 8	0+0+3	60	40	100	3
5	Digital Compositing	DSC 9	0+2+3	60	40	100	5
6	AI or some other SEC	SEC SB	1+0+2	25	25	50	2
7	Sports/NCC/NSS/R&R(S&G)/ Cultural	SEC VB	0+0+2	25	25	50	2
	Total Credits			**350**	**250**	**600**	**23**

	Year 2 Semester IV						
Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits

Proposed Syllabus for B.Sc Honour's in Graphics, Animation & Vfx

1	Functional English - 4	AECC 1D	3+0+0	60	40	100	3
2	Language – 4 (Kan/Tel/Hin/Tam/San/Mal)	AECC 2D	3+0+0	60	40	100	3
3	Modelling,Texturing 3D Models	DSC 10	0+2+3	60	40	100	5
4	Match Moving & Camera Tracking	DSC 11	0+0+3	60	40	100	3
5	Lighting and Rendering	DSC 12	0+2+3	60	40	100	5
6	Personality Development & Career Management	SEC SB	2+0+0	25	25	50	2
7	Open Elective	OEC	3+0+0	60	40	100	3
8	Sports/NCC/NSS/R&R(S&G)/ Cultural	SEC VB	0+0+2	25	25	50	2
	Total Credits			**410**	**290**	**700**	**26**

Year 3 Semester V

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	3D Rigging and Animation	DSC 13	0+2+3	60	40	100	5
2	Internship	DSC 14	0+3+3	100	100	100	6
3	Motion Graphics	DSC 15	0+2+3	60	40	100	5
4	Elective 1: 1. Portfoio Development (Graphic Design) 2. Portfoio Development (Motion Graphics)	DSE 1	2+0+3	60	40	100	5
5	Cyber Security or some other SEC	SEC SB	1+0+2	25	25	50	2
6	Sports/NCC/NSS/R&R(S&G)/ Cultural	SEC VB	0+0+2	25	25	50	2
	Total Credits			**330**	**270**	**500**	**25**

Year 3 Semester VI

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
1	Particle Dynamics	DSC 16	0+2+3	60	40	100	5
2	3D Compositing	DSC 17	0+2+3	60	40	100	5
3	Internship	DSC 18	0+3+3		100	100	6

Proposed Syllabus for B.Sc Honour's in Graphics, Animation & Vfx

Sl. No	Title of Course	Category of Courses	Teaching Hrs per Week (L+T+P)	SEE	CIE	Total Marks	Credits
4	Elective 2: 1. Project Work on 3D Modelling 2. Project Work on Rigging & Animation 3. Project Work on VFx	DSE 2	2+0+3		100	100	5
5	Professional Communication	SEC SB	2+0+0	25	25	50	2
6	Sports/NCC/NSS/R&R(S&G)/ Cultural	SEC VB	0+0+2	25	25	50	2
	Total Credits			**370**	**330**	**500**	**25**

Year 4 Semester VII							
Sl. No	**Title of Course**	**Category of Courses**	**Teaching Hrs per Week (L+T+P)**	**SEE**	**CIE**	**Total Marks**	**Credits**
1	Roto & Paint	DSC 19	0+3+3	60	40	100	6
2	Digital Sculpting	DSC 20	0+3+3	60	40	100	6
3	Pre-Visualization	DSC 21	0+3+3	60	40	100	6
4	Elective 3: Mini Project on 1. Media Advertising 2. 3D Motion Graphics	DSE 3	3+3+0	100	100	100	6
	Total Credits			**340**	**260**	**500**	**24**

Year 4 Semester VIII							
Sl. No	**Title of Course**	**Category of Courses**	**Teaching Hrs per Week (L+T+P)**	**SEE**	**CIE**	**Total Marks**	**Credits**
1	FX & Simulation	DSC 22	0+0+3	60	40	100	3
2	Matte Painting	DSC 23	0+0+3	60	40	100	3
3	Movie Project Planning	DSC 24	0+0+3	60	40	100	3
4	Elective 4: 1. Advanced Compositing 2. Advanced Fx & Simulation	DSE 4	3+3+0	100	100	100	6
5	Research Project (Work/Internship with VIVA)	DSE 5	0+0+6	100+20	80	200	6
	Total Credits			**280**	**300**	**600**	**21**

BACHELOR DEGREE WITH HONOURS – Experience of workplace problem solving in the form of internship or research experience preparing for higher education or entrepreneurship experience.

Notes:

- One hour of lecture is equal to 1 Credit
- Two hours of tutorial is equal to 1 credit (Except Language)
- Two hours of tutorial is equal to 2 hours of teaching.
- Two hours of practical is equal to 1 credit
- Two hours of practical is equal to 1 hour of teaching

Practical class may be conducted in the Computer lab depending on the requirements. One batch of students should not exceed half (i.e, 40 or less than 40 students) of the number of students in each class/section. 2 hours of practical class is equal to 1 hour of teaching, however, whenever it is conducted for the entire class (i.e,) more than 40 students) 2 hours of Practical class is equal to two hours of teaching.

Acronyms Expanded

AECC : Ability Enhancement Compulsory Course

DSC : Discipline Specific Course

SEC : Skill Enhancement Course – Skill Based/ Value Based SB/VB

OEC : Open Elective Course

DSE : Discipline Specific Elective

SEE : Semester End Examination

CIE : Continuous Internal Evaluation

L+T+P : Lecture+Tutorial+Practical(s)

Detailed Syllabus for B.Sc (Graphics, Animation and VFX)

Year: 1	Semester: 1	AECC 1A	Functional English - 1	Credits: 3:0:0

Objectives:

1. To introduce students to the theory, fundamentals and tools of communication and to develop in them vital communication skills that is integral to personal, social and professional interactions.
2. Inculcate abilities needed to students such as: ability to share thoughts, emotions and ideas through various means of communication: both verbal and non-verbal. In the context of rapid globalization and increasing recognition of social and cultural pluralities, the significance of clear and effective communication has substantially enhanced
3. Fulfil the above state goals through an interactive mode of teaching-learning process and by focusing on various dimensions of communication skills: language of communication, various speaking skills such as personal communication, social interactions and communication in professional situations such as interviews, group discussions and office environments, important reading skills as well as writing skills such as report writing, note-taking etc.
4. While, to an extent, the art of communication is natural to all living beings, in today's world of complexities, it has also acquired some elements of science. It is hoped that after studying this course, students will find a difference in their personal and professional interactions.

SYLLABUS

UNIT I: Introduction to Grammar – What is grammar – Its importance, etc; - Different approaches to grammar: Traditional – Generative – Transformative – Communicative.

UNIT II: Articles and Determiners – Forms and Functions of Nouns, Pronouns and Prepositions

UNIT-III: Verbs (Transitive & Intransitive, Regular & Irregular) – Tense & Aspect – Auxiliaries (Primary & Modal) – Negatives – Questions – Agreement and Concord.

UNIT-IV: Forms and Functions of Adjectives, Adverbs, Agreement and Concord.

Text Books and References:
1. *"A Communicative Grammar of English"*, by G Leech and J Svarvik
2. *"Complete Grammar"*, by J H Pandey
3. *"Advanced English Grammar"*, P C Wren and H Martin

Year: 1	Semester: 1	AECC 2A	Language – 1 (Kan/Tel/Hin/Tam/San/Mal)	Credits: 3:0:0

Objectives: To impart working knowledge of multi-lingual ability to students as part of projecting the composite culture of our country envisaged under Article 351 of the Indian Constitution and for strengthening national integration, Indian languages like Kannada, Tamil, Telugu, Malayalam and Hindi are offered. Students can choose any one of the above languages for study.

SYLLABUS
As stipulated by the University of Mysore

Year: 1	Semester: 1	DSC 1	Digital Art	Credits: 3:0:2

Objectives:
To familiarize the students with the tools used in Adobe Photoshop and its application for typography, image editing, digital painting etc. for print and digital media.

SYLLABUS

UNIT I: Getting started with Adobe Photoshop CC – Overview of Adobe Photoshop CC, Features, Overview of tools used, Importance of Adobe Photoshop CC

UNIT II: Working with Typography – Creating Typographies, Choosing the right font and color

UNIT III: Working with Layers and Images – Cropping a Photo, Resizing Images, Basics of Layers, Creating Layers for Print and Digital Media, Aligning Images with Multiple Layers, Merging Layer Techniques

UNIT IV: Working with Filters – Photoshop Filters, Smart Filters, Common Features of Filters

UNIT V: Digital Painting – working with brush tool, importance of using colors

UNIT VI: Masking and File Formats – Introduction to Mask, Creating Vector and Layer Masks, Essential File Formats, Choosing the Right format for Print and Digital Media

REFERENCES

1. Basic Drawing Techniques by Richard Box Pub: Winsor & Newton, (U.S.A)
2. Still Life by Sanjay Shelar, JyotsanaPrakashan(India).Pub.
3. Drawing and Anatomy by Victor Perard , Kingsport Press Pub(U.K).

Year: 1	Semester: 1	DSC 2	Introduction to Graphic Design & Creating Illustrations	Credits: 0:2:3

Objectives:

To learn the process of graphic design including the principles and elements of design, different color types and visualization techniques that are required in making a good design using Adobe Illustrator.

SYLLABUS

UNIT I: Design Basics - Introduction to Design, History of Design, Content and Form, Rules for making Good Design, Graphic Design Process, Creating Effective Layouts

UNIT II: Principles and Elements of Design - Principles of Design, Elements of Design, Design Problems to Avoid

UNIT III: Understanding Colors – Introduction, Color Wheel, Primary and Secondary Colors, Black and White, Tertiary Colors, Warm and Cool Colors, Color Models, Hue, Saturation, Value, Transparent and Opaque Colors, Indexed Color, True color

UNIT IV: Graphical Aspects of Design and Computer Graphics – Aspects of Design, Introduction to Computer Graphics, Effects

UNIT V: Visualization - Visualization and Imagery Techniques, Direct And Indirect Approach, Thinking in various points of view

UNIT VI: Resolution and File Formats – Understanding resolution, image resolution, device resolution, printer resolution, interpolated resolution, digital image, file size and bit depth, scanning images, graphic file format.

UNIT VII: Understanding and working with Graphics and Web Images – Understanding Graphic images, types of graphic program, file formats for web, colors and text for the web.

REFERENCES

1) Graphic Design for the 21st century - by Charlotte Fiell, Peter Fiell
2) What is Graphic Design - by Quentin Newark
3) Graphic Design - by AarisSherin
4) Adobe Photoshop - by Bittu Kumar
5) Adobe Illustrator - by Code Kart
6) Adobe Photoshop - by Code Kart
7) Adobe illustrator - by Schwabe

Year: 1	Semester: 1	DSC 3	Fundamentals of Art	Credits: 0:0:3

Objectives:
To understand the basics of Art such as light, color and perspectives from various elements of nature and learn fundamentals of character sketching.

SYLLABUS

UNIT I: Outdoor studies – observing forms and shapes, Adding Tones, Shading with Texture Quality, Contour Drawing, Cinematography Drawing, Creating Rough sketches, Shadows, Overlapping Objects, Time and Season, Layers and Character Staging

UNIT II: Lighting and Color Concepts – Understanding Lights, Understanding proper light source, lighting and shading, drawing groups of basic shapes, Primary, secondary, tertiary and quaternary color, warm and cool color applications, greyscale keys

UNIT III: Perspective study – understanding perspective, one, two, three and four point perspective

UNIT IV: Character Design Concepts – Role of a character designer, designing character, creating character drawings, character based on age, creating four legged animal, add-on features

REFERENCES

1. Art fundamentals : Color, Light, Composition, Anatomy – 3Dtotal publishing
2. Light for visual artists : Understanding & using visual light in art & design – Richard Yot
3. Bridgman's complete guide to drawing from life – George B Bridgman
4. How to draw : Drawing and sketching objects and environments

Year: 1	Semester: 1	SEC SB	Digital Fluency	Credits: 2:0:0

Objectives:

a. Understand the Computer concepts and Operations
b. Design and Demonstrate the MS Office applications

SYLLABUS

UNIT I: Basic Computer Concepts and Operations – Introduction, Computer in Daily Activities, Computer Components, Windows – Basics, Windows Accessories, File creation, Modification, conversion

UNIT II: Introduction, Editing a Document – Move and Copy text – Formatting text and paragraph – Finding and Replacing text and spelling checking – Using tabs, tables, and other features, Enhancing document – using mail merge and other features.

UNIT III: MS Excel – Introduction, Getting started with Excel – Editing cells and using commands and functions – moving, copying, inserting, deleting rows and columns – getting help and formatting a worksheet – Printing the worksheet – creating tables and charts

Proposed Syllabus for B.Sc Honour's in Graphics, Animation & Vfx

UNIT IV: MS Powerpoint – Introduction, Menus, Home, Inserts, Design, Animation, Slideshow. Adding new slides, Adding text box, rearranging slides

UNIT V: Internet Fundamentals and Application – Using the internet, creation of email. Sending email with attachments, using google form, internet applications

References:
1. *Fundamentals of Computers*, by Rajaraman V , Adabala N
2. *Fundamentals of Computers* by Manoj Wadhwa (Author)
3. *Fundamentals of Computers* by (V. Rajaraman)
4. *Learning MS-Word and MS-Excel*, by Rohit Khurana

Year: 1	Semester: 2	AECC 1B	Functional English - 2	Credits: 3:0:0

SYLLABUS

UNIT I: Introduction to Linguistics and Phonetics – Air-stream mechanism – Organs of Speech Mechanism – Classification and description of speech sounds in English a. Vowels and Diphthongs b. Consonants – Elementary Phonetic Symbols in Transcription

UNIT II: Verbs – linking verbs, auxiliaries, transitive ad-intransitive verbs, negative verbs and infinitives – Tenses, concord, adverbs, confusion of adjectives and adverbs, degrees of comparison

UNIT III: Introduction to the Language of Communication: Theory of Communication, types and modes of communication; verbal and non-verbal (spoken and written), personal, social and business, Barriers and strategies, intra-personal, Inter-personal and group communication

UNIT IV: Speaking skills: Monologue, dialogue, group discussion, Effective Communication, Interview, Public Speech – Reading and Understanding: Close reading, comprehension, Summary, Paraphrasing, Analysis and Interpretation – Writing skills: Documenting, report writing, making notes, Letter writing, E-mail

Text books and reading reference:
1. "*Unlock: Reading and Writing Skills*", by Sabina Ostrowska
2. "*Soft Skills and Professional Communication*", by Francis Peter SJ
3. "*Basic Communication Skills*", by P Kiranmai Dutt and Geetha Rajeevan

Year: 1	Semester: 2	AECC 2B	Language – 2 (Kan/Tel/Hin/Tam/San/Mal)	Credits: 3:0:0

As stipulated by University of Mysore

Year: 1	Semester: 2	DSC 4	Fundamentals of Pre-production	Credits: 0:2:3

Objectives:
To discuss the basics of storytelling, scriptwriting, composition of a creative outline that is involved in the production of any film or commercial. This course also discusses the nuisances of storyboarding for Animatics.

SYLLABUS

UNIT I: Storytelling Techniques - Introduction to Cartoon Animation Writing, Introduction to Storytelling, Adaptation, Telling a Good Story, Structuring a Story, Writing a Story

UNIT II: Scriptwriting - Introduction to Scriptwriting, Tips to Construct a Story, Scriptwriting Format and Elements, Modern Ways to Write Scripts, Creating Scripts for Animation Films, Creating Scripts for Commercials

UNIT III: Introduction of Animatics – About Animatics, Difference between storyboards and Animatics, Application areas of Animatics

UNIT IV: Enhancing storyboards for Animatics – Scanning storyboards, enhancing lines, using colors, coloring background and characters, applying hues and tones, using filters

Reference Books:
1. The Art of Layout and Storyboarding (Author: Mark Byrne)
2. Shot by shot (Author : Steven D Katz)
3. Animation Script to Screen (Author: Shamus Culhane)

Year: 1	Semester: 2	DSC 5	Introduction to Video Editing	Credits: 0:2:3

Objectives:
To familiarize students about audio and video editing using Adobe Audition and Premiere Pro interface and to get started with editing, working with clips and adding different effects.

SYLLABUS

UNIT I: Introduction to Adobe Audition - Fundamentals of Sound, Understanding Adobe Audition Interface, Adjusting Audio Preferences, Creating and Opening Files

UNIT II: Working with Audio Editing - Editing Audio Clips, Saving and Exporting File, Batch Process, Converting Sample Type

UNIT III: Editing Video - Basic Workflow, Adding, Rearranging, and Working with Clips in a Sequence, Rendering and Previewing Sequences, Overview of Audio and Audio Track Mixer, Working with Clips, Channels, and Tracks, About Effects - Applying, Removing, Finding, and Organizing Effects, Applying Audio Effects and Transitions

REFERENCES

1. Sound and Recording: Francis Rumsey, Tim McCormick
2. Modern Recording Techniques: David Miles Huber
3. Audio post production for film and Video: Jay Rose
4. Non-linear Editing:Bryce Button
5. Notes on Digital Film Editing: Gerhard Schumm

Year: 1	Semester: 2	DSC 6	Cinematography and Photography Concepts	Credits: 0:0:3

Objectives:
On completion of the course, students will gain knowledge about camera, type of lighting, composition techniques for photography and sensors involved in photography and cinematography

SYLLABUS

UNIT I: Photography Concepts – Camera, Lighting, Composition Techniques

UNIT II: Cinematography Concepts – Cameras and sensors, lighting, exposure, camera movement

REFERENCES

1. Cinema Studies, The Key Concepts (3rd Ed.): Susan Haywood, London: Routledge
2. How to Read A Film: James Monaco. New York: OUP, 2000
3. Genre and Contemporary Hollywood: Steve Neal (Ed.). London: BFI, 2002

Year: 1	Semester: 2	SEC SB	Environmental Studies	Credits: 2:0:0

Objectives:

To develop the sense of awareness among the students about environment and its various problems. To help the students in realizing the inter-relationship between man and environment.

SYLLABUS
Unit 1: the multidisciplinary nature of environmental studies
Unit 2: natural resources
Unit 3: ecosystems
Unit 4: biodiversity and its conservation
Unit 5: environmental pollution
Unit 6: social issues and the environment
Unit 7: human population and the environment
Unit 8: field work, visit to a local area to document environmental assets, river/forest/grasslands/hill/mountain and environmental problems

Code:	Year: 2	Semester: 3	AECC 1C	Functional English-3	Credits: 3:0:0

As stipulated by the University of Mysore

Code:	Year: 2	Semester: 3	AECC 2C	Language -3 (Kan/San/Hin/Tam/Mal)	Credits: 3:0:0

As stipulated by the University of Mysore

Code:	Year: 2	Semester: 3	DSC-7	Introduction to 3D Modelling	Credits: 0:2:3

Objectives:
To understand the basics of 3D modelling such as 3D axes, projections, workspace and coordinate system and understand the processes involved from modelling up to post production.

SYLLABUS

UNIT I: Overview of 3D - Understanding 3D, 3D Projection, 3D Geometry, 3D Workspace

UNIT II: 3D Modeling to Rendering Process – Modeling, Materials and Textures, Lighting, Rigging, Animation, Rendering

UNIT III: 3D Animation Environment and Post-Production – Views and Projections

Reference Books:
1. Animation: From Pencil to Pixels by Tony White
2. Animator's Survival Kit – Richard Williams
3. The Illusion of Life – Frank Thomas &OlieJohnstan

4. Animation Script to Screen (Author: Shamus Culhane)
5. Animation Writing and Development: From Script Development to Pitch By Jean Ann Wright
6. The History of Moviemaking: Animation and Live-Action, from Silent to Sound, Black-AndWhite to Color (Voyages of Discovery), Scholastic Trade

Code:	Year: 2	Semester: 3	DSC-8	2D Animation	Credits: 0:0:3

Objectives:
Understanding the concepts and principles involved in classical animation and 2D Digital Animation concepts using Animate CC.

SYLLABUS

UNIT I: Introduction to Principles of Animation – Stretch and Squash, Timing and Spacing, Ease in and ease out, Arcs, follow through and overlapping, staging, anticipation, exaggeration, Animation Principles in Animate

UNIT II: Introduction to Animate CC – About Animate CC, Workspace, manage windows and panels, using the stage

UNIT III: Working with timeline, layers and keyframes - Understanding the Timeline, Changing the Appearance of the Timeline, Changing the Display Frames in the Timeline, Onion Skinning, Moving the Playhead, Using layers and keyframes

UNIT IV: Shapes and Symbols – Creating basic shapes, stroke and fill, patterns, types of symbols, editing symbols, using library panels

UNIT V: Creating Animations – Understanding Motion tween, classic tween, shape tween, suing sound in animate CC

REFERENCES

1) The Animator Survival Kit by Richards Williams
2) Basic Drawing Techniques by Richards Box
3) Drawing and Anatomy by Victor Perard
4) Sketching by Pratap Mulik
5) Human Anatomy for Artist by Eliot Goldfinger

Code:	Year: 2	Semester: 3	DSC-9	Digital Compositing	Credits: 0:2:3

Objectives:

At the end of this course, student will be able to define various types of compositing, create a composition for a project with appropriate parameters, learn to manage layers, practice animation, perform effects and more using Adobe After Effects.

SYLLABUS

UNIT I: Getting started with Adobe After Effects CC - Introduction to After Effects, Setup and Installation, System Requirements, General workflow in After Effects CC, Menu Bar, Tool Bar, and Panels, Dynamic Links, Working with Other Applications, Projects and Composition

UNIT II: Adding Various Digital Assets and Previewing the Composition - Importing Digital Assets, Interpreting Footages, Details of Files, Switches and Columns, Working on Digital Assets, Arranging and Managing Layers, Previewing the Composition, Region of Interest, Snapshots

UNIT III: Creating Animation Effects - Animation Basics, Keyframes, Expressions, Graph Editor, Motion Paths, Motion Blur, Animating with Puppet Tools, Time-based Effects

UNIT IV: Text Animation and Animation Effects - Applying Effects Using Preset, Mask, Color Keying, Working with Green Screen Footages, Blending Modes, Text Animation, Particles

UNIT V: 3D in After Effects, Previewing and Rendering Output

REFERENCES

1. Editing Digital Video: The Complete Creative and Technical Guide by Robert Goodman (McGraw-Hill)
2. Digital compositing for film & video by Steve Wright
3. Professional digital compositing: Essential Tools and Techniques by Lee Lanier, Pub. - Sybex.

Code:	Year: 2	Semester: 4	AECC-1D	Functional English 4	Credits: 3:0:0

As stipulated by Mysore University

Code:	Year: 2	Semester: 4	AECC-2D	Language 4 (Kan/San/Hin/Tam/Mal)	Credits: 3:0:0

As stipulated by Mysore University

Code:	Year: 2	Semester: 4	DSC-10	Texturing and Shading 3D Models	Credits: 0:2:3

Objectives: On completion of this topic, students will be able to understand the concepts in shading and texturing 3D Models using Maya for various models and characters.

SYLLABUS

UNIT I: Introduction to Shading and Texturing - Materialistic Properties of Objects, Shader/Material, textures, UVW Co-ordinate System, Maya Hypershade, Working with Maya Shading Nodes - Blinn, Phong,an Lambert Shading Nodes

UNIT II: Working with 2D and 3D Textures - Procedural Textures - An Introduction, Difference between Bitmap and Procedural Textures, Working with 2D Procedural Textures, Working with 3D Procedural Textures

UNIT III: Basics of UV Mapping – Bump, Normal and Displacement Maps

UNIT IV: Layered Shader and Layered Texture - Understanding the Layered Shade, Applying Layer Shaders, Understanding the Layered Texture, Working with Layered Textures

UNIT V: Introduction to UV Unwrap – BG – UVs, UV Editor, UV Mapping Techniques

UNIT VI: Unwrapping and texturing a character – Skin shaders, Diffuse Maps, Specular Maps, creating Bump Maps, Texturing body and apparel

UNIT V: Fundamentals of Hypershade and Utilities

REFERENCES

1. Principles of Form and Design by Wucius Wong John Wiley & Sons, New York
2. Digital compositing for film & video by Steve Wright
3. Professional digital compositing: Essential Tools and Techniques by Lee Lanier, Pub. - Sybex.

Code:	Year: 2	Semester: 4	DSC-11	Match Moving and Camera Tracking	Credits: 0:0:3

Objectives:
To understand about match moving, a cinematic technique that allows the insertion of computer graphics into live-action footage with correct position, scale, orientation, and motion relative to the photographed objects in the shot.

SYLLABUS
UNIT I: Tracker Node - Need for Tracker Node, Viewer Tools, Positioning Track Anchors, Automatic Keyframe Tracking, Applying Track Data

UNIT II: Planar Tracker - Connecting the Planar Tracker Node, Planar Tracking, Altering Tracking Results, Adding Image to Planar Surface

UNIT III: Camera Tracking - Steps to Connect the Camera Tracker Node, Masking, Multi-View Scripts, Camera Parameters, Sequence Tracking

UNIT IV: Still Mode - Tracking Still Frames, Viewing Reference Frames and Track Data, Frame Sets, Troubleshooting

UNIT V: User Tracks & Solving Camera- Adding User Tracks, Tracking Methods, Tracking Assists, Tracking a Scene Manually, Assigning 3D Survey Points, Viewing Solving Data, Troubleshooting

Reference Books:
1. Matchmoving: The Invisible Art of Camera Tracking - Tim Dobbert, Cdr edition, Sybex, 2005
2. The Art and Technique of Matchmoving: Solutions for the VFX Artist - Erica Hornung, 1 edition, Routledge, 2010
3. The Filmmaker's Guide to Visual Effects: The Art and Techniques of VFX for Directors, Producers, Editors and Cinematographers - EranDinur, 1 edition, Routledge, 2017
4. [digital] Visual Effects and Compositing - Jon Gress, 1st Edition, New Riders; 2014

Code:	Year: 2	Semester: 4	DSC-12	Lighting and Rendering	Credits: 0:2:3

Objectives:
To learn the Fundamentals and principles of Lighting of a 3D model and publishing it with rendering.

SYLLABUS

UNIT I: Fundamentals of Standard Lights and Shadows – Basic properties of Lights, Types of Lights in Maya, Types of Shadows

UNIT II: Studio Lighting and three-point lighting.-Principles of three-point lighting, planning the setup, lighting the character, shadows, important tips on light setup

UNIT III: Day Lighting- Exterior Model and fill lights – Creating a day light setup on a background, using fill lights, using rim and Hi Lights for the background, Character Lighting setup based on the background, Pre-compositing character and background

UNIT IV: Night light -Interior light and passes – Lighting the background, creating a Moonlight setup on an Interior Background

UNIT V: Image Based lighting – Introduction to HDRI, Lights and Shadows in the Live Plate, Adjusting the camera as per the Live Plate, Shading and Lighting for Cyborg Character, Color correction

REFERENCES

1. Introducing Autodesk Maya 2014 Basic Guide By DariushDerakshani
2. Color And Light : A Guide For The Realist Painter (James Gumey Art)
3. Digital Lighting And Rendering – 1st And 2nd Edition. – By JermyBim

Code:	Year: 2	Semester: 4	SEC-SB	Personality Development and Career Management	Credits: 3:0:2

Objectives: The main objective of this scheme is to develop a critical mind, self-confidence and assurance to society. The students are given training in Personality development activities, self-employment and all possible other activities that enhance their social confidence. It is helpful to them to survive in any type of environment.
Unit 1: personality development
Unit 2: attitude & emotional intelligence
Unit 3 goal setting, motivation & time management
Unit 4: career development
Unit 5: profession al communication

Code:	Year: 3	Semester: 5	DSC-13	3D Rigging and Animation	Credits: 0:2:3

Objectives:
To understand the fundamentals of Rigging and Animation required to a good 3D Animation model that can be used for games, movies etc.

SYLLABUS

UNIT I: Introduction to Rigging – Concept of Rigging in Maya, Relation between Objects, Designing a chair Rig

UNIT II: Working with Constraints and Set Driven Key – Set Driven Key, Creating a Functional Rig Setup of a Cuckoo Clock

UNIT III: Mechanical Rig (Usage of constraints, utilities, SDK) – Aim Constraint, Developing a Functional Mechanical Rig

UNIT IV: Deformers - Lattice, Wrap, Cluster – What are Deformers?, Lattice Deformer, Wrap Deformers, Clusters

UNIT V: Working with Sculpt, Jiggle, and Wire Tool Deformer – Sculpt Deformer, Jiggle Deformer, Wire tool deformer

UNIT VI: Introduction to Character Rigging – Concept of Character Rigging, Introduction to joints, Joint creation process, develop a join system for a character

UNIT VII: Introduction to Timeline and Keyframe Animation – Animation Interface, Animation Preferences, Understanding Key frame Animation

UNIT VIII: Bouncing Ball – Introduction to Dope Sheet, Understanding the graph editor, tangents, Bouncing ball assignment, gravity

UNIT IX: Pendulum Exercise – Pendulum Animation Fundamentals, Arc of Motion, Animating the pendulum, Secondary Action (Drag)

UNIT X: Wave Exercise – working on wave animation

UNIT XI: Working with weights – Sack Exercise – Explain the basics of Weight, Adding emotions, Flour Sack – Jumping Actions

UNIT XII: Creating Strong Poses – Gesture Drawings – An introduction, Line of Action, Negative Space Versus Positive Space, Silhouettes, Creating a pose using line of action

REFERENCES

1) An Introduction to Rigging in the Entertainment Industry (Applications & Techniques)
2) Art of Rigging by George Biddlecombe, Pub.- Dover Publications by Chris Higs,Pub.- Entertainment Technology Press Ltd.

Code:	Year: 3	Semester: 5	DSEC 14	Internship	Credits: 0:3:3

The student is expected to work in any company for a minimum period of 6 weeks. He is supposed to work on the assignments given by the company and submit the same as per the schedule given. He is supposed to submit a report from the company on successful completion. Alternatively if he not able to get any company internship, the college can assign a simulated project to the student. On submission, the same can be evaluated by the respective lecturer.

Code:	Year: 3	Semester: 5	DSEC 15	Motion Graphics	Credits: 0:2:3

Objectives:
On completion of the course, students will be able to understand the basics of motion graphics, special effects using Adobe After Effects and applying effects in Adobe After Effects.

SYLLABUS

UNIT I: Introduction to Motion Graphics - Pal and NTSC formats, Frame rate, Adobe After effect interface, Panels ,composition, composition setting, nested composition, pre composition, preferences, importing files, transform properties, key farming, basic animation using transform properties, motion blur, interpolation, graph, ,blending modes

UNIT II: Case study of motion graphics video, Text tool, Parenting, Masking, types of masking tool, stroke application of masking, creation of motion graphics video(explainer video)

UNIT III: Making Basic animation using keyfarme, Creating Basic motion graphics video, Creating rotoscopy video, Creating explainer video, Creating cinematic effects, Creating chroma video, Creating tracking video

Reference Books:

1.Adobe After Effects Classroom in a Book (2021 release) by Lisa Fridsma
2. Creating Motion Graphics with After Effects: Essential and Advanced Techniques, 5th Edition, Version CS5 by Chris Meyer and Trish Meyer
3. Adobe After Effects CS6 Digital Classroom Book by Jerron Smit.
4.Creating Motion Graphics with After Effects by Chris Meyer and Trish Meyer

Code:	Year: 3	Semester: 5	DSE-1	Elective 1:Portfolio Development	Credits: 2:0:3

Option 1: Portfolio Development in Graphic Design
Option 2: Portfolio Development in Motion Graphics

Objective:
To showcase the skills learnt in the Graphic designing or Motion Graphics Designing by creating a portfolio on any topic of their choice. One of the lecturer will be assigned as mentor who will guide throughout the period of portfolio development. The portfolio should be submitted in the format mentioned by the lecturer in the stipulated time frame.

Code:	Year: 3	Semester: 6	DSC-16	Particle Dynamics	Credits: 0:2:3

Objectives:
1.To understand how to paint on canvas using various types of brushes and paint strokes.
2.To understand the concept of nCloth system
3.To create dynamic simulations for clothes
4.To describes working with Maya Fur

SYLLABUS

UNIT I:

Visual Effects- Description- Types- Particles – Analysis- Size- Sand Effects – Smoke Effects- Fire Effects – Cloud Effects – Snow Effects

UNIT II:
Fluid Effects-Coloring- designing Clouds Background – Designing Fog Effects – Explosion Effects– Fire Effects with flames - Space Effects and designs- Designing Thick Smoke

UNIT III:
Maya nDynamics – Clothing and Hair
Creating Clothing for Character, Create Passive Collider, Dynamic Properties, Creating nCloth and nParticles Interaction, Hair Overview, Hair Creation, Adding Hair to Character, XGen in Maya, Work with Clump Modifiers, Collisions, Dynamic Properties

UNIT IV:
Designing Paint Effects – Coloring paints- Designing Trees and green effects – Designing Weather and seasons –Effects on seasons- Designing Glass image – Designing Different glass reflection- Designing Glow Effects – Liquid Effects and reflection design

UNIT V:
Designing Special Effects – Designing effects of Hair and shape – Designing Fur EffectsDesigning Clothes and effects
Reference Books:
1. Autodesk Maya 2018: A Comprehensive Guide Paperback - by Tickoo Sham, November 1, 2017, BPB Publications
2.Maya Studio Projects: Dynamics - Todd Palamar, Nov 2, 2009, Sybex
3.The Art of Fluid Animation - Jos Star, Oct 30, 2015, A K Peters/CRC Press

Code:	Year: 3	Semester: 6	DSC-17	3D Compositing	Credits: 0:2:3

Objectives:
To understand general workflow of Nuke, the basic features of Nuke window, the functions of tools available in the Nuke Toolbar, working of key frames in the Dope sheet and the concept of nodes and how to work with it.

SYLLABUS

UNIT I: Getting Started with Nuke - Components of the Graphic User Interface, Understanding Workflow, Working with Nodes, Working with Nuke Window, Working with Nuke Tool Bar, Working with Nuke Menu Bar, Understanding the Viewer, Understanding Framecycler

UNIT II: Understanding the Interface - Basic Composite Working with Process Trees, Creating a Simple Process Tree, Merging Images, Animating Parameters, Using Curve Editor, Customizing the Interface

UNIT III: Understanding Nodes - Touring the Interface with a Basic Composite Working with Nodes, Selecting Nodes, Renaming Nodes, Inserting and Manipulating Nodes in the Tree, Changing Properties, Rendering, Touring the Interface with a Basic Composite Editing Nodes, Cloning Nodes, Understanding Merge Node, Creating Animation with Keyframes

UNIT IV: Compositing final renders - How to use multi render system.

Reference Books:
1. The Foundry Nuke X 7 for Compositors Paperback-by Prof. Sham Tickoo Purdue Univ. (Author), CADCIM Technologies (Author), Edition – 1st (June 20, 2013), Publication: CADCIM Technologies
 2. Digital Compositing for Film and Video: Production Workflows and Techniques- by Steve Wright (Author), Edition -4th, Publication: Routledge

Code:	Year: 3	Semester: 6	DSC-18	Internship	Credits: 0:3:3

The student is expected to work in any company for a period of 6 weeks. He is supposed to work on the assignments given by the company and submit the same as per the schedule given. He is supposed to submit a report from the company on successful completion. Alternatively if he not able to get any company internship, the college can assign a simulated project to the student. On submission, the same can be evaluated by the respective lecturer.

Code:	Year: 3	Semester: 6	DSE-2	Elective 2: Project work	Credits: 2:0:3

Option 1: Project Work on 3D Modelling

Option 2 : Project Work on Rigging & Animation

Option 3: Project Work on VFx
Objective:

To showcase the skills learnt in the 3D Modelling / Rigging & Animation / VFx by creating a portfolio on any topic of their choice. One of the lecturer will be assigned as mentor who will guide throughout the period of portfolio development. The portfolio should be submitted in the format mentioned by the lecturer in the stipulated time frame.

Code:	Year: 4	Semester: 7	DSC-19	Roto and Paint	Credits: 0:3:3

Objectives:
To impart basic concepts of Rotoscopy in VFX, understand the general workflow of Nuke and Silhouette, process of creating traditional key-framed roto and assisted roto using Silhouette and Nuke and to understandthe step by step approach in exporting mattes, vector shapes and trackers to compositing software.

SYLLABUS
UNIT I:
RotoPaint Introducing RotoPaint's Interface, Rotoscoping in VFX, SilhouetteFX, Getting to Know the Interface, Creating New Projects, Import, Creating New Sessions, Working with Shapes/Layers/Points, Core Competencies, Rotoscoping Workflow, Power Matte Node, Power Matte Parameters, IK (Inverse Kinematics), Motion Tracking, Types of Trackers.

UNIT II:
RotoPaint Understanding the Curve Editor, Understanding Point Tracker, Working with Tracker Pop-Up Menu, Applying Trackers, Exporting Tracking Data, Importing Tracking Data, Planar Tracking, Mocha Tracker, Understanding Motion Blur, Understanding Shot Stabilization , Working with Occlusion and Spinning, Scene Improvement Techniques, Understanding Paint Node

UNIT III:
Keying and Rendering: Understanding Features of Keying, Working with different types of Keying, Understanding Keyer Node, Working with Deartifact, Working with Primary Matte, Working with Secondary Matte, Rendering objects

UNIT IV:
Introduction to Roto and RotoPaint& Using Bezier and B-Spline Tools for Rotoscoping Introduction to Roto and RotoPaint, RotoPaint Node, RotoPaint Toolbar, Drawing Paint Strokes, Bezier and Cusped Tools, B-Spline Tool, Ellipse, Rectangle, and Cusped Rectangle Tools, Selecting the Output Format and Channels, Combining Paint, Roto, and Animation

UNIT V:
Editing Strokes and Shapes: Selecting Existing Strokes/Shapes for Editing, Editing Attributes Common to Strokes and Shapes, Transforming Strokes/Shapes/Groups, Adjusting Mask Controls, Animating Strokes/Shapes, Viewing Points in the Curve Editor and the Dope Sheet, Bezier and Paint Nodes Using the 3d Viewer, Understanding 3d Objects, Merging Objects, Modifying Object Shapes

Reference Books:
1. Nuke 101 Professional Compositing and Visual Effects– Edition 1, Ron Ganbar-Peachpit Press
2. The Foundry Nuke X 7 for Compositors Paperback-by Prof. Sham Tickoo Purdue Univ. (Author), CADCIM Technologies (Author), Edition – 1st (June 20, 2013), Publication: CADCIM Technologies
3. Digital Compositing for Film and Video: Production Workflows and Techniquesby Steve Wright (Author), Edition -4th, Publication: Routledge

4. Rotoscoping: Techniques and Tools for the Aspiring Artist 1st Edition.

Code:	Year: 4	Semester: 7	DSC 20	Digital Sculpting	Credits: 0:3:3

Objectives:
To understand the basic tools in ZBrush, its interface, basics of sculpting, character creation process and advanced tools in sculpting for surface and procedural modelling.

SYLLABUS

UNIT I: Getting started with ZBrush - Introduction to Digital Sculpting, Getting Started with the ZBrush Interface, Getting Ready for Sculpting

UNIT II: Digital Sculpting and Retopolizing - Character Sculpting, Sculpting using Advance Tools, Retopolizing

UNIT III: Hard Surface Modeling, Texturing and Rendering - Hard Surface Modeling, Texturing and Polly painting, Lights and Rendering

References:
1.   1-Introducing Z-Brush by-Eric Keller
2.   2. Digital Sculpting Human anatomy By-Scott Spencer

Code:	Year: 4	Semester: 7	DSC-21	Pre-Visualization	Credits: 0:3:3

Objectives:
To understand the concept of pre-visualization involved before the creation of any film and to understand the storytelling and 3D Previz Process.

SYLLABUS

UNIT I: VFX Storytelling - What is VFX Storytelling, 3 Stages of VFX Film-Making, Steps of VFX Pre-Production process, What is Pre-visualization, Skills of a Previs Artist, Different Types of Previs (Postvis, Techvis), Interface & Features of iClone

UNIT II: 3D Previs Process
Casting : Customise your own animation-ready talking characters
Action : Generate motion with puppet animation tools, animate motions with Human IK, apply loopable motions
Scene Building : Construct 3D Scene using content library
Camera & Lighting : Create different Lighting inscenes, apply multiple cameras & camera movements and switch between them for enhanced storytelling
Compositing & Visual Effects : preview visual effect output in real-time

References
1. Building Interactive Worlds in 3D: Virtual Sets and Pre-visualization for Games, Film & the Web by Jean-Marc Gauthier, January 2018

Code:	Year: 4	Semester: 7	DSE 3	Elective 3: Option1Media Advertising	Credits: 3:0:3

Objectives:
The objective of this course it to distinguish between print and visual communication, identify the types and functions of print advertising and learn the use of fonts, colours and graphics for a campaign

SYLLABUS

UNIT I: Design for Print and Advertising, Types of Print Advertising

UNIT II: Working with Colors, Fonts and Graphics

UNIT III: Creating Stationery – Key points of a visiting card, different types of visiting cards, creating a visiting card, creating a letterhead, creating an envelope

UNIT IV: Creating a bottle in 3D and applying labels – Determining the right type of labels, creating a bottle outline, creating a label, creating a 3D Bottle

UNIT V: Creating a Brochure – Determining Dimensions of Folds, creating a Brochure

UNIT VI: Creating a Hoarding – Exporting files, Illustrator for web, Slices, Save the web, Scalable Vector Graphics, Data-driven graphics and variables, Printing

References
1. Agarwal C.D., Media and Advertising, Mohit publication,2008
2. Palmer, Frederic: Visual Elements of Art and Design, 1989, Longman
3. Porter, Tom and Goodman, Sue: Manual of Graphic Technique 2: For Architects, Graphic Designers and Artists, 1982, Astragal Books. London

Code:	Year: 4	Semester: 7	DSE 3	Elective 3: Option2 3D Motion Graphics	Credits: 3:0:3

Objectives:
On completion of the course, students will be able to understand the basics of motion graphics, special effects using Adobe After Effects and applying effects in Adobe After Effects.

SYLLABUS

UNIT I: Introduction to Motion Graphics - Pal and NTSC formats, Frame rate, Adobe After effect interface, Panels, composition, composition setting, nested composition, pre composition, preferences, importing files, transform properties, key farming, basic animation using transform properties, motion blur, interpolation, graph, blending modes

UNIT II: Case study of motion graphics video, Text tool, Parenting, Masking, types of masking tool, stroke application of masking, creation of motion graphics video(explainer video)

UNIT III: Making Basic animation using keyfarme, Creating Basic motion graphics video, creating rotoscopy video, creating explainer video, Creating cinematic effects, Creating chroma video, Creating tracking video

Reference Books:

1.Adobe After Effects Classroom in a Book (2021 release) by Lisa Fridsma
2. Creating Motion Graphics with After Effects: Essential and Advanced Techniques, 5th Edition, Version CS5 by Chris Meyer and Trish Meyer
3. Adobe After Effects CS6 Digital Classroom Book by Jerron Smit.
4.Creating Motion Graphics with After Effects by Chris Meyer and Trish Meyer

Code:	Year: 4	Semester: 8	DSC 22	Research Methodology – Mini Project	Credits: 0:0:3

The student is expected to work on a live project or simulated project for a stipulated time and submit the project report in the format prescribed. The project work needs to be submitted in the digital format as mentioned by the project guide.

Code:	Year: 4	Semester: 8	DSC 22	FX & Simulation	Credits: 0:0:3

Objectives:
To understand how to paint on canvas using various types of brushes and paint strokes, concept of nCloth system, dynamic simulations for clothes, working with Maya Fur

SYLLABUS
UNIT I:
Paint in 2D and 3D
Introduction, Paint Effect Canvas, Paint Effect Interface, Painting a Scene, Brushes, Applying Forces, Applying Displacement and Spiral Bend, Animating Strokes, Adding Turbulence, Animating Growth and Modifiers
UNIT II:
Introduction to Maya Dynamics and Rendering Paint Effects
Introduction, Illumination, Shading, Shadow, Texturing, Converting Strokes to Geometry, Cartoon Fills and Outlines, Introduction Dynamics, Particles and Their Tools, Fields and Their

Types, Fluid, Fluid Effects, and Fluid Types, Active Body and Passive Body, Constraint and Creating Types of Constraints

UNIT III:
Maya nDynamics – Clothing and Hair
Creating Clothing for Character, Create Passive Collider, Dynamic Properties, Creating nCloth and nParticles Interaction, Hair Overview, Hair Creation, Adding Hair to Character, XGen in Maya, Work with Clump Modifiers, Collisions, Dynamic Properties

UNIT IV:
Hair Simulation and Fur
Simulating Hair, Hair Modifications, Hair Rendering, Introduction to Fur, Fur Creation and Modification, Adding Fur to Character

UNIT V:
Advanced Fur and Bifrost
Advance Fur System Modification, Animation, Fur Movement, Shading Effects, Rendering Fur, New Simulation Tools: Bifrost and Viewport 2.0, Boss Ocean Simulation, Bullet Physics

Reference Books:
1. Autodesk Maya 2018: A Comprehensive Guide Paperback - by Tickoo Sham, November 1, 2017, BPB Publications
2.Maya Studio Projects: Dynamics - Todd Palamar, Nov 2, 2009, Sybex
3.The Art of Fluid Animation - Jos Star, Oct 30, 2015, A K Peters/CRC Press

Code:	Year: 4	Semester: 8	DSC 23	Matte Painting	Credits: 0:0:3

Objectives:
To Understand the importance of light, exposure, color theory and composition that is required for matte painting
To impart knowledge of mixing techniques such as digital painting, compositing and Photoshop magic to create the wonderful scenes.

SYLLABUS
UNIT I: Camera Projection Object Material Properties, Merging Shaders, Projecting Textures, Inserting Lights, Shadows, Building a Camera Projection Scene.

UNIT II: Tweaking the Geometry, Animating the Camera, Tweaking the Texture, Projection Cameras, Importing Cameras, Transformer Handles, Pivot Points, TransformGeo Node, Applying Tracks, Adding Motion Blur, Rendering

UNIT III: Camera Projection Transformer Handles, Pivot Points, TransformGeo Node, Applying Tracks, Adding Motion Blur, Rendering,

UNIT IV: Using a Spherical Transform to Replace Sky, Compositing Outside the ScanlineRender Node, 2D Compositing Inside 3D Scenes

UNIT V: Overview of Digital Matte Painting, Understanding Lighting, Working with Perspective, and Composition, Understanding Project Breakdown, Creating a 3d Scene

UNIT Vl: Using the 3d Viewer, Understanding 3d Objects, Merging Objects, Modifying Object Shapes

Reference Books:
1. The Foundry Nuke X 7 for Compositors Paperback-by Prof. Sham Tickoo Purdue Univ. (Author), CADCIM Technologies (Author), Edition – 1st (June 20, 2013), Publication: CADCIM Technologies
 2. Digital Compositing for Film and Video: Production Workflows and Techniques- by Steve Wright (Author), Edition -4th, Publication: Routledge

Code:	Year: 4	Semester: 8	DSC 24	Movie Project Planning	Credits: 0:0:3

Objectives:
To understand the different animation stages, recognize client requirements, estimate the project budget, create script and storyboard, plan and schedule the project, define production, create, compose and publish the project.

SYLLABUS

UNIT I: Production House Process – Introduction to a Production house, 2D and 3D Animation Stages

UNIT II: Pre-Production - Client Brief, Research, Create Story and Script, Visualization, Create Story Board, Planning and Scheduling

UNIT III: Production – Modelling, Materials, Light and Camera, Rigging, Animation

UNIT IV: Post Production – Editing, Compositing, Adding Sound, Publishing

References
1. The 3D production Pipeline by Fabio Pellacini
2. Film Art: An introduction by David Bordwell, Kristin Thompson, Publisher: McGraw- Hill Education, 2012

Code:	Year: 4	Semester: 8	DSE 4	Elective 4: Option1 Advanced Compositing	Credits: 3:3:0

Objectives:
To Understand the importance of light, exposure, color theory and composition that is required for matte painting. To impart knowledge of mixing techniques such as digital painting, compositing and Photoshop magic to create the wonderful scenes.

SYLLABUS
UNIT I:
What is keying? Introducing nukes keying nodes.how to use huekeyer? What is image based keyer? What is the role of keylight in animation? Combining keyer nodes using the tree.

UNIT II:
Compositing high-resolution stereo images. How to use the project settings panel? How to set up a high-resolution stereo script? Compositing a stereo project. How to render and view stereo trees?

UNIT III:
The importance of camera tracking in compositing. How to calculate reflection movement using camera tracking? How does 3d tracking work in nuke? Loading a pregeneratedcameratracker node. How to aligning the scenes? How to create the reflection

UNIT IV:
What is camera projection? Building a camera projection scene. How to tweak the geometry?how to animate the camera? What is meant by tweaking the texture? Using a spherical transform to replace sky. Compositing outside the scanline render node

UNIT V:
Customizing nuke with python. What are the basics of python scripting? How to create a button with python? How to add a hot key?how to make customization stick with menu

UNIT Vl:
Compositing cgi with bigger node trees. How to build the beauty pass? What is the shufflecopy node? Manipulating passes and adding other cgi images. How to place cgi over live background? How to use the mask input?

UNIT Vll:
Color correction and composition. Understanding nukes approach to color. How to manipulate color? How to build blocks? Using an i/o graph to visualize color operations. How to create curves with color lookup? Matching color with the grade node

Reference Books:
1. The Foundry Nuke X 7 for Compositors Paperback-by Prof. Sham Tickoo Purdue Univ. (Author), CADCIM Technologies (Author), Edition – 1st (June 20, 2013), Publication: CADCIM Technologies

2. Digital Compositing for Film and Video: Production Workflows and Techniques- by Steve Wright (Author), Edition -4th, Publication: Routledge

Code:	Year: 4	Semester: 8	DSE 4	Elective 4: Option2 Advanced Rigging and Animation	Credits: 3:3:0

Objectives:
To understand the advanced concepts of Rigging and Animation required to a good 3D Animation model that can be used for games, movies etc.

SYLLABUS

UNIT I: IK and FK Controllers - Definition of Inverse Kinematics, Definition of Forward Kinematics, IK Solvers, IK and FK Setup for a Cartoon Character

UNIT II: Introduction to Skinning - Skinning - An Overview, Fundamentals of Skinning in Maya, Working with Skin Deformers

UNIT III: Advance Skinning - Mirror Skin Weights, Working with Mirror Skin Weights, Copy Skin Weights Tool, Working with Copy Skin Weights, Add Influence Tool, Working with the Add Influence Tool

UNIT IV: Facial Rigging - Concept of Morphing, Blend Shape Deformer, Facial Rig Setup for Character

UNIT V: Introduction to Muscle System - What is Muscle System?, Muscle Workflow, Exercise - Creating Simple Muscle System

UNIT VI: Working with Muscle Rig - Creating and Defining a Muscular Object, Defining Muscle Poses, Editing Muscles, Adjusting Muscle Length, Sculpting Muscles, Growing Muscles, Mirroring Muscles

UNIT VII: Walk Cycle I: Lower Body - Basic Poses of the Walk Cycle, Animating the leg, fine tuning in the graph editor

UNIT VIII: Walk Cycle II: Upper Body - Basic Poses of the Walk Cycle, Creating the Upper Body Animation, Fine Tuning the Animation

UNIT IX: Understanding Weights: Push - Select the Main Pose, Observing the Movement, Animating the Character Based on the Selected Keys

UNIT X: Understanding Weights: Pull - Basic Poses of the Walk Cycle, Animating the Leg, Fine Tuning in the Graph Editor

UNIT XI: Animation using Props and Constrains - Constrains – Introduction, Creating Basic Prop Animation Using Constrains

UNIT XII: Introduction to Facial Animation - Emphasizing the Main Words, Checking Facial Controls, Phonemes Chart, Animating the Lips - Narrow and Stretch, Animating the Eyebrows

UNIT XIII: Motion Path - Defining the Layout and Path, Creating the CV Curve, Analyzing the Snake Rig, Attaching the Snake with the Motion Path, Animating the U Value, Animating the Camera

References
1. An Introduction to Rigging in the Entertainment Industry (Applications & Techniques)
2. Art of Rigging by George Biddlecombe, Pub.- Dover Publications by Chris Higs,Pub.- Entertainment Technology Press Ltd.
3. Rig it Right! Maya Animation Rigging Concepts by Tina O'Hailey
4. The Fundamentals of Animation by Paul Wells and Samantha Moore

Code:	Year: 4	Semester: 8	DSE 5	Research Project (Work/Internship with VIVA)	Credits: 0:0:6

The student is expected to work in any company for a period of 6 weeks. He is supposed to work on the assignments given by the company and submit the same as per the schedule given. He is supposed to submit a report from the company on successful completion. Alternatively if he not able to get any company internship, the college can assign a simulated project to the student. On submission, the same can be evaluated by the respective lecturer.

Specialized Programme by University of Mysore
CBCS CAGP Pattern (2019-2020)

M.Sc in (Graphics, Animation and VFX)

Regulations & Syllabus

Regulations:

The credit pattern for Graphics, Animation and VFx is similar to the university's Choice based credit system. The total credit for the course is same as that of PG Programme offered by the university.

Following shall be minimum and maximum credits per semester.

The credit pattern is Lecture (L); Tutorial (T); Practical (P); (L:T:P) Pattern

Lecture: One hour session of theory class per week in a semester is 1 credit.

Tutorial & Practical: Two-hour session of tutorial or Practical class per week in a semester is 1 credit.

One semester period: 16 weeks of teaching and learning

Duration of semester: 20 weeks that includes semester end examinations.

A candidate can enroll for a minimum of 16 and a maximum of 24 credits per semester.

A candidate has to earn a minimum of 72 credits for successful completion of a master's degree.

C1 – Multiple choice questions test for 10 marks and Assignments – 10 marks
C2 – Descriptive test 10 marks and portfolio presentation – 10 marks
C3 – Semester End Examination – 60 marks

Continuous Assessment	Time Duration	Marks		
		Maxi	Min	*Minimum 30% and an aggregate of 40% to declare pass.*
C1	1 week to 8 weeks	20	6	
C2	9 weeks to 16 weeks	20	6	
C3	On Completion of 16 weeks	60	18	

Eligibility for Admission: Students with any Bachelor's degree from any UGC recognized universities or any equivalent bachelor degree. Foreign nationals are also eligible to take admission into this course subjected to eligibility clearance from University of Mysore. Admission will be done as per the norms set by University of Mysore.

SEMESTER 1   **Total : 22 Credits**

Sl. No.	Title of the Course	HC/SC	Credit Pattern			Total Credits
			L	T	P	
1.1	Principles of Anatomy & Drawing	HC	0	2	2	4
1.2	Graphic Design for Print	SC	0	3	3	6
1.3	Graphic Design for Social Media	SC	0	3	3	6
1.4	UX Design	HC	0	3	3	6
1.5	UI Design	HC	3	0	3	6

SEMESTER 2   **Total : 20 Credits**

Sl. No.	Title of the Course	HC/SC	Credit Pattern			Total Credits
			L	T	P	
2.1	Motion Graphics	HC	0	2	2	4
2.2	Digital Modelling with Maya	HC	0	3	3	6
2.3	Lighting and Rendering in Maya	SC	0	3	3	6
2.4	Advanced User Experience Design	SC	0	0	3	6
2.5	Other Elective	HC	4	0	0	4

SEMESTER 3   **Total : 22 Credits**

Sl. No.	Title of the Course	HC/SC	Credit Pattern			Total Credits
			L	T	P	
3.1	Rotoscopy	HC	0	2	2	4
3.2	3D Digital Compositing	HC	0	3	3	6
3.3	Portfolio Development (UI/UX)	SC	0	3	3	6
3.4	Portfolio Development (Motion Graphics)	SC	0	3	3	6
3.5	Keying	HC	3	0	3	6

SEMESTER 4   **Total : 20 Credits**

Sl. No.	Title of the Course	HC/SC	Credit Pattern			Total Credits
			L	T	P	
4.1	VFX in Maya and RealFlow	HC	0	2	2	4
4.2	Portfolio Development (Modelling)	SC	0	3	3	6
4.3	Portfolio Development (VFX)	SC	0	3	3	6
4.4	Internship	HC	0	0	6	6
4.5	Other Elective	HC	4	0	0	4

Detailed Syllabus for
M.Sc in (Graphics, Animation & VFx)

Semester 1

Code: 1.1	Year: 1	Semester: 1	HC	Principles of Anatomy and Drawing	Credits: 0:2:2

Objectives:
To learn the fundamentals of drawing and anatomy that will form he basic for character animation in 2D and 3D and to understand perspectives and color fundamentals.

SYLLABUS

UNIT I - Anatomy and Drawing for Animation
Introduction To Sketching and Drawing- Introduction to basic drawing techniques including proportions and Line, Using Pencils for shading, Sketching of Moving Objects - People And Animals, Proportion in portrait drawing, Highlighting and shadows, Drawings with the help of basic shapes, Understanding of the relationship of bones and muscles at rest and in movement to able to translate and maintaining correct volumes.

UNIT II - Introduction to Perspective
Perspective in 1 point, Perspective in 2 point, Perspective in 3 point, Eye levels, Vanishing point, Significance of Perspective in animation and composition, Humans and animal forms in perspective, Perspective- blocks, boxes and shapes, Scale diagrams in perspective, Different viewpoints, Importance of eye level.

UNIT III – Color Theory & Color Composition
The first steps in colour drawing, Understanding the Colour theory by studying the colour wheel, Illusion drawings, communicating with colour, Colour and mood, Colour and painting styles, Colour and compositions, Colour in action, Realism, immersion and believability in colour scheme, Digital colour correction.

UNIT IV – Anatomy study
Studying Human and animal movement through sequential drawings, gesture drawing, Caricaturing – fundamentals, Exaggeration, Attitude, Silhouettes, Boundary breaking exercises and warm ups, gesture drawing, Line drawing and quick sketches, Drawing from observation, memory and imagination.

References:
1. Drawn to Life: 20 Golden Years of Disney Master Classes: Volume 1: The Walt Stanchfield Lectures"
2. "Drawn to Life: 20 Golden Years of Disney Master Classes: Volume 2: The Walt Stanchfield Lectures"
3. "Manwatching" Desmond Morris
4. "Teach Yourself Body Language" Gordon Wainwright
5. "Drawing on the Right Side of the Brain" Betty Edwards 6. "The Natural Way to Draw" Kimon Nicolaides

Code: 1.2	Year: 1	Semester: 1	SC	Graphic Design for Print	Credits: 0:3:3

Objectives:
On completion of this course, students will be able to design graphics that are essential for print and create designs such as magazines, logo, covers, Web page layouts etc.

SYLLABUS

UNIT I: Introduction to graphics - Introduction to graphics, tools of graphics, uses & types of graphics Meaning and definition of graphics design Elements and principles of graphic design Theory of typography

UNIT-II: Introduction to Illustrator - Tools and menus, Cartoon character design, Product design

UNIT-III: Photoshop –
Introduction to Photoshop Tools and menus Magazine cover design in Photoshop, Color correction, Restoration and Re-color, Collage / blending of images, Image post Processing, Adjustments, Actions / Filters and special effects,

UNIT-IV Designing process –
Monogram, logo, visiting card Layout process, Poster design: productive & social media cover design, Newspaper design, Live trace, live paint, Infographics, T shirt Design, Isometric design.

UNIT V: Logo Design –
Introduction to Logo, types, elements and principles of good logo design, Create a logo of a company, Educational Institute etc. Brand Building – Understanding Branding, Brand Stationary designs, Pamphlet design, Creative ads,

UNIT VI: Poster –
Introduction to poster, Type of poster, Qualities of poster Elements and principle of poster, Introduction for how to use pen tab, Artwork using Pen tab, Digital Painting, Matte painting and image correction using pen tab,

References
1. Fundamentals of Computers- V. Rajaraman
2. Adobe Illustrator CS5 One-on-One by Deke McClelland
3. Adobe Photoshop Bible
4. The Adobe Photoshop CS6 Book for Digital Photographers by Scott Kelby

Code: 1.3	Year: 1	Semester: 1	SC	Graphic Design for Social Media	Credits: 0:3:3

Objectives:
On completion of this course, students will be able to design graphics that are essential for social media design such as social media banners, icons, flat illustrations, social media layouts etc.

SYLLABUS

UNIT I: Introduction to graphics –
Introduction to graphics, tools of graphics, uses & types of graphics, Meaning and definition of graphics design, Elements and principles of graphic design, Theory of typography

UNIT-II: Illustrator for social media -
Working with different types of Screen sizes, Understanding Web Ad's Size, Limitations of Media in file type, Size, Pixels, etc.

UNIT-III: Photoshop for social media –
Designing Web Banners, Editing in image for Websites, Website Template Design, Utilization of Slice tool, Differentiating Web file type – .gif, .png, .jpg etc.

UNIT-IV UI Designing process in illustrator –
Principles of User Interaction & Wireframe, UI Elements Design (2D & 3D), Flat UI design, Skeumorphic UI Design.

UNIT V: Icon Design –
Introduction to Icons & Symbols, types, elements and principles of creating good icon, designing different types of Icons.

UNIT VI: Flat Illustrations, Isometric Illustrations –
Sketching out flat illustration & designing the same in Illustrator, Understanding Isometric Grid & designing Isometric ads for Social Media.

References
1. Adobe Illustrator CS5 One-on-One by Deke McClelland
2. Adobe Photoshop Bible
3. The Adobe Photoshop CS6 Book for Digital Photographers by Scott Kelby

Code: 1.4	Year: 1	Semester: 1	HC	UX Design	Credits: 0:3:3

Objectives:
On completion of this module, students will be able to explain the principles of UXie User Experience and learn how to make their designs responsive.

SYLLABUS

UNIT I: Introduction to User Experience Design - Definition of UX and UX Design, Difference Between UI and UX E, Elements of UX Design, Significance of UX, Principles and Guidelines of UX Design, Best Practices in UX Design

UNIT II: Understanding Responsive Web Design - What is Responsive UI Design? Definition of Responsive Web Design (RWD), Evolution of RWD, Fundamental Techniques for RWD, Progressive Enhancement, Difference Between Graceful Degradation and Progressive Enhancement, Responsive Work Design Workflow, Significance of RWD

UNIT III: Using Common RWD Patterns in Mobile Designs – Breakpoints, Navigation Drawers, Stacked Pagination, Fluid Images, Bottom Bar, Tab Bar, Call to Actions, Short and Simple Menu

UNIT IV: Testing and Usability Studies Guideline to test RWD, testing in usability studies,

References:
1. Designing for Digital Age: How to create human-centered products and services - Kim Goodwin
2. Sketching the User experiences - Bill Buxton
3. The design of everyday things - Don Norman
4. The elements of user experience - Jesse James Garrett

Code: 1.5	Year: 1	Semester: 1	HC	UI Design	Credits: 3:0:3

Objectives:
On completion of this module, students will be able to explain the principles of and UI ieUser Interface and learn how to make their designs responsive.

SYLLABUS

UNIT I: Introduction to User Interface Design - Definition of UI and UI Design, Parts of User Interface Design, Principles and Attributes of User Interface Design, Types of UIs, Processes in User Interface Design, Models in User Interface Design

UNIT II: Understanding the strategies for Responsive Web Design - Strategies for RWD in Various Devices, Need for Content Strategy in RWD, Importance of Content Audit, Performance Optimization for a Mobile-friendly Site, Difference Between Responsive and Adaptive Website Designs

UNIT III: Using Common RWD Patterns in Mobile Designs – Bottom Bar, Tab Bar, Call to Actions, Short and Simple Menu

UNIT IV: usability test plan template, usability testing for RWD

References:
1. Designing for Digital Age: How to create human-centered products and services - Kim Goodwin
2. Sketching the User experiences - Bill Buxton
3. The design of everyday things - Don Norman
4. The elements of user experience - Jesse James Garrett

Code: 2.1	Year: 1	Semester: 2	HC	Motion Graphics	Credits: 0:2:2

Objectives:
On completion of the course, students will be able to understand the basics of motion graphics, special effects using Adobe After Effects and applying effects in Adobe After Effects.

SYLLABUS

UNIT I: Introduction to Motion Graphics –
Pal and NTSC formats, Frame rate, Adobe After effect interface, Panels, composition, composition setting, nested composition, pre composition, preferences, importing files, transform properties, key farming, basic animation using transform properties, motion blur, interpolation, graph, blending modes

UNIT II: Case study of motion graphics video, Text tool, Parenting, Masking, types of masking tool, stroke application of masking, creation of motion graphics video(explainer video)

UNIT III: Making Basic animation using keyfarme, Creating Basic motion graphics video, creating rotoscopy video, creating explainer video, Creating cinematic effects, Creating chroma video, Creating tracking video

Reference Books:

1.Adobe After Effects Classroom in a Book (2021 release) by Lisa Fridsma
2. Creating Motion Graphics with After Effects: Essential and Advanced Techniques, 5th Edition, Version CS5 by Chris Meyer and Trish Meyer
3. Adobe After Effects CS6 Digital Classroom Book by Jerron Smit.
4.Creating Motion Graphics with After Effects by Chris Meyer and Trish Meyer

Code: 2.2	Year: 1	Semester: 2	HC	Digital Modelling with Maya	Credits: 0:3:3

Objectives:
On completion of this course, students will be able to navigate the Maya interface and work on standard primitives, NURBS and Polygon primitives and create 3D models using polygon modelling tools.

SYLLABUS

UNIT I : Maya Interface and Basic Primitives – Introduction, Menus, Viewport, Hotbox Controls, Object Component Mode, Channel Box/ Attribute Editor, Layer Editor, settings/ preferences, Outliner, Hypergraph, Hypershade, NURBS Primitives, Curves, Polygon Primitives, Subdivision Primitives, Tomb Exercise

UNIT II: NURBS Curves and Surfaces - NURBS Primitives, NURBS Primitives Components, NURBS Curves, NURBS Curves Components, NURBS Surfaces

UNIT III: Creating Inorganic Surfaces

UNIT IV: Introduction to Poly Tools Modeling Prop Modeling - Introduction to Poly Tools Modeling, Polygon Operation, Other Operations

UNIT V: Background Modeling – Modeling Workflow, Detailing/ Stylization

UNIT VI: Character Modeling – Blocking – Introduction, Workflow, Reference setup, Blocking, Hand Detailing

UNIT VII: Face and Clothing Character Modeling

References
1. Isbn: 8131502546, Introduction To 3d Graphics & Animation Using Mayaw/Cd,Adam Watkins, International Thomson Computer Pres, 2007.
2. Isbn: 0764123998, Complete Animation Course, Chris Patmore, Barrons Educational Series Inc, 2003.
3. Adam Watkins : Maya A Professional Guide, Published by dreamtech, first edition- 2003.
4. Danish Derakhshevi : Introducing Maya 8 3D for Beginners 2006 Wiley Publishing Inc.
5. Tom Meade and ShinsakaAnima : The Complete Reference Maya 6
6. Published by Tata MC.Graw –Hill Publishing Company Limited edition-2004.

Code: 2.3	Year: 1	Semester: 2	SC	Lighting & Rendering in Maya	Credits: 0:3:3

Objectives:
On completion of this course, students will be able to create realistic lighting and
Rendering using Maya.

UNIT I: Maya Interface and Basic Primitives – Introduction, Menus, Viewport, Hotbox Controls, Object Component Mode, Channel Box/ Attribute Editor, Layer Editor, settings/ preferences,

UNIT II: Basic Lighting

UNIT III Rendering Basics

UNIT IV: Rendering using Arnold.

References
1. Isbn: 8131502546, Introduction To 3d Graphics & Animation Using Mayaw/Cd,Adam Watkins, International Thomson Computer Pres, 2007.
2. Isbn: 0764123998, Complete Animation Course, Chris Patmore, Barrons Educational Series Inc, 2003.
3. Adam Watkins : Maya A Professional Guide, Published by dreamtech, first edition- 2003.
4. Danish Derakhshevi : Introducing Maya 8 3D for Beginners 2006 Wiley Publishing Inc.
5. Tom Meade and ShinsakaAnima : The Complete Reference Maya 6
6. Published by Tata MC.Graw –Hill Publishing Company Limited edition-2004.

Code: 2.4	Year: 1	Semester: 2	SC	Advanced User Experience Design	Credits: 0:3:3

Objectives:
User Experience refers to the user's overall experience of using the product. Here the students are required to go through the fundamentals of UX which includes the introduction to literature around the subject, Basic UX research methods, information architecture and lean UX.

SYLLABUS

UNIT I: World of User Experience (UX) Design
Importance of research and visual design, bit-depth, pixel-density, and resolution issues, managing color palettes, Icon design and pixel level design, GUI screen layout and composition, page layout and composition, GUI development principles, tools, and technologies, function-level interaction principles, concepts and process, content structure, how to make good wireframes, and prototypes, usability methodologies, review designs by analyzing the test results

UNIT II: Importance of User Experience (UX) Design and visual design
Component-level interaction principles and concepts, User feedback or confirmation, Presentation principles, making good wireframes, mockups and prototypes, case studies to discuss design process, usability testing principles and methods, principles of cognitive psychology

References
1. *The UX Design Field Book by Doug Collins, 2022*
2. *User Experience Design: a practical introduction by Gavin Allanwood, Peter Beare, 2019*
3. *Design, User Experience, and Usability: Design Thinking and Methods by Aaron Marcus, 2016*

Code: 2.5	Year: 1	Semester: 2	HC	Other Elective	Credits: 4:0:0

The student can opt for any subject from any other vertical other than Animation, Graphics and VFx.

Code: 3.1	Year:2	Semester: 3	HC	Rotoscopy	Credits: 0:2:2

Objectives:
To learn the user interface of Silhouette and using the same for Rotoscopy and tracking in the VFX Industry.

SYLLABUS

UNIT I: Rotoscoping Fundamentals – Rotoscoping, Silhouette FX, User Interface, Pull Down Menus, Roto Tools, Timebar/VTR Controls, Viewer, Node List, Parameters, Object List, Timeline, Creating New Project, Import, Creating New Sessions, Working with Shapes/Layers/Points

UNIT II: VFX Workflow and Matte Generation - Workflow in VFX Industry, Core Competencies, More on Shapes and Layers, Power Matte Node, Power Matte Parameters, IK (Inverse Kinematics)

UNIT III: Motion Tracking - Fundamentals of Motion Tracking, Types of Trackers, Point Tracker, Tracker Pop-Up Menu, Applying Trackers, Exporting Tracking Data, Importing Tracking Data

UNIT IV: Planar Tracking - Planar Tracking, Need for Planar Tracker, Planar Tracker, Components and Attributes of Planar Tracker, Mocha Tracker, Components and Attributes of Planar Tracker, Workflow for Planar and Mocha Tracker, Other Panels, Tracker Preferences, Best Practices for Planar Tracking

UNIT V: Additional Concepts in SilhouetteFX - Motion Blur, Shot Stabilization, Occlusion and Stabilization, Scene Improvement Techniques, Paint Node, Features of Keying, Types of Keying, Keyer Node, Deartifact, Primary Matte, Secondary Matte, Rendering

References
Mastering Silhouette Complete – Rotoscoping, Paint, Morph & Beyond

Code: 3.2	Year: 2	Semester: 3	HC	3D Digital Compositing	Credits: 0:3:3

Objectives:
 The curricula below comprise activities typically covered in a class at this skill level. The instructor may, at his/her discretion, adjust the lesson plan to meet the needs of the class..

SYLLABUS

UNIT I: 3-D Space
3-D and Z Space Basics, Choosing the 3D render engine, Creating 3D Layers, Mixing 2D and 3D layers, Using the 3D Gizmo, Rotation and Orientation in 3D, Offsetting the Anchor Point in 3D, Using Multiple Views, Camera and Orthogonal views, Using Local, World, and View Axis Modes, Previewing in 3D, Using Auto Orient, Using Parenting with 3D layers, Using the CINEMA 4D Render Engine, Layer Geometry options, Extruding Text and Shapes in After Effects.

UNIT II: Lighting in 3-D
Lighting basics, Creating Lights, Working with Spot, Parallel, Point, and Ambient Lights, Layer Material Property Light Options, Creating and managing shadows, Using Light Falloff, Layer Material Light

Options, Using Light Transmission, Creating Gels and Gobos, Using Parenting with Lights, Using Adjustment Lights.

UNIT III: Cameras
Camera basics and creation, Creating One-node cameras, Creating Two-node cameras, Editing between multiple cameras, Moving a Camera with the Universal, Position, and Rotation Tools, Using multiple Composition Window Views in 3D, Using the Orbit, Pan, and Dolly tools to control views Orbit, Pan, and Dolly tool options, Using the Create Camera from 3D view command, Animating Cameras, Using the Camera Tools to animate the Camera in Active Camera view, Auto-Orienting Camera Paths, Auto-Orienting Layers to the Look at the Camera, Using the Look at Selected Layers command to animate a Camera, Using and animating Zoom and Depth of Field, Using Parenting with Cameras.

UNIT IV: Working with AE Cinema 4-D Lite
Introduction to Cinema 4- D Lite, Cinema 4-D User Interface, Cinema 4-D Project Setup, Creating Shapes and Text Objects, Extruding Objects, Adding Lighting and Textures
Previewing Options, Animating and Keyframing Basics, Creating Cameras and Lights
Using the Cineware Plugin in After Effects, Importing Cinema 4-D models

UNIT V: 3-D Camera Tracker
About the 3-D Camera Tracker effect, Tracking the footage, Creating a Ground Plane, a Camera, and the initial Text, Integrate the text to the scene, Precomposing an Image to a Plane with a Solid or Null, Parenting an Image to a Plane with a Solid or Null, Creating realistic shadows, Adding an Ambient Light, Adding Effects.

UNIT VI: Content Aware Fill
Setting up Content Aware Fill, Creating and Tracking a Mask, Setting options in the Content Aware Panel, Object removal, Surface removal, Edge Blend, Creating the fill layer, Using Adobe Photoshop with Content Aware Fill.

UNIT VII: Particles and Simulation Effects
Introduction to Particles and Simulation Effects, Working with Particle Playground, Options for the Cannon, Grid, and Layer Exploder, Producer, Physics, Particle, Using Cycore Particle, World and Particle Systems 2, Integrating particles with video, Using Particle and Simulation Effects for Track Mattes.

UNIT VIII: Useful Simulation Effects
Shatter, Pixel Polly, Rain, Snowfall, Drizzle and Mr. Mercury.

Reference Books
1.Professional Digital Compositing: Essential Tools and Techniques, December 2009.
2.The art and science of digital compositing, September 1999.
3.Digital Compositing for Film and Video, Second...by Steve Wright.
4.Digital Compositing with Blackmagic Fusion: Essential Techniques.

Code: 3.3	Year: 2	Semester: 3	SC	Portfolio Development in UI/UX	Credits: 0:3:3

Objective:

To showcase the skills learnt in the UI/UX designing by creating an app and make a portfolio on any topic of their choice.

Code: 3.4	Year: 2	Semester: 3	SC	Portfolio Development in Motion Graphics	Credits: 0:3:3

Objective:

To showcase the skills learnt in the Motion Graphics designing by creating a portfolio on any topic of their choice.

Code: 3.5	Year: 2	Semester: 3	SC	Keying	Credits: 3:0:3

Objectives:
To understand the usage of green and blue screen and they can be used and worked upon for application in Films.

UNIT I: Keyer - Keyer Node, Output, Operation, Image-based Keying, Keying

UNIT II: PrimatteKeyer - Primatte Node, Primatte Viewer Tools, Fine Tuning, Spill Process Section, Output Section

UNIT III: Keylight - Working with Keylight Node, Screen Matte, View Parameter, Screen Color – Functions and Controls, Clip Black and White Parameters, Types of Mattes

References
1. *The Green Screen Handbook: Real-world production techniques by Jeff Foster, 2010*
2. *Adobe Premiere Pro Bible*
3. *Bluescreen Compositing: A practical guide for video & moviemaking by John Jackman, 2007*

Code: 4.1	Year: 2	Semester: 4	HC	VFX in Maya and RealFlow	Credits: 0:2:2

Objectives:
To understand the importance and features of XGEN, Shading XGEN with Arnold, Importing the geometry to RealFlow and exporting the finished mesh data back to Maya.

UNIT I: Grooming with XGEN – Introduction

UNIT II: Maps & Modifiers - Working with Guides, Painting Xgen Maps, Intro To Modifiers, Region Map

UNIT III: Shading & Rendering – Shading Xgen with Arnold, Render Settings

UNIT IV: Interface & Features in RealFlow - Importing the geometry to RealFlow, Grouping multiple nodes and rearranging the nodes in a logical manner, Applying different colors to the mash objects for easier visualization, Overview of the mashes structure and topology flow

UNIT V: Setting Up the Dynamic Type of Different Objects - Understanding the role of the different scene objects in the simulation, Understanding each dynamic type behavior, Setting up the dynamic type of different objects

UNIT VI: RealFlow's World Scale & Rearranging Objects' Locations in the RealFlow Scene - Understanding RealFlow's world scale, Setting up the correct world scale, Unlocking the imported mash object attributes, Rearranging the letters in space

UNIT VII: SoftBodies Simulation - Adding gravity to the scene, Comparing and adjusting mash object mass, Speeding up simulation time, Reinforcing the springs, Optimizing the canvas properties, Adding a barrier for the canvas, Optimizing the letter properties, Adding a barrier for the letters, Increasing resolution for a more accurate result

References
Autodesk Maya 2022: A Comprehensive Guide, 13th Edition
by Prof. Sham Tickoo Purdue Univ. and CADCIM Technologies

Code: 4.2	Year: 2	Semester: 4	SC	Portfolio Development (Modelling)	Credits: 0:3:3

Objective:

To showcase the skills learnt in the Motion Graphics designing by creating a portfolio on any topic of their choice. One of the lecturer will be assigned as mentor who will guide throughout the period of portfolio development. The portfolio should be submitted in the format mentioned by the lecturer in the stipulated time frame.

Code: 4.3	Year: 2	Semester: 4	SC	Portfolio Development (VFx)	Credits: 0:3:3

Objective:

To showcase the skills learnt in the Vfx designing by creating a portfolio on any topic of their choice.One of the lecturer will be assigned as mentor who will guide throughout the period of portfolio development. The portfolio should be submitted in the format mentioned by the lecturer in the stipulated time frame.

Code: 4.4	Year: 2	Semester: 4	SC	Internship	Credits: 0:0:6

The student is expected to work in any company for a period of 6 weeks. He is supposed to work on the assignments given by the company and submit the same as per the schedule given. He is supposed to submit a report from the company on successful completion. Alternatively if he not able to get any company internship, the college can assign a simulated project to the student. On submission, the same can be evaluated by the respective lecturer.

Code: 4.5	Year: 2	Semester: 4	HC	Other Elective	Credits: 4:0:4