**Sharda University**

**B.Sc Animation & VFX**

**(Duration: 3 Years /6 semesters)**

**Program Description:**

The program aims to help the students understand fascinating world of Animation, VFX and Motion Graphics for film, broadcast and other media pads. This program offers Degree Certification in Animation & VFX. The duration of this program is 3 years (6 Semester). In addition to introducing students to the world of 3D digital art and VFX visualization, this program exposes students to Industry relevant software’s. On successful completion of the program, students can continue their learning further to a professional level within Digital Art and VFX production design.

**Program Objectives:**

VFX is an integral part of media in these modern times. This program offers wide career options in film, broadcast, gaming, video content development, Ad creation to name the few. This specialized program is practical oriented to achieve in depth

**Growth in the media & entertainment industry:**

* Media & Entertainment Industry in India to reach Rs1457 Billion by 2016.
* Average time spent watching television in India is 2.55 hrs /day. One of the highest in the world.
* Indian film industry is pegged at 83.3 Billion INR and produces more movies than Hollywood every year.
* 3 Billion Movie goers annually across 12,000 movie screens.
* 20%films released in India are Hollywood films.
* Animation, VFX and post production industry to reachRs23.6 Billion by 2015.

**Career Opportunities:**

* Production Designer
* Concept Artist
* Character Artist
* BG Artist
* Effects Artist
* 3D Artist
* Asset Lead
* Technical Artist
* Asset TD
* 3d Generalist
* Software Engineer/Developer/Programmer
* Character Modeler
* Sound Designer
* User Experience Designer
* Producer
* User Interface Designer
* User Experience Lead
* Marketing Director
* Senior Layout Artist
* Cinematics
* Cinematics Training Manage
* Junior VF Artist
* Matte Painters
* 3D Compositor & Editing Artist
* Rotoscopy Artist
* Match Move Artist

**B.Sc Animation & VFX**

**Course Matrix**

**Semester I**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Subject Code** | **Subject Name** | **Lecture**  **(L)** | **Tutorial**  **(T)** | **Practical/ Lab/ Studio**  **(P)** | **Total Credit (L+T+P/2)** |
| ENG102 | Functional English I | 2 | 0 | 0 | 2 |
| ENP102 | Functional English Lab I | 0 | 0 | 2 | 1 |
| BSA102 | Foundation Art | 2 | 0 | 4 | 4 |
| BSA103 | Principles of Animation | 2 | 0 | 4 | 4 |
| BDZ117 | Fundamental of Design | 0 | 2 | 4 | 4 |
| BDZ105 | Fundamental of drawing | 0 | 0 | 2 | 1 |
| BSA106 | 2D Digital Animation I | 2 | 0 | 4 | 4 |
| BDZ108 | Representation Skill I | 0 | 2 | 0 | 2 |
| Total | | | | | 22 |

**Semester II**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Subject Code** | **Subject Name** | **Lecture**  **(L)** | **Tutorial**  **(T)** | **Practical/ Lab/ Studio**  **(P)** | **Total Credit (L+T+P/2)** |
| ENG103 | Functional English II | 2 | 0 | 0 | 2 |
| ENP103 | Functional English Lab II | 0 | 0 | 2 | 1 |
| BSA109 | Digital Art | 2 | 0 | 4 | 4 |
| BSA110 | Storytelling | 2 | 0 | 2 | 3 |
| BDZ114 | Representation Skill II | 0 | 2 | 0 | 2 |
| BSA111 | 2D Digital Animation II | 1 | 0 | 6 | 4 |
| BSA112 | 3D Animation I | 2 | 0 | 6 | 5 |
| BSA113 | Portfolio I |  |  |  | 2 |
| Total | | | | | 23 |

|  |
| --- |
|  |

**Semester III**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Subject Code** | **Subject Name** | **Lecture**  **(L)** | **Tutorial**  **(T)** | **Practical/ Lab/ Studio**  **(P)** | **Total Credit (L+T+P/2)** |
| BSA201 | History of VFX | 2 | 0 | 0 | 2 |
| BSA202 | 3D Lab I | 2 | 0 | 4 | 4 |
| BSA203 | Film Appreciation & Analysis | 2 | 2 | 0 | 4 |
| BSA204 | Photography | 1 | 0 | 4 | 3 |
| BSA205 | Study of Anatomy | 1 | 0 | 4 | 3 |
| BSA206 | Drawing for Animation | 1 | 0 | 4 | 3 |
| BSA207 | 3D Animation II | 1 | 0 | 4 | 3 |
| Total | | | | | 22 |

**Semester IV**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Subject Code** | **Subject Name** | **Lecture**  **(L)** | **Tutorial**  **(T)** | **Practical/ Lab/ Studio**  **(P)** | **Total Credit (L+T+P/2)** |
| BSA208 | 3D Lab II | 2 | 0 | 4 | 4 |
| BSA209 | Storyboarding | 1 | 0 | 2 | 2 |
| BSA210 | Character &BG Design | 2 | 0 | 2 | 3 |
| BSA211 | Lighting & Rendering | 2 | 0 | 2 | 3 |
| BSA212 | CG Compositing Techniques | 1 | 0 | 4 | 3 |
| BSA213 | Cinematography | 2 | 0 | 2 | 3 |
| BSA214 | Material Animation | 2 | 0 | 2 | 3 |
| BSA215 | Portfolio II |  |  |  | 2 |
| Total | | | | | 23 |

**Semester V**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Subject Code** | **Subject Name** | **Lecture**  **(L)** | **Tutorial**  **(T)** | **Practical/ Lab/ Studio**  **(P)** | **Total Credit (L+T+P/2)** |
| BSA301 | Sound Design | 1 | 0 | 4 | 3 |
| BSA302 | Motion Graphics | 1 | 0 | 6 | 4 |
| BSA303 | Project Management | 2 | 0 | 2 | 3 |
| BSA304 | Match Moving | 2 | 1 | 2 | 4 |
| BSA305 | Matte Painting | 2 | 0 | 6 | 5 |
| BSA306 | Visual Effects compositing Techniques | 2 | 0 | 4 | 4 |
| Total | | | | | 23 |

**Semester VI**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Subject Code** | **Subject Name** | **Lecture**  **(L)** | **Tutorial**  **(T)** | **Practical/ Lab/ Studio**  **(P)** | **Total Credit (L+T+P/2)** |
| BSA307 | Final Project  [Portfolio & Thesis] | 10 | 0 | 24 | 22 |
| Viva | - | - | - | - |
| Project Report | - | - | - | - |
| Total | | | | | 22 |

**Total Credits: 135**

**Syllabus**

**SEMESTER I**

**Syllabus of Functional English**

**FILENAME: Functional English-I**

**B.Sc First Year: Semester I**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | *Course number* | *ENG102* | |
| *2* | *Course Title* | *Functional English-I* | |
| *3* | *Credits* | *2* | |
| *4* | *Contact Hours (L-T-P)* | *2-0-0* | |
| *5* | *Course Objective* | *To equip students to minimize the linguistic barriers emerging in a different environment.*  *Help students to understand different accents and standardise their existing English*  *Guide the students to hone the basic communication skills, listening, speaking reading and writing.* | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. *Improve four basic skills of language- listening, speaking, reading and writing* 2. *Develop over all comprehension ability* 3. *Learn to use correct sentence structure and punctuation* 4. *Learn the correct use of new words* 5. *Write paragraphs and critically evaluate arguments in terms of the strength of evidence and reasoning.* 6. *Use English expressions for thought and action* 7. *Learn to appreciate true human feelings and life events* 8. *Cultivate and develop reading habits* | |
| *7* | *Outline syllabus: Functional English-I* | | |
| *7.01* | *ENG102.A* | *Unit A* | *Comprehension* |
| *7.02* | *ENG102.A1* | *Unit A Topic 1* | *Reading Comprehension* |
| *7.03* | *ENG102.A2* | *Unit A Topic 2* | *Picture Interpretation* |
| *7.04* | *ENG102.A3* | *Unit A Topic 3* | *Listening Comprehension* |
| *7.05* | *ENG102.B* | *Unit B* | *Writing Effectively* |
| *7.06* | *ENG102.B1* | *Unit B Topic 1* | *Writing Effective Sentences (Articles, Prepositions, Tenses etc.)* |
| *7.07* | *ENG102.B2* | *Unit B Topic 2* | *Simple , Complex Compound Sentences* |
| *7.08* | *ENG102.B3* | *Unit B Topic 3* | *Vocabulary Enhancement , Punctuation Practice* |
| *7.09* | *ENG102.C* | *Unit C* | *Paragraph Writing* |
| *7.10* | *ENG102.C1* | *Unit C Topic 1* | *Descriptive Paragraphs* |
| *7.11* | *ENG102.C2* | *Unit C Topic 2* | *Explanatory Paragraphs* |
| *7.12* | *ENG102.C3* | *Unit C Topic 3* | *Argumentative Paragraphs* |
| *7.13* | *ENG102.D* | *Unit D* | *Reading* |
| *7.14* | *ENG102.D1* | *Unit D Topic 1* | *Reading Passage-1* |
| *7.15* | *ENG102.D2* | *Unit D Topic 2* | *Reading Passage-2* |
| *7.16* | *ENG102.D3* | *Unit D Topic 3* | *Reading Passage-3* |
| *8* | *Course Evaluation* | | |
| *8.1* | *Course work:30%* | | |
| *8.2* | *Attendance* | *None* |  |
| *8.3* | *Homework* | *10 assignments, no weight* | |
| *8.4* | *Quizzes* | *6 best quizzes (based on assignments); 20 marks* | |
| *8.5* | *Lab* | *Separate* | |
| *8.6* | *Presentations* | *None* | |
| *8.7* | *Any other* | *None* |  |
| *8.9* | *MTE* | *One,20%* |  |
| *8.10* | *End-term Examination: One,50%* | | |
| *9* | *References* | | |
|  | *Text book* | * *Murphy. Murphy’s English Grammar with CD, Cambridge University Press.* * *Work-Book Link* [*https://onedrive.live.com/redir?resid=90B5754AEBA35CCF%21143*](https://onedrive.live.com/redir?resid=90B5754AEBA35CCF%252521143) | |
|  | *Other references* | * *Wren, P.C.&Martin H. High English Grammar and Composition, S.Chand& Company Ltd, New Delhi* * *Blum, M. Rosen. How to Build Better Vocabulary. London: Bloomsbury Publication* | |
|  |  | * *Comfort, Jeremy(et.al). Speaking Effectively. Cambridge University Press* | |
|  | | |  |

**Syllabus of Foundation Art**

**FILENAME: Foundation Art**

**B.Sc First Year: Semester I**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Course number | BSA102 | |
| 2 | Course Title | Foundation Art | |
| 3 | Credits | 4 | |
| 4 | Contact Hours (L-T-P) | 2-0-4 | |
| 5 | Course Objective | * It enables the students to learn the medium of Drawing and its importance in visualization. * Allows students to learn, observe, analyze and visualize. * Guides the student to strengthen the drawing skills to support later part of Animation design. | |
| 6 | Course Outcomes | Students would be able to:   1. Discover the role of different medium and materials. 2. Analyze importance of Perspective. 3. Utilizing perspective in Drawing from real life. 4. Application of Light and shade in Art. 5. Learn the Application of Anatomy in figure drawing. 6. Analysis of Figure drawing and its different techniques. | |
| 7 | Outline syllabus: Foundation Art | | |
| 7.01 | BSA102.A | Unit A | Materials and Medium |
| 7.02 | BSA102.A1 | Unit A Topic 1 | Application of art on Different mediums. |
| 7.03 | BSA102.A2 | Unit A Topic 2 | To learn, observe, analyzing, and drawing everyday life. |
| 7.04 | BSA102.A3 | Unit A Topic 3 | Practice of different object from surrounding. |
| 7.05 | BSA102.B | Unit B | Perspective Drawing |
| 7.06 | BSA102.B1 | Unit B Topic 1 | Significance of Perspective in drawing. |
| 7.07 | BSA102.B2 | Unit B Topic 2 | One, Two and three point Perspective with different Eye levels and angles. |
| 7.08 | BSA102.C | Unit C | Nature Drawing |
| 7.09 | BSA102.C1 | Unit C Topic 1 | Location drawing with flora. |
| 7.10 | BSA102.C2 | Unit C Topic 2 | Location drawing with fauna. |
| 7.11 | BSA102.C3 | Unit C Topic 3 | Understanding proportion, volume, morphology in Drawing. |
| 7.12 | BSA102.D | Unit D | Lighting and Shading |
| 7.13 | BSA102.D1 | Unit D Topic 1 | Learning the concept of Lighting and shading on objects |
| 7.14 | BSA102.D2 | Unit D Topic 2 | Discovering the tonal variations in various photographs. |
| 7.15 | BSA102.D3 | Unit D Topic 3 | Perspective, Lighting and shading in Outdoor and Indoor study. |
| 7.16 | BSA102.E | Unit E | Figure Drawing |
| 7.17 | BSA102.E1 | Unit E Topic 1 | Drawing Lines, Stick and figures in Figure Drawing |
| 7.18 | BSA102.E2 | Unit E Topic 2 | Significance of anatomy in Drawing and its techniques. |
| 7.19 | BSA102.E3 | Unit E Topic 3 | Drawing of human figure for Different Background and Eye-levels. |
| 8 | Course Evaluation | | |
| 8.1 | Course work:30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book |  | |
|  | Other references | * Perspective Drawing Handbook, Joseph D'Amelio * Fun with the Pencil, Loomis * Dynamic Figure Drawing, Burne Hogarth * Complete Book of Drawing Technique, Peter Stanyer | |
|  |  |  | |

**Programme Outcomes:**

* Discover the role of different medium and materials.
* Analyze importance of Perspective.
* Utilizing perspective in Drawing from real life.
* Application of Light and shade in Art.
* Learn the Application of Anatomy in figure drawing.
* Analysis of Figure drawing and its different techniques.

**Syllabus of Principles of Animation**

**FILENAME: Principles of Animation**

**B.Sc First Year: Semester I**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | *Course number* | BSA103 | |
| *2* | *Course Title* | Principles of Animation | |
| *3* | *Credits* | 4 | |
| *4* | *Contact Hours (L-T-P)* | 2-0-4 | |
| *5* | *Course Objective* | * Understand the theoretical premise of the physical laws of motion * Cognitive illusion an optical Illusions * Understand acting as the most crucial aspect in animation * Timing is an integral part of acting and knowing its importance and relevance in animation as the most effective means to communicate * Understand how shapes and objects behave and learn how to execute this behavior as a series of drawings with the right nuance and timing * Ability to communicate a movement effectively in terms of form, mood, context, and timing. | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. Discover the role of different medium and materials. 2. Analyze importance of Perspective. 3. Utilizing perspective in Drawing from real life. 4. Application of Light and shade in Art. 5. Learn the Application of Anatomy in figure drawing. 6. Analysis of Figure drawing and its different techniques. | |
| 7 | Outline syllabus: *Principles of Animation* | | |
| 7.01 | BSA103.A | Unit A | Materials and Forces |
| 7.02 | BSA103.A1 | Unit A Topic 1 | Laws of Motion |
| 7.03 | BSA103.A2 | Unit A Topic 2 | Basic Principles of Animation |
| 7.04 | BSA103.A3 | Unit A Topic 3 | Timing and Easing |
| 7.05 | BSA103.B | Unit B | Special Effects |
| 7.06 | BSA102.B1 | Unit B Topic 1 | Building Character from shapes |
| 7.07 | BSA103.B2 | Unit B Topic 2 | Key Drawings and In-Betweening. |
| 7.08 | BSA103.C | Unit C | Looping and Secondary Animation |
| 7.09 | BSA103.C1 | Unit C Topic 1 | Simple shapes to Complex form looping |
| 7.10 | BSA103.C2 | Unit C Topic 2 | Progressive Movements |
| 7.11 | BSA103.C3 | Unit C Topic 3 | Follow Through Animation |
| 7.12 | BSA103.D | Unit D | Complex Animation |
| 7.13 | BSA103.D1 | Unit D Topic 1 | Exaggeration in Animation |
| 7.14 | BSA103.D2 | Unit D Topic 2 | Animating complex forms using lines |
| 7.15 | BSA103.E | Unit E | Staging Animation |
| 7.16 | BSA103.E1 | Unit E Topic 1 | Animating Multiple forms |
| 7.17 | BSA103.E2 | Unit E Topic 2 | Choreography |
| 7.18 | BSA103.E3 | Unit E Topic 3 | Staging of a sequence and timing |
| 8 | Course Evaluation | | |
| 8.1 | Course work: 30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book | * The Animator's Survival Kit, A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Internet Animators, Richard Williams, Publisher: Faber & Faber; | |
|  | Other references | * Animation Book, Kit Laybourne, Three Rivers Press, * The Animation Book: A Complete Guide to Animated Filmmaking--From Flip-Books to Sound Cartoons to 3- D Animation, Three Rivers Press; * Animals in Motion, Eadweard Muybridge, Publisher: Dover Publications, * The Human Figure in Motion, Eadweard Muybridge, Publisher: Dover Publications; | |
|  | Film Screenings: | * Walking, Ryan Larkin NFB * Paradise, Ishu Patel NFB * How to Kill and Egg, Paul Dressen | |

**Programme Outcomes:**

* Discover the fundamentals of creating animation.
* Application of Principles of animation using various mediums.
* Analysis of shapes of objects behavior for animation.

**Syllabus of 2D Digital Animation - I**

**FILENAME: 2D Digital Animation - I**

**B.Sc First Year: Semester I**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | *Course number* | BSA106 | |
| *2* | *Course Title* | 2D Digital Animation - I | |
| *3* | *Credits* | 4 | |
| *4* | *Contact Hours (L-T-P)* | 2-0-4 | |
| *5* | *Course Objective* | * Understand the basics of creating 2D digital animation. * Creating Keyframe and Tweening animation. * Understand the workflow to create layered 2D digital animation * Creating Background design and animation. | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. Application of techniques in creating 2D animation 2. Analyze timing and sequencing of Animation. 3. Learn to apply principles of animation in scene. | |
| 7 | Outline syllabus: 2D Digital Animation - I | | |
| 7.01 | BSA106.A | Unit A | Tools and Interface |
| 7.02 | BSA106.A1 | Unit A Topic 1 | Workflow Introduction and Settings |
| 7.03 | BSA106.A2 | Unit A Topic 2 | Drawing and Shape Manipulation Animation |
| 7.04 | BSABSA | Unit A Topic 3 | Working with Strokes and Fills. |
| 7.05 | BSA106.B | Unit B | Tween Animation |
| 7.06 | BSA106.B1 | Unit B Topic 1 | Motion and Shape Tween |
| 7.07 | BSA106.B2 | Unit B Topic 2 | Path animation using Guide Layer. |
| 7.08 | BSA106.B3 | Unit B Topic 3 | Masking and Effects using Gradients. |
| 7.09 | BSA106.C | Unit C | Staging and Timing |
| 7.10 | BSA106.C1 | Unit C Topic 1 | Static Background Scenes |
| 7.11 | BSA106.C2 | Unit C Topic 2 | Animated Background Scenes |
| 7.12 | BSA106.C3 | Unit C Topic 3 | Scene Management and Editing Scenes. |
| 7.13 | BSA106.D | Unit D | Exporting Movie |
| 7.14 | BSA106.D1 | Unit D Topic 1 | File and Library Management |
| 7.15 | BSA106.D2 | Unit D Topic 2 | Compressions and Settings |
| 7.16 | BSA106.E | Unit E | Applications |
| 7.17 | BSA106.E1 | Unit E Topic 1 | KeyFrame Animation - Principles of Animation |
| 7.18 | BSA106.E2 | Unit E Topic 2 | Keyframe Animation – Simple Character Animation |
| 7.19 | BSA106.E3 | Unit E Topic 3 | Creating Scenes for Animation |
| 8 | Course Evaluation | | |
| 8.1 | Course work: 30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book | * Adobe Flash Professional CS6 Classroom in a Book 1st Edition from Adobe Creative Team | |
|  | Other references | * How to Cheat in Adobe Flash CS5: The Art of Design and Animation Publications from Chris Georgenes | |

**Programme Outcomes:**

* Create Basic character and scene animation using 2D digital software.
* Apply effective methods and workflow to create professional animation
* Export the animations to various medias for playback.

**SEMESTER II**

**Syllabus of Digital Art**

**FILENAME: Digital Art**

**B.Sc First Year: Semester II**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | *Course number* | BSA109 | |
| *2* | *Course Title* | Digital Art | |
| *3* | *Credits* | 4 | |
| *4* | *Contact Hours (L-T-P)* | 2-0-4 | |
| *5* | *Course Objective* | * Understand the design principles used in creation of digital art. * Familiarize with the terminologies and concepts for creating and manipulating digital images. * *To introduce the art of design in digital media.* * *To introduce the concept and workflow to create effective digital design.* * *To provide tools and techniques to create collages and photo manipulation using photographs and text.* | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. Discover the tools and workflow to create 2D graphics. 2. Understand the workflow standards and different formats for graphic creation. 3. Learn the technique to paint in digital medium. 4. Apply digital collages and photo editing techniques in art work. | |
| *7* | *Outline syllabus:*Digital Art | | |
| *7.01* | BSA109.A | Unit A | Adobe Photoshop Workspace |
| *7.02* | BSA109.A1 | Unit A Topic 1 | Exploring Adobe Photoshop Environment |
| *7.03* | BSA109*.A2* | Unit A Topic 2 | Creating Vector and Bitmap Art |
| *7.04* | BSA109*.A3* | Unit A Topic 3 | Basic Photo Corrections |
| *7.05* | BSA109*.B* | Unit B | Digital Painting |
| *7.06* | BSA109*.B1* | Unit B Topic 1 | Color Perception and Brushes |
| *7.07* | BSA109*.B2* | Unit B Topic 2 | Speed Painting |
| *7.08* | BSA109*.B3* | Unit B Topic 3 | Matte Painting |
| *7.09* | BSA109*.C* | Unit C | Typography Fundamentals |
| *7.10* | BSA109*.C1* | Unit C Topic 1 | Fonts and Type Basics |
| *7.11* | BSA109*.C2* | Unit C Topic 2 | Typography Design and Art |
| *7.12* | BSA109*.C3* | Unit C Topic 3 | Special Effects for Typography |
| *7.13* | BSA109*.D* | Unit D | Ink and Painting |
| *7.14* | BSA109*.D1* | Unit D Topic 1 | Colorizing and Artistic Filters |
| *7.15* | BSA109*.D2* | Unit D Topic 2 | Texture Painting |
| *7.16* | BSA109*.D3* | Unit D Topic 3 | Painting for 3D, Creating Passes |
| *7.17* | BSA109.E | Unit E | Vector Graphics Tool |
| *7.18* | BSA109.E1 | Unit E Topic 1 | Creating Vector Arts |
| *7.19* | BSA109.E2 | Unit E Topic 2 | Vector Paths and Shapes |
| *7.20* | BSA109.E3 | Unit E Topic 3 | Vector Brushes and Tools |
| *8* | *Course Evaluation* | | |
| *8.1* | *Course work:30%* | | |
| *8.2* | *Attendance* | *None* |  |
| *8.3* | *Homework* | *5 assignments, 20 marks* | |
| *8.4* | *Quizzes* | *None* | |
| *8.5* | *Lab* | *Separate* | |
| *8.6* | *Presentations* | *None* | |
| *8.7* | *Any other* | *None* |  |
| *8.9* | *MTE* | *One,20%* |  |
| *8.10* | *End-term Examination: One,50%* | | |
| *9* | *References* | | |
|  | *Text book* | * *Adobe Photoshop CC Classroom in a Book with Access Code by ADOBE CREATIVE TEAM* | |
|  | *Other references* | * *Adobe Photoshop Cs6 Bible: The Comprehensive, Tutorial Resource by Lisa Danae Dayley, Brad Dayley* * *The Digital Matte Painting Handbook By David B. Mattingly* * *Mastering Type: The Essential Guide to Typography for Print and Web Design By Denise Bosler* | |

**Programme Outcomes:**

* Discover Raster and Vector graphics.
* Editing and Photo Manipulation
* Create Matte Painting and Concept Art.
* Create typography designs.
* Good hand on Application in creating effective Digital art.

**Syllabus of Storytelling**

**FILENAME: Storytelling**

**B.Sc First Year: Semester II**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | *Course number* | BSA110 | |
| *2* | *Course Title* | Storytelling | |
| *3* | *Credits* | 3 | |
| *4* | *Contact Hours (L-T-P)* | 2-0-2 | |
| *5* | *Course Objective* | * Understand the Process of Ideation for Storytelling * Ability to create Narrative and Non-Narrative Stories. * Create Story Panels for effective storytelling. * Creating Character Concepts | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. Discover the effective technique of storytelling. 2. Create story based on genre and narrative point of view. 3. Designing character driven stories. 4. Create Storyboard Panels for Visual narration of story. | |
| *7* | *Outline syllabus:*Principles of Animation | | |
| *7.01* | BSA110.A | Unit A | Introduction to Story Telling. |
| *7.02* | BSA110.A1 | Unit A Topic 1 | Ideation and Imagination of Storytelling |
| *7.03* | BSA110*.A2* | Unit A Topic 2 | Various mediums of Storytelling [Text, Oral, Performance, film] |
| *7.04* | BSA110*.A3* | Unit A Topic 3 | Story Genres and audience study |
| *7.05* | BSA110*.B* | Unit B | Story Plot and Sub –Plots |
| *7.06* | BSA110*.B1* | Unit B Topic 1 | Plot Devices |
| *7.07* | BSA110*.B2* | Unit B Topic 2 | Narrative Point of View |
| *7.08* | BSA110*.C* | Unit C | Characters |
| *7.09* | BSA110*.C1* | Unit C Topic 1 | Character Driven Stories |
| *7.10* | BSA110*.C2* | Unit C Topic 2 | Different Character from the story |
| *7.11* | BSA110*.C3* | Unit C Topic 3 | Character Bible |
| *7.12* | BSA110*.D* | Unit D | Environment of the Story |
| *7.13* | BSA110*.D1* | Unit D Topic 1 | Character and the relation to the environment. |
| *7.14* | BSA110*.D2* | Unit D Topic 2 | Constructing Different events for the story |
| *7.15* | BSA110.E | Unit E | Visual Narration |
| *7.16* | BSA110.E1 | Unit E Topic 1 | Single panel and multiple panel |
| *7.17* | BSA110.E2 | Unit E Topic 2 | Dialogue Writing |
| *7.18* | BSA110.E3 | Unit E Topic 3 | Visualization of Comics |
| *8* | Course Evaluation | | |
| *8.1* | Course work: 30% | | |
| *8.2* | Attendance | None |  |
| *8.3* | Homework | 5 assignments, 20 marks | |
| *8.4* | Quizzes | None | |
| *8.5* | Lab | Separate | |
| *8.6* | Presentations | None | |
| *8.7* | Any other | None |  |
| *8.9* | MTE | One,20% |  |
| *8.10* | End-term Examination: One,50% | | |
| *9* | References | | |
|  | Text book | * Story: Substance, Structure, Style and the Principles of Screenwriting Robert McKee | |
|  | Other references | * The Way of the Storyteller by Ruth Sawyer * Facial Expressions: A Visual Reference for Artists Mark Simon * The Animation Book: A Complete Guide to Animated Filmmaking--From Flip-Books to Sound Cartoons to 3-D Animation, Three Rivers Press * Making Comics: Storytelling Secrets of Comics Scott McCloud | |

**Programme Outcomes:**

* Create effective story line.
* Visual storytelling through comic panels.
* Learn the process of story ideation and visualization.

**Syllabus of 2D Digital Animation - II**

**FILENAME: 2D Digital Animation - II**

**B.Sc First Year: Semester II**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | *Course number* | BSA111 | |
| *2* | *Course Title* | 2D Digital Animation - I | |
| *3* | *Credits* | 4 | |
| *4* | *Contact Hours (L-T-P)* | 1-0-6 | |
| *5* | *Course Objective* | * Creating symbols for animation. * Creating character animation using symbols. * Creating animated backgrounds. * Create story based animation and ideation. | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. Application of techniques to creating 2D animation 2. Analyze timing and sequencing of Animation. 3. Learn to create effective symbols for character animation. 4. Analyze and apply sounds for the animation. | |
| *7* | *Outline syllabus:*2D Digital Animation - II | | |
| *7.01* | BSA111.A | Unit A | Flash Symbols |
| *7.02* | BSA111.A1 | Unit A Topic 1 | Symbol Construction and Animation |
| *7.03* | BSA111.A2 | Unit A Topic 2 | Rigging Symbols |
| *7.04* | BSA111.A3 | Unit A Topic 3 | Layout Composition cycles and Holds |
| *7.05* | BSA111.B | Unit B | Character Animation using Symbols |
| *7.06* | BSA111.B1 | Unit B Topic 1 | Walk and run cycles |
| *7.07* | BSA111.B2 | Unit B Topic 2 | Lip Sync Animation |
| *7.08* | BSA111.B3 | Unit B Topic 3 | Creating Special Effects for Scenes |
| *7.09* | BSA111.C | Unit C | Animate Background Layout |
| *7.10* | BSA111.C1 | Unit C Topic 1 | Digital Ink and Paint |
| *7.11* | BSA111.C2 | Unit C Topic 2 | Painting Techniques |
| *7.12* | BSA111.C3 | Unit C Topic 3 | Layering Artwork for Animation |
| *7.13* | BSA111.D | Unit D | Color Styles and Techniques |
| *7.14* | BSA111.D1 | Unit D Topic 1 | Artwork Cleanup |
| *7.15* | BSA111.D2 | Unit D Topic 2 | Colorization techniques |
| *7.16* | BSA111.E | Unit E | Story and Gag Creation |
| *7.17* | BSA111.E1 | Unit E Topic 1 | Pre Production |
| *7.18* | BSA111.E2 | Unit E Topic 2 | Scene Management |
| *7.19* | BSA111.E3 | Unit E Topic 3 | Adding Sound and Exporting |
| *8* | Course Evaluation | | |
| *8.1* | Course work: 30% | | |
| *8.2* | Attendance | None |  |
| *8.3* | Homework | 5 assignments, 20 marks | |
| *8.4* | Quizzes | None | |
| *8.5* | Lab | Separate | |
| *8.6* | Presentations | None | |
| *8.7* | Any other | None |  |
| *8.9* | MTE | One,20% |  |
| *8.10* | End-term Examination: One,50% | | |
| *9* | References | | |
|  | Text book | * Adobe Flash Professional CS6 Classroom in a Book 1st Edition from Adobe Creative Team | |
|  | Other references | * How to Cheat in Adobe Flash CS5: The Art of Design and Animation Publications from Chris Georgenes | |

**Programme Outcomes:**

* Create multiple character and scene animation using 2D digital software.
* Apply effective methods and workflow to create professional animation
* Export the animations to various medias for playback.
* Create mini story or gag with sound.

**Syllabus of 3D Animation - I**

**FILENAME: 3D Animation - I**

**B.Sc First Year: Semester II**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *1* | *Course number* | BSA112 | | |
| *2* | *Course Title* | 3D Animation - I | | |
| *3* | *Credits* | 5 | | |
| *4* | *Contact Hours (L-T-P)* | 2-0-6 | | |
| *5* | *Course Objective* | * Learn the tools to create 3d animation. * Applying principles of animation for 3D Animation. * Discover the significance of Rig and its effective use in Animation. * Understand the workflow in 3D, to create animation. | | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. Learn the workspace and tools to create 3D object and character animation. 2. Application of techniques to creating 3D animation 3. Analyze timing and sequencing of Animation. | | |
| *7* | *Outline syllabus:*3D Animation II | | | |
| *7.01* | BSA112.A | *Unit A* | | Art of Animation |
| *7.02* | BSA112.A1 | *Unit A Topic 1* | | Importance of Classical Animation Principles |
| *7.03* | BSA112*.A2* | *Unit A Topic 2* | | Evolution and development of 3D Animation |
| *7.04* | BSA112*.A3* | *Unit A Topic 3* | | Evolution of Technology in 3D Animation |
| *7.05* | BSA112*.B* | *Unit B* | | 3D Animation Workspace |
| *7.06* | BSA112*.B1* | *Unit B Topic 1* | | User Interface and Navigation |
| *7.07* | BSA112*.B2* | *Unit B Topic 2* | | Creating Basic asset and animation |
| *7.08* | BSA112*.B3* | *Unit B Topic 3* | | Saving and exporting |
| *7.09* | BSA112*.C* | *Unit C* | | Graph Editor |
| *7.10* | BSA112*.C1* | *Unit C Topic 1* | | KeyFrame manipulation |
| *7.11* | BSA112*.C2* | *Unit C Topic 2* | | Animation Curves |
| *7.12* | BSA112*.C3* | *Unit C Topic 3* | | Dope Sheets |
| *7.13* | BSA112*.D* | *Unit D* | | Applying Animation Principle Stretch and Squash |
| *7.14* | BSA112*.D1* | *Unit D Topic 1* | | Bouncing Ball Experiment |
| *7.15* | BSA112*.D2* | *Unit D Topic 2* | | Different Weight ball bounce experiment |
| *7.16* | BSA112.E | *Unit E* | | Applying Animation Principle Arcs and Exaggeration |
| *7.17* | BSA112.E1 | *Unit E Topic 1* | | Collision detection and animation of bouncing ball |
| *7.18* | BSA112.E2 | *Unit E Topic 2* | | Pendulum animation study |
| *7.19* | BSA112.E3 | *Unit E Topic 3* | | Follow through, overlap and wave motion animation |
| *8* | *Course Evaluation* | | | |
| *8.1* | *Course work: 30%* | | | |
| *8.2* | *Attendance* | *None* |  | |
| *8.3* | *Homework* | *5 assignments, 20 marks* | | |
| *8.4* | *Quizzes* | *None* | | |
| *8.5* | *Lab* | *Separate* | | |
| *8.6* | *Presentations* | *None* | | |
| *8.7* | *Any other* | *None* |  | |
| *8.9* | *MTE* | *One,20%* |  | |
| *8.10* | *End-term Examination: One,50%* | | | |
| *9* | *References* | | | |
|  | *Text book* | * *Introducing Autodesk Maya 2016: Autodesk Official Press* | | |
|  | *Other references* | * Maya Character Creation: Modeling and Animation Controls   By Chris Maraffi | | |

**Programme Outcomes:**

* Create basic object animation in 3D application.
* Apply techniques to create effective 3D Animation.
* Apply the animation principles to 3D Animation.

**SEMESTER III**

**Syllabus of History of VFX**

**FILENAME: History of VFX**

**B.Sc Second Year Semester III**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | *Course number* | BSA201 | |
| *2* | *Course Title* | History of VFX | |
| *3* | *Credits* | 2 | |
| *4* | *Contact Hours (L-T-P)* | 2-0-0 | |
| *5* | *Course Objective* | * Analyzing early films, evolution and men who lead the way. * Analyzing interesting facts about the history of VFX in cinema, how it all began and evolved. * Model Hollywood – how Hollywood pioneered the change & created a new breed of profession. * How the development of visual effects has changed popular cinema’s vision. | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. Learn the History and Pioneers responsible for development of VFX. 2. Understand techniques used in pre-computer generation. 3. Learn the advancement and tools in computer VFX production. | |
| *7* | *Outline syllabus:*History of VFX | | |
| 7.01 | BSA201.A | Unit A | History |
| 7.02 | BSA201.A1 | Unit A Topic 1 | The Evolution of Art and Theoretical Analysis |
| 7.03 | BSA201.A2 | Unit A Topic 2 | History of Hollywood and Indian Cinema using Practical Effects. |
| 7.04 | BSA201.A3 | Unit A Topic 3 | Pioneers of VFX |
| 7.05 | BSA201.B | Unit B | Techniques |
| 7.06 | BSA201.B1 | Unit B Topic 1 | Camera Techniques |
| 7.07 | BSA201.B2 | Unit B Topic 2 | Practical Effects |
| 7.08 | BSA201.C | Unit C | VFX Development |
| 7.09 | BSA201.C1 | Unit C Topic 1 | Rise of Computer Technology |
| 7.10 | BSA201.C2 | Unit C Topic 2 | Software creation to cater to individual effects creation |
| 7.11 | BSA201.D | Unit D | VFX in 21st Century |
| 7.12 | BSA201.D1 | Unit D Topic 1 | Tools and Techniques used |
| 7.13 | BSA201.D2 | Unit D Topic 2 | Future of VFX in film Industry |
| 8 | Course Evaluation | | |
| 8.1 | Course work:30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book | * Special Effects: The History and Technique – Richard Rickitt. | |
|  | Other references | * Industrial Light & Magic: The Art of Innovation Publisher – Abrams | |

**Programme Outcomes:**

* Discover techniques used in creating VFX with Practical effects.
* Understand the evolution of VFX and techniques
* Create new technique or tool to create specific VFX effect

**Syllabus of 3D Lab II**

**FILENAME: 3D Lab II**

**B.Sc Second Year: Semester III**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | *Course number* | BSCA202 | |
| *2* | *Course Title* | 3D Lab II | |
| *3* | *Credits* | 4 | |
| *4* | *Contact Hours (L-T-P)* | 2-0-4 | |
| *5* | *Course Objective* | * This Course is extension of 3D Lab I and dives into artistic and aesthetic creativity, intending to push the boundaries of the imagination, Advance tools and techniques to familiarize students with acting, developing different kind of personality of the characters and to explore character rigging for animation, expressions and particle manipulation. * The Course ensures that the students will be familiarized with the Maya interface and tools. | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. Mastery over Polygon, Nurbs and Sub division modelling tools & techniques 2. Working with unwrapping complex model 3. Character Animation including motion of mechanics, Principles of animation. 4. Rigging of Character, complex props and Vehicles. 5. Effects using particles like dust, fire, crowd, water spray and many more. | |
| *7* | *Outline syllabus:*Principles of Animation | | |
| 7.01 | BSA202.A | Unit A | Polygon, Nurbs and Sub D modeling of complex model |
| 7.02 | BSA202.A1 | Unit A Topic 1 | Techniques in Polygon Modeling for Two Legged and Quadruped Character |
| 7.03 | BSA202.A2 | Unit A Topic 2 | Techniques in Nurbs Modeling |
| 7.04 | BSA202.A3 | Unit A Topic 3 | Techniques in Sub division Modeling |
| 7.05 | BSA202.B | Unit B |  |
| 7.06 | BSA202.B1 | Unit B Topic 1 | UV Unwrapping |
| 7.07 | BSA202.B2 | Unit B Topic 2 | Advanced Techniques for Unwrapping a complex model. |
| 7.08 | BSA202.B3 | Unit B Topic 3 | Creation of Complex materials shaders for different surface. |
| 7.09 | BSA202.C | Unit C | Animation |
| 7.10 | BSA202.C1 | Unit C Topic 1 | Facial Animation |
| 7.11 | BSA202.C2 | Unit C Topic 2 | Object – Character Interaction. |
| 7.12 | BSA202.C3 | Unit C Topic 3 | character – Character Interaction. |
| 7.13 | BSA202.D | Unit D | Rigging for Animation |
| 7.14 | BSA202.D1 | Unit D Topic 1 | Application of Tools and components of Rigging |
| 7.15 | BSA202.D2 | Unit D Topic 2 | Constraints and its Application In Rigging |
| 7.16 | BSA202.D3 | Unit D Topic 3 | Tools for creating Simple to Complex rigs. |
| 7.17 | BSA202.E | Unit E | Dynamics and Special Effects |
| 7.18 | BSA202.E1 | Unit E Topic 1 | Active and Passive Rigid bodies. |
| 7.19 | BSA202.E2 | Unit E Topic 2 | Soft bodies. |
| 7.20 | BSA202.E3 | Unit E Topic 3 | Emitters, Particles and fields. |
| 8 | Course Evaluation | | |
| 8.1 | Course work: 30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book | * Story: Substance, Structure, Style and the Principles of Screenwriting Robert McKee | |
|  | Other references | * The Way of the Storyteller by Ruth Sawyer * Facial Expressions: A Visual Reference for Artists Mark Simon * The Animation Book: A Complete Guide to Animated Filmmaking--From Flip-Books to Sound Cartoons to 3-D Animation, Three Rivers Press * Making Comics: Storytelling Secrets of Comics Scott McCloud | |

**Programme Outcomes:**

* Mastery over Polygon, Nurbs and Sub division modelling tools & techniques.
* Working with unwrapping complex model.
* Character Animation including motion of mechanics, Principles of animation.
* Rigging of Character biped and quadrupeds, complex props and Vehicles.
* Effects using particles like dust, fire, crowd, water spray and many more.

**Syllabus of Film Appreciation and Analysis**

**FILENAME: Film Appreciation and Analysis**

**B.Sc Second Year: Semester III**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | *Course number* | BSA203 | |
| *2* | *Course Title* | Film Appreciation and Analysis | |
| *3* | *Credits* | 4 | |
| *4* | *Contact Hours (L-T-P)* | 2-2-0 | |
| *5* | *Course Objective* | * Understand the process involved in analyzing films through language and grammar. * Understand history of cinema and its various genres and their evolution. * Analyze films based on study and create documentation of feedback. | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. Analyze films based on content and provide feedback and critique. 2. Learn to appreciate films based on film making and process. 3. Learn the art of cinematography and editing to know the techniques involved in film making. | |
| *7* | *Outline syllabus: Film Appreciation and Analysis* | | |
| 7.01 | BSA203.A | Unit A | History of Cinema |
| 7.02 | BSA203.A1 | Unit A Topic 1 | Silent and sound films |
| 7.03 | BSA203.A2 | Unit A Topic 2 | Techniques invented during early stage of cinema. |
| 7.04 | BSA203.A3 | Unit A Topic 3 | Early Hollywood directors and Studios |
| 7.05 | BSA203.B | Unit B | Study of Film Genres |
| 7.06 | BSA203.B1 | Unit B Topic 1 | Genre types and their styles |
| 7.07 | BSA203.B2 | Unit B Topic 2 | Film Noir |
| 7.08 | BSA203.B3 | Unit B Topic 3 | New Age Genres of films |
| 7.09 | BSA203.C | Unit C | Film Grammar and Language |
| 7.10 | BSA203.C1 | Unit C Topic 1 | Mise-En-scene |
| 7.11 | BSA203.C2 | Unit C Topic 2 | Color Design and Symbolism in Sets |
| 7.12 | BSA203.C3 | Unit C Topic 3 | Acting and types of Acting |
| 7.13 | BSA203.D | Unit D | The Art of Cinematography |
| 7.14 | BSA203.D1 | Unit D Topic 1 | Color – contrast and light |
| 7.15 | BSA203.D2 | Unit D Topic 2 | Framing and Different types of Camera shots |
| 7.16 | BSA203.E | Unit E | The Art of Presentation – Editing |
| 7.17 | BSA203.E1 | Unit E Topic 1 | Editing Devices, Cut types and Transitions |
| 7.18 | BSA203.E2 | Unit E Topic 2 | Sound – Digetic and Non –Digetic Sound |
| 7.19 | BSA203.E3 | Unit E Topic 3 | Case Studies |
| 8 | Course Evaluation | | |
| 8.1 | Course work: 30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book | * The Analysis of Film by Raymond Bellour and Constance Penley (Editor). * Film Editing: Great Cuts Every Filmmaker and Movie Lover Must Know By Gael Chandler | |
|  | Other references | * Film Analysis Handbook: Essential Guide to Understanding, Analyzing and Writing on film By Thomas Caldwell | |

**Programme Outcomes:**

* Analyze film to learn the styles of individual director and editor.
* Appreciate the art of cinema from frame to sound.
* Apply the knowledge through creating short films.

**Syllabus of Photography**

**FILENAME: Photography**

**B.Sc Second Year Semester III**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *1* | *Course number* | BSA204 | | |
| *2* | *Course Title* | Photography | | |
| *3* | *Credits* | 3 | | |
| *4* | *Contact Hours (L-T-P)* | 1-0-4 | | |
| *5* | *Course Objective* | * Impart knowledge in Photography as an artistic medium. * Understand the tools and techniques of Photography * Create effective storytelling through photography. | | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. Use the camera to capture artistic imagery. 2. Apply techniques to create unique photography style. 3. Analyze the photography through technical information | | |
| *7* | *Outline syllabus:*Photography | | | |
| 7.01 | BSA204.A | Unit A | | History of Photography |
| 7.02 | BSA204.A1 | Unit A Topic 1 | | Principle of Camera Obscure |
| 7.03 | BSA204.A2 | Unit A Topic 2 | | Photography artist study |
| 7.04 | BSA204.A3 | Unit A Topic 3 | | Aesthetics study of photography in documentary and creative photography. |
| 7.05 | BSA204.B | Unit B | | Characteristics of Light |
| 7.06 | BSA204.B1 | Unit B Topic 1 | | Light Spectrum and color Temperature |
| 7.07 | BSA204.B2 | Unit B Topic 2 | | Camera structure and their functions |
| 7.08 | BSA204.B3 | Unit B Topic 3 | | Camera Lenses and their types |
| 7.09 | BSA204.C | Unit C | | Lighting Techniques |
| 7.10 | BSA204.C1 | Unit C Topic 1 | | Indoor and Outdoor light study |
| 7.11 | BSA204.C2 | Unit C Topic 2 | | Light Kits and Reflectors |
| 7.12 | BSA204.C3 | Unit C Topic 3 | | Light study through Black and White Photography. |
| 7.13 | BSA204.D | Unit D | | Accessories used in Photography |
| 7.14 | BSA204.D1 | Unit D Topic 1 | | Exposure and Controls |
| 7.15 | BSA204.D2 | Unit D Topic 2 | | Flash and Lighting |
| 7.16 | BSA204.E | Unit E | | Creative Photography |
| 7.17 | BSA204.E1 | Unit E Topic 1 | | Macro Photography |
| 7.18 | BSA204.E2 | Unit E Topic 2 | | Light Painting and Freeze Frame Photography |
| 7.19 | BSA204.E3 | Unit E Topic 3 | | HDRI and Panaromas |
| 8 | Course Evaluation | | | |
| 8.1 | Course work: 30% | | | |
| 8.2 | Attendance | None |  | |
| 8.3 | Homework | 5 assignments, 20 marks | | |
| 8.4 | Quizzes | None | | |
| 8.5 | Lab | Separate | | |
| 8.6 | Presentations | None | | |
| 8.7 | Any other | None |  | |
| 8.9 | MTE | One,20% |  | |
| 8.10 | End-term Examination: One,50% | | | |
| 9 | References | | | |
|  | Text book | Digital Photography Step by Step - Tom, Ang | | |
|  | Other references | The Complete Digital SLR Handbook: Master Your Camera to Take Pictures Like a Pro | | |

**Programme Outcomes:**

* Apply techniques learned to create artistic photography.
* Communicate stories through creative photography.
* Apply the techniques in film making.

**Syllabus of Study of Anatomy**

**FILENAME: Study of Anatomy**

**B.Sc Second Year: Semester III**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | *Course number* | BSA205 | |
| *2* | *Course Title* | Study of Anatomy | |
| *3* | *Credits* | 3 | |
| *4* | *Contact Hours (L-T-P)* | 1-0-4 | |
| *5* | *Course Objective* | * Impart knowledge on Human body and its structural function. * Apply the knowledge in creating characters in 3D and 2D | |
| *6* | *Course Outcomes* | *Students would be able to:*   * Enable student to apply the knowledge in creating animation. * Create stylized characters using the anatomy study. * Blend anatomy to create unique creatures for animation. | |
| *7* | *Outline syllabus:*Photography | | |
| *7.01* | BSA205.A | Unit A | Anatomy Study |
| *7.02* | BSA205.A1 | Unit A Topic 1 | Size and Proportions of Body and Face |
| *7.03* | BSA205*.A2* | Unit A Topic 2 | Bone Structure – Body and Head |
| *7.04* | BSA205*.A3* | Unit A Topic 3 | Bone Structure – Hands and Legs |
| *7.05* | BSA205*.B* | Unit B | Muscle Study |
| *7.06* | BSA205*.B1* | Unit B Topic 1 | Types of Muscles |
| *7.07* | BSA205*.B2* | Unit B Topic 2 | Muscle Names |
| *7.08* | BSA205*.B3* | Unit B Topic 3 | Muscle Movements |
| *7.09* | BSA205*.C* | Unit C | Life Study |
| *7.10* | BSA205*.C1* | Unit C Topic 1 | Gesture Drawings - Still |
| *7.11* | BSA205*.C2* | Unit C Topic 2 | Gesture Drawings – Moving |
| *7.12* | BSA205*.D* | Unit D | Portrait Study |
| *7.13* | BSA205*.D1* | Unit D Topic 1 | Single Tone Drawing |
| *7.14* | BSA205*.D2* | Unit D Topic 2 | Two Shade Drawing |
| *8* | Course Evaluation | | |
| *8.1* | Course work: 30% | | |
| *8.2* | Attendance | None |  |
| *8.3* | Homework | 5 assignments, 20 marks | |
| *8.4* | Quizzes | None | |
| *8.5* | Lab | Separate | |
| *8.6* | Presentations | None | |
| *8.7* | Any other | None |  |
| *8.9* | MTE | One,20% |  |
| *8.10* | End-term Examination: One,50% | | |
| *9* | References | | |
|  | Text book | Anatomy and Drawing By Victor Perard | |
|  | Other references | Figure Study Made Easy Paperback – by Aditya Chari (Author)  Portrait Techniques Made Easy Paperback by Aditya Chari (Author) | |

**Programme Outcomes:**

* Apply techniques learned to create conceptual characters.
* Apply the knowledge to create realistic character animation.

**Syllabus of Drawing for Animation**

**FILENAME: Drawing for Animation**

**B.Sc Second Year: Semester III**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | Course number | BSA206 | |
| *2* | Course Title | Drawing for Animation | |
| *3* | Credits | 3 | |
| *4* | Contact Hours (L-T-P) | 1-0-4 | |
| *5* | Course Objective | * To develop a keen sense of observation of the world – how to see * Meaning and interpretation * Develop an understanding of the methods and processes involved in drawing for animation; and develop craft skills to communicate through drawing for any context. This is important as drawing remains central to the art of animation * Develop an ability to understand materials, behavior, and movement of objects. Understand kinetics and learn to recreate structure, force, and body language of any subject/object on a two-dimensional surface. Know how to interpret from the real world for representation * Develop methods to record the motion of objects with their inherent qualities as a series of static positions   The most critically the course encourages the student to pursue the skill that each individual has and apply these skills to execute the assignments in the course. For example, some students may be technically inclined and should be encouraged to work with precision, others might have an inclination towards an expressionistic style, and yet others that may be extremely spontaneous and find comfort in doodling. This too should be encouraged as long as their work communicates effectively. | |
| *6* | Course Outcomes | *Students would be able to:*   1. Enable student to apply the knowledge in representation of scene and character. 2. Create unique style of drawing to represent art. 3. Blend techniques to create style. | |
| *7* | Outline syllabus: *Drawing for Animation* | | |
| *7.01* | BSA206.A | Unit A | Drawing Basics |
| *7.02* | BSA206.A1 | Unit A Topic 1 | Line and Shape Study |
| *7.03* | BSA206*.A2* | Unit A Topic 2 | Representing 2D geometry |
| *7.04* | BSA206*.A3* | Unit A Topic 3 | Texture and Surface study |
| *7.05* | BSA206*.B* | Unit B | Light and Shadow |
| *7.06* | BSA206*.B1* | Unit B Topic 1 | Impact of light on subject |
| *7.07* | BSA206*.B2* | Unit B Topic 2 | Representing Light and Shadow in Drawing |
| *7.08* | BSA206*.B3* | Unit B Topic 3 | Surface quality and drawing |
| *7.09* | BSA206*.C* | Unit C | Human figure Drawing |
| *7.10* | BSA206*.C1* | Unit C Topic 1 | Proportion and volume study |
| *7.11* | BSA206*.C2* | Unit C Topic 2 | Body Language and Movement |
| *7.12* | BSA206*.D* | Unit D | Drawing from Nature |
| *7.13* | BSA206*.D1* | Unit D Topic 1 | Location Drawing and representing nature [Trees, Plants, Birds and Animals] |
| *7.14* | BSA206*.D2* | Unit D Topic 2 | Exaggeration and drawing from Imagination |
| *8* | Course Evaluation | | |
| *8.1* | Course work: 30% | | |
| *8.2* | Attendance | None |  |
| *8.3* | Homework | 5 assignments, 20 marks | |
| *8.4* | Quizzes | None | |
| *8.5* | Lab | Separate | |
| *8.6* | Presentations | None | |
| *8.7* | Any other | None |  |
| *8.9* | MTE | One,20% |  |
| *8.10* | End-term Examination: One,50% | | |
| *9* | References | | |
|  | Text book | * Figure Drawing for All It's Worth by Andrew Loomis (May 31, 2011) * Force: Dynamic Life Drawing for Animators [Paperback]   + Mike Mattesi (Author) | |
|  | Other references | * Gray's Anatomy - Descriptive and Surgical. Drawings by H V Carter, Publisher: Parragon 1995 * Drawn to Life: 20 Golden Years of Disney Master Classes: Volume 1: The Walt Stanchfield Lecturesby Walt Stanchfield | |

**Programme Outcomes:**

* Learn the techniques of drawing to apply the same to animation.
* Appreciate the art of nature by analyzing things in detail.

**Syllabus of 3D Animation - II**

**FILENAME: 3D Animation - II**

**B.Sc Second Year: Semester III**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | Course number | BSA207 | |
| *2* | Course Title | 3D Animation - I | |
| *3* | Credits | 3 | |
| *4* | Contact Hours (L-T-P) | 1-0-4 | |
| *5* | Course Objective | * Learn the tools to create 3d animation. * Applying principles of animation for 3D Animation. * Create character movements in 3D. * Understand the workflow in 3D to create animation. | |
| *6* | Course Outcomes | Students would be able to:   1. Application of techniques to creating 3D animation 2. Analyze timing and sequencing of Animation. 3. Learn the workspace and tools to create 3D object and character animation. | |
| *7* | Outline syllabus: *3D Animation I* | | |
| 7.01 | BSA207.A | Unit A | Animation Principle in 3D |
| 7.02 | BSA207.A1 | Unit A Topic 1 | Posing and Blocking |
| 7.03 | BSA207.A2 | Unit A Topic 2 | Keyframe and Easing |
| 7.04 | BSA207.A3 | Unit A Topic 3 | Facial Animation Basics |
| 7.05 | BSA207.B | Unit B | Graph Editor |
| 7.06 | BSA207.B1 | Unit B Topic 1 | Controlling Animation using Graph Editor |
| 7.07 | BSA207.B2 | Unit B Topic 2 | Interpolation and Looping |
| 7.08 | BSA207.B3 | Unit B Topic 3 | Keyframe Graph Management |
| 7.09 | BSA207.C | Unit C | Path Animation |
| 7.10 | BSA207.C1 | Unit C Topic 1 | Visualizing the movement of camera and creating paths. |
| 7.11 | BSA207.C2 | Unit C Topic 2 | Camera Parameters |
| 7.12 | BSA207.C3 | Unit C Topic 3 | Manipulating Path Animation |
| 7.13 | BSA207.D | Unit D | Character Animation |
| 7.14 | BSA207.D1 | Unit D Topic 1 | Character Poses [Normal and Extreme] |
| 7.15 | BSA207.D2 | Unit D Topic 2 | Character age and skills study [ Martial Artist, Dancer etc] |
| 7.16 | BSA207.E | Unit E | Basic Body Mechanics and Motion |
| 7.17 | BSA207.E1 | Unit E Topic 1 | Walk cycles with personality |
| 7.18 | BSA207.E2 | Unit E Topic 2 | Study of character weight and balance |
| 7.19 | BSA307.E3 | Unit E Topic 3 | Character hip Movement study [Dance, Climbing a wall. Etc] |
| 8 | Course Evaluation | | |
| 8.1 | Course work: 30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book | * Introducing Autodesk Maya 2016: Autodesk Official Press | |
|  | Other references | * Maya Character Creation: Modeling and Animation Controls   By Chris Maraffi | |

**Programme Outcomes:**

* Create basic character animation in 3D application.
* Apply techniques to create effective 3D Animation.
* Apply the human body mechanics to 3D Animation.

**SEMESTER IV**

**Syllabus of 3D Lab II**

**FILENAME: 3D Lab II**

**B.Sc Second Year: Semester IV**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 | Course number | | BSA208 | | |
| 2 | Course Title | | 3D Lab II | | |
| 3 | Credits | | 4 | | |
| 4 | Contact Hours (L-T-P) | | 2-0-4 | | |
| 5 | Course Objective | | * This Course is extension of 3D Lab I and dives into artistic and aesthetic creativity, intending to push the boundaries of the imagination, Advance tools and techniques to familiarize students with acting, developing different kind of personality of the characters and to explore character rigging for animation, expressions and particle manipulation. * The Course ensures that the students will be familiarized with the Maya interface and tools. | | |
| 6 | Course Outcomes | | Students would be able to:   1. Mastery over Polygon, Nurbs and Sub division modelling tools & techniques 2. Working with unwrapping complex model 3. Character Animation including motion of mechanics, Principles of animation. 4. Rigging of Character, complex props and Vehicles. 5. Effects using particles like dust, fire, crowd, water spray and many more. | | |
| 7 | Outline syllabus: 3D Lab II | | | | |
| 7.01 | BSA208.A | Unit A | | | Polygon, Nurbs and Sub D modeling of complex model |
| 7.02 | BSA208.A1 | Unit A Topic 1 | | | Techniques in Polygon Modeling |
| 7.03 | BSA208.A2 | Unit A Topic 2 | | | Techniques in Nurbs Modeling |
| 7.04 | BSA208.A3 | Unit A Topic 3 | | | Techniques in Sub division Modeling |
| 7.05 | BSA208.B | Unit B | | | UV Unwrapping |
| 7.06 | BSA208.B1 | Unit B Topic 1 | | | Techniques for Unwrapping a complex model. |
| 7.07 | BSA208.B2 | Unit B Topic 2 | | | Creation of Complex materials for different surface. |
| 7.08 | BSA208.C | Unit C | | | Animation |
| 7.09 | BSA208.C1 | Unit C Topic 1 | | | Advanced Mechanics of Motion. |
| 7.10 | BSA208.C2 | Unit C Topic 2 | | | Object – Character Interaction. |
| 7.11 | BSA208.C3 | Unit C Topic 3 | | | Character – Character Interaction. |
| 7.12 | BSA208.D | Unit D | | | Rigging for Animation |
| 7.13 | BSA208.D1 | Unit D Topic 1 | | | Application of Tools and components of Rigging |
| 7.14 | BSA208.D2 | Unit D Topic 2 | | | Constraints and its Application In Rigging |
| 7.15 | BSA208.D3 | Unit D Topic 3 | | | Tools for creating Simple to Complex rigs. |
| 7.16 | BSA208.E | Unit E | | | Dynamics and Special Effects |
| 7.17 | BSA208.E1 | Unit E Topic 1 | | | Active and Passive Rigid bodies. |
| 7.18 | BSA208.E2 | Unit E Topic 2 | | | Soft bodies. |
| 7.19 | BSA208.E3 | Unit E Topic 3 | | | Emitters, Particles and fields. |
| 8 | Course Evaluation | | | | |
| 8.1 | Course work:30% | | | | |
| 8.2 | Attendance | None | |  | |
| 8.3 | Homework | 5 assignments, 20 marks | | | |
| 8.4 | Quizzes | None | | | |
| 8.5 | Lab | Separate | | | |
| 8.6 | Presentations | None | | | |
| 8.7 | Any other | None | |  | |
| 8.9 | MTE | One,20% | |  | |
| 8.10 | End-term Examination: One,50% | | | | |
| 9 | References | | | | |
|  | Text book |  | | | |
|  | Other references |  | | | |
|  |  |  | | | |

**Programme Outcomes:**

* Mastery over Polygon, Nurbs and Sub division modelling tools & techniques.
* Working with unwrapping complex model.
* Character Animation including motion of mechanics, Principles of animation.
* Rigging of Character biped and quadrupeds, complex props and Vehicles.
* Effects using particles like dust, fire, crowd, water spray and many more.

**Syllabus of Storyboarding**

**FILENAME: Storyboarding**

**B.Sc Second Year: Semester IV**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | Course number | | BSA209 | |
| 2 | Course Title | | Storyboarding | |
| 3 | Credits | | 2 | |
| 4 | Contact Hours (L-T-P) | | 1-0-2 | |
| 5 | Course Objective | | * To impart skills on script, story writing and visualization for Animation Films and the ability to plan for animation film. * Visualization of story through story boards. * To provide technical information in Camera and framing and continuity in storytelling. | |
| 6 | Course Outcomes | | Students would be able to:   1. Visual story telling techniques. 2. Development of Story boarding and its techniques. 3. Storyboarding for different medium. | |
| 7 | Outline syllabus: Storyboarding | | | |
| 7.01 | BSA209.A | Unit A | | Story telling in Visual form |
| 7.02 | BSA209.A1 | Unit A Topic 1 | | History of Story telling |
| 7.03 | BSA209.A2 | Unit A Topic 2 | | Development of story ideas in a visual form |
| 7.04 | BSA209.A3 | Unit A Topic 3 | | Formats of Storyboards |
| 7.05 | BSA209.B | Unit B | | StoryBoard |
| 7.06 | BSA209.B1 | Unit B Topic 1 | | Function of Story Board. |
| 7.07 | BSA209.B2 | Unit B Topic 2 | | Storyboards for Animation |
| 7.08 | BSA209.C | Unit C | | Cinematography and Storyboarding |
| 7.09 | BSA209.C1 | Unit C Topic 1 | | Aspects of Story Board |
| 7.10 | BSA209.C2 | Unit C Topic 2 | | Advanced Storyboarding Techniques |
| 8 | CourseEvaluation | | | |
| 8.1 | Course work:30% | | | |
| 8.2 | Attendance | None | |  |
| 8.3 | Homework | 5 assignments, 20 marks | | |
| 8.4 | Quizzes | None | | |
| 8.5 | Lab | Separate | | |
| 8.6 | Presentations | None | | |
| 8.7 | Any other | None | |  |
| 8.9 | MTE | One,20% | |  |
| 8.10 | End-term Examination: One,50% | | | |
| 9 | References | | | |
|  | Text book |  | | |
|  | Other references | * The Art of the Story Board by John Hart * Writing and Illustrating the Graphic Novel: Everything You Need to Know to Create Great Work and Get It Published [Paperback] Daniel Cooney (Author) | | |
|  |  |  | | |

**Programme Outcomes:**

* Visual story telling techniques.
* Development of Story boarding and its techniques.
* Storyboarding for different medium.

**Syllabus of Character &BG Design**

**FILENAME: Character &BG Design**

**B.Sc Second Year: Semester IV**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Course number | BSA210 | |
| 2 | Course Title | Character &BG Design | |
| 3 | Credits | 3 | |
| 4 | Contact Hours (L-T-P) | 2-0-2 | |
| 5 | Course Objective | * Understanding the symbiotic relationship in order to be able to conceptualize and visualize personalities and locations for animated films. * Sensitizing students to the world we live in and develop a keen sense of observation of human behaviour and their worlds. * Body language and how we communicate – between persons and individually, between persons and the animal world, between the human and the object world, between real and the imagined – behaviour. * Visualizing the geography of the environment in which the characters perform. * To explore the development of characters and personalities and their environments for imaginary worlds and establish relationships between the imagined characters and the worlds that they inhabit. | |
| 6 | Course Outcomes | Students would be able to:   1. This module enables the learner to Design the Character and its development process, different character types, its importance in storytelling, 2. This module enables the learner to Design the Environment, its development and the final result of the content with the camera aspect in the film. 3. Analyzing the Character and Environment integration, the dynamics between them, its influence on each other. | |
| 7 | Outline syllabus: Character &BG Design | | |
| 7.01 | BSA210.A | Unit A | Character Development |
| 7.02 | BSA210.A1 | Unit A Topic 1 | Character Bible and Design |
| 7.03 | BSA210.A2 | Unit A Topic 2 | Anthropomorphic Character |
| 7.04 | BSA210.A3 | Unit A Topic 3 | Costume, Props and Handouts |
| 7.05 | BSA210.B | Unit B | Environment Development |
| 7.06 | BSA210.B1 | Unit B Topic 1 | Need for Building Environment for Characters |
| 7.07 | BSA210.B2 | Unit B Topic 2 | Geography, Environment, Situation of the story |
| 7.08 | BSA210.C | Unit C | PreVisualization |
| 7.09 | BSA210.C1 | Unit C Topic 1 | Character and Environment Integration |
| 7.10 | BSA210.C2 | Unit C Topic 2 | Rendering |
| 7.11 | BSA210.C3 | Unit C Topic 3 | Camera Movement |
| 8 | Course Evaluation | | |
| 8.1 | Course work:30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book | * Force - Character Design from Life Drawing- Michael D Mattesi * Ideas for the Animated Short - Karen Sullivan and Gary Schumer | |
|  | Other references | * Animation Techniques - Roger Noake, Publisher: Booksales, * Cartooning: The Ultimate Character Design Book - Christopher Hart (Author) * Creating Characters with Personality: For Film, TV, Animation, Video Games, and Graphic Novels - Tom Bancroft (Author), Glen Keane (Introduction) | |
|  |  |  | |

**Programme Outcomes:**

* This module enables the learner to Design the Character and its development process, different character types, its importance in storytelling,
* This module enables the learner to Design the Environment, its development and the final result of the content with the camera aspect in the film.
* Analyzing the Character and Environment integration, the dynamics between them, its influence on each other.

**Syllabus of Lighting & Rendering**

**FILENAME: Lighting & Rendering**

**B.Sc Second Year: Semester IV**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | Course number | BSA211 | | |
| 2 | Course Title | Lighting & Rendering | | |
| 3 | Credits | 3 | | |
| 4 | Contact Hours (L-T-P) | 2-0-2 | | |
| 5 | Course Objective | * The Objective of this module is to help students understand, the implementation process of lighting in the virtual world with reference to the real world. * The Learner will be able to use Different lights, shader and shape node data. * Using all the render engine that is native to Maya. * Will be able to implement Lighting techniques employed in studio. | | |
| 6 | Course Outcomes | Students would be able to:   1. Discover the significance of light and surface properties in real life and CG. 2. Evaluate the role of different elements in CG lighting and shading. 3. Appraise the strategies for tools and techniques for Lighting in CGI for production. 4. Lighting a Scene for outdoor, indoor, and character mimicking realism from nature. 5. Compose a visual expression for artwork for real world and CGI Integration. | | |
| 7 | Outline syllabus: Lighting & Rendering | | | |
| 7.01 | BSA211.A | Unit A | | Materials and Surface properties. |
| 7.02 | BSA211.A1 | Unit A Topic 1 | | Light and Surface properties |
| 7.03 | BSA211.A2 | Unit A Topic 2 | | Material development with shaders. |
| 7.04 | BSA211.A3 | Unit A Topic 3 | | Advanced shader and development in mental ray. |
| 7.05 | BSA211.B | Unit B | | Light Theory |
| 7.06 | BSA211.B1 | Unit B Topic 1 | | Understanding Light |
| 7.07 | BSA211.B2 | Unit B Topic 2 | | Light, color, composition and Aesthetics |
| 7.08 | BSA211.C | Unit C | | Lighting in CGI |
| 7.09 | BSA211.C1 | Unit C Topic 1 | | Lighting tools and technique in maya. |
| 7.10 | BSA211.C2 | Unit C Topic 2 | | Render engine’s in Maya. |
| 7.11 | BSA211.C3 | Unit C Topic 3 | | Types of Lighting in maya. |
| 7.12 | BSA211.D | Unit D | | Mental Ray Rendering |
| 7.13 | BSA211.D1 | Unit D Topic 1 | | Indirect Lighting Techniques |
| 7.14 | BSA211.D2 | Unit D Topic 2 | | Advanced Lighting Techniques |
| 8 | CourseEvaluation | | | |
| 8.1 | Course work:30% | | | |
| 8.2 | Attendance | None |  | |
| 8.3 | Homework | 5 assignments, 20 marks | | |
| 8.4 | Quizzes | None | | |
| 8.5 | Lab | Separate | | |
| 8.6 | Presentations | None | | |
| 8.7 | Any other | None |  | |
| 8.9 | MTE | One,20% |  | |
| 8.10 | End-term Examination: One,50% | | | |
| 9 | References | | | |
|  | Text book | * Digital Lighting & Rendering, Second Edition by Jeremy Birn * Lighting and Rendering in Maya: Lights and Shadows by Jeremy Birn | | |
|  | Other references | * ShaderX7: Advanced Rendering Techniques **by Wolfgang Engel(Mar 12, 2009**) * Advanced Lighting and Materials with Shaders **by Kelly Dempski and Emmanuel Viale(Oct 31, 2004)** | | |
|  |  |  | | |

**Programme Outcomes:**

* Discover the significance of light and surface properties in real life and CG.
* Evaluate the role of different elements in CG lighting and shading.
* Appraise the strategies for tools and techniques for Lighting in CGI for production.
* Lighting a Scene for outdoor, indoor, and character mimicking realism from nature.
* Compose a visual expression for artwork for real world and CGI Integration.

**Syllabus of CG Compositing Techniques**

**FILENAME: CG Compositing Techniques**

**B.Sc Second Year: Semester IV**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | Course number | BSA212 | | |
| 2 | Course Title | CG Compositing Techniques | | |
| 3 | Credits | 3 | | |
| 4 | Contact Hours (L-T-P) | 1-0-4 | | |
| 5 | Course Objective | * The course introduces to the History of compositing and its various elements. * To familiarize the students in Advanced In-Depth Compositing * Complete Hands of Layer management and it efficient usage. * Application of Lighting in Compositing and various elements involved in it. * Creating video art for various application’s like music, dance, media, automation and interactive film. | | |
| 6 | Course Outcomes | Students would be able to:   1. Discover the significance of fundamentals of Compositing. 2. Application of Layers, Lighting, Keying, Tracking and stabilization for   Various visual elements.   1. Appraise the strategies for techniques in compositing. 2. Analyze the significance of various elements in compositing. 3. Composing for Video Art namely music, automation, and media. | | |
| 7 | Outline syllabus: Foundation Art | | | |
| 7.01 | BSA212.A | Unit A | | History of Compositing |
| 7.02 | BSA212.A1 | Unit A Topic 1 | | Introduction to Compositing and its application. |
| 7.03 | BSA212.A2 | Unit A Topic 2 | | To learn different types and process in compositing. |
| 7.04 | BSA212.A3 | Unit A Topic 3 | | Significance of camera in capturing visual information. |
| 7.05 | BSA212.B | Unit B | | Digital Image |
| 7.06 | BSA212.B1 | Unit B Topic 1 | | Introduction to various Elements in Digital Imagery. |
| 7.07 | BSA212.B2 | Unit B Topic 2 | | Application of various features in Digital Imagery. |
| 7.08 | BSA212.C | Unit C | | Layers |
| 7.09 | BSA212.C1 | Unit C Topic 1 | | Working principle of Compositing. |
| 7.10 | BSA212.C2 | Unit C Topic 2 | | Significance of Keying and its application |
| 7.11 | BSA212.C3 | Unit C Topic 3 | | Significance of Tracking and its application |
| 7.12 | BSA212.D | Unit D | | Lighting and Composition |
| 7.13 | BSA212.D1 | Unit D Topic 1 | | Lighting in composition |
| 7.14 | BSA212.D2 | Unit D Topic 2 | | Layers and Image control in compositing |
| 7.15 | BSA212.D3 | Unit D Topic 3 | | Animation in Composition |
| 7.16 | BSA212.E | Unit E | | Video Art |
| 7.17 | BSA212.E1 | Unit E Topic 1 | | Discovery of Video Art |
| 7.18 | BSA212.E2 | Unit E Topic 2 | | Techniques in Video Art |
| 7.19 | BSA212.E3 | Unit E Topic 3 | | Application of Video Art |
| 8 | Course Evaluation | | | |
| 8.1 | Course work:30% | | | |
| 8.2 | Attendance | None |  | |
| 8.3 | Homework | 5 assignments, 20 marks | | |
| 8.4 | Quizzes | None | | |
| 8.5 | Lab | Separate | | |
| 8.6 | Presentations | None | | |
| 8.7 | Any other | None |  | |
| 8.9 | MTE | One,20% |  | |
| 8.10 | End-term Examination: One,50% | | | |
| 9 | References | | | |
|  | Text book |  | | |
|  | Other references | * Compositing Digital Images - T. Porter and T. Duff I Proceedings of SIGGRAPH '84, 18 (1984) I * The Art and Science of Digital Compositing - Ron Brinkmann * Wright'sCompositing Visual Effects: Essentials for the Aspiring Artist [Paperback]2007) - Paperback (2007) - S.Wright * Compositing Visual Effects – Essentials for aspiring artists - Steve Wright | | |
|  |  |  | | |

**Programme Outcomes:**

* Discover the significance of fundamentals of Compositing.
* Application of Layers, Lighting, Keying, Tracking and stabilization for various visual elements.
* Appraise the strategies for techniques in compositing.
* Analyze the significance of various elements in compositing.
* Composing for Video Art namely music, automation, and media

**Syllabus of Cinematography**

**FILENAME: Cinematography**

**B.Sc Second Year: Semester IV**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Course number | BSA213 | |
| 2 | Course Title | Cinematography | |
| 3 | Credits | 3 | |
| 4 | Contact Hours (L-T-P) | 2-0-2 | |
| 5 | Course Objective | * Discover the concept of Art of Cinema * Allows students to learn, observe, analyze and visualize editing Tools and Techniques. * Analyze the Use, types, working and application of camera and its accessories. * Appraise the various elements of cinematography and camera Layout. | |
| 6 | Course Outcomes | Students would be able to:   1. Discover the significance of Cinematography. 2. Analyze the role of Editing and its techniques in cinematography. 3. Discover the role of Camera and its techniques in cinematography. 4. Analyze the Concepts of camera in Cinematography. 5. Evaluate camera in Action: Camera Movement, Angles and Composition for Cinematography. 6. Distinguish the significance of 3D and Live action camera for shoot. | |
| 7 | Outline syllabus: Cinematography | | |
| 7.01 | BSA213.A | Unit A | The Art of Cinema |
| 7.02 | BSA213.A1 | Unit A Topic 1 | Discover the basic elements of Cinematography. |
| 7.03 | BSA213.A2 | Unit A Topic 2 | To learn, observe, analyzing, and Case study Alfred Hitchcock. |
| 7.04 | BSA213.A3 | Unit A Topic 3 | Discover significance of visual narration and various Visual Devices in narration. |
| 7.05 | BSA213.B | Unit B | The Art of Presentation |
| 7.06 | BSA213.B1 | Unit B Topic 1 | Concept of Editing and its Application |
| 7.07 | BSA213.B2 | Unit B Topic 2 | Discovering Editing Tools and Techniques. |
| 7.08 | BSA213.C | Unit C | Introduction of Camera |
| 7.09 | BSA213.C1 | Unit C Topic 1 | Introduction of Camera, types, and its properties. |
| 7.10 | BSA213.C2 | Unit C Topic 2 | Human eye vs. Camera |
| 7.11 | BSA213.C3 | Unit C Topic 3 | Working of a Camera |
| 7.12 | BSA213.D | Unit D | Principles and Concepts of Camera |
| 7.13 | BSA213.D1 | Unit D Topic 1 | Discover the Principles of Camera |
| 7.14 | BSA213.D2 | Unit D Topic 2 | Significance of Concepts of Camera. |
| 7.15 | BSA213.D3 | Unit D Topic 3 | Perspective, Lighting and shading in Outdoor and Indoor study. |
| 7.16 | BSA213.E | Unit E | Cinematography |
| 7.17 | BSA213.E1 | Unit E Topic 1 | Principles and Concepts of Cinematography |
| 7.18 | BSA213.E2 | Unit E Topic 2 | Significance of Camera Shots and its types |
| 7.19 | BSA213.E3 | Unit E Topic 3 | Concept of Digital Cinematography |
| 7.20 | BSA213.F | Unit F | Camera Movement |
| 7.21 | BSA213.F1 | Unit F Topic 1 | Working of Camera Angles |
| 7.22 | BSA213.F2 | Unit F Topic 2 | Working of Camera motion and Accessories |
| 8 | Course Evaluation | | |
| 8.1 | Course work:30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book |  | |
|  | Other references | * Joseph V. Mascelli, The Five C’s of Cinematography: Motion picture filming techniques. * Blain Brown, *Cinematography:* Theory and Practice: Image making for Cinematographers, Directors & Videographers, Focal Press, 2002 * Kris Malkiewicz, M. David Mullen,*Cinematography: Third Edition-*2005 * J. Kris Malkiewicz, Jim Fletcher, *Cinematography: a guide for film makers and film teachers-*1992 * Kris Malkiewicz, Revised and expanded Film Lighting, Prentice Hall press-2012 | |
|  |  |  | |

**Programme Outcomes:**

* Discover the significance of Cinematography.
* Analyze the role of Editing and its techniques in cinematography.
* Discover the role of Camera and its techniques in cinematography.
* Analyze the Concepts of camera in Cinematography.
* Evaluate camera in Action: Camera Movement, Angles and Composition for Cinematography.
* Distinguish the significance of 3D and Live action camera for shoot.

**Syllabus of Material Animation**

**FILENAME: Material Animation**

**B.Sc Second Year: Semester IV**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 | Course number | | BSA214 | | |
| 2 | Course Title | | Material Animation | | |
| 3 | Credits | | 3 | | |
| 4 | Contact Hours (L-T-P) | | 2-0-2 | | |
| 5 | Course Objective | | * To introduce various techniques and styles of Animation. * To provide the students hands on experience of simple ideas for animation using the materials available in the immediate surroundings. | | |
| 6 | Course Outcomes | | Students would be able to:   1. Discover the significance of Material Animation. 2. Analyze different techniques available in Material Animation. 3. Working of different process and methods of Material Animation. 4. Creation of Material Animation film from preferred medium. | | |
| 7 | Outline syllabus: Foundation Art | | | | |
| 7.01 | BSA214.A | Unit A | | | Introduction to Material Animation |
| 7.02 | BSA214.A1 | Unit A Topic 1 | | | Introduction to Material Animation. |
| 7.03 | BSA214.A2 | Unit A Topic 2 | | | Different Style and techniques in material animation. |
| 7.04 | BSA214.A3 | Unit A Topic 3 | | | Popular material animation and other techniques. |
| 7.05 | BSA214.B | Unit B | | | Different Techniques |
| 7.06 | BSA214.B1 | Unit B Topic 1 | | | Different Techniques Available for Material Animation. |
| 7.07 | BSA214.C | Unit C | | | Process and methods of Material Animation |
| 7.08 | BSA214.C1 | Unit C Topic 1 | | | Visualization of Material Animation. |
| 7.09 | BSA214.C2 | Unit C Topic 2 | | | Production process for Method. |
| 7.10 | BSA214.D | Unit D | | | Material Animation in Action |
| 7.11 | BSA214.D1 | Unit D Topic 1 | | | Story and Preproduction for Material Animation Film |
| 7.12 | BSA214.D2 | Unit D Topic 2 | | | Identification and Execution of Material Animation Film |
| 7.13 | BSA214.D3 | Unit D Topic 3 | | | Post Production of Material Animation Film |
| 8 | Course Evaluation | | | | |
| 8.1 | Course work:30% | | | | |
| 8.2 | Attendance | None | |  | |
| 8.3 | Homework | 5 assignments, 20 marks | | | |
| 8.4 | Quizzes | None | | | |
| 8.5 | Lab | Separate | | | |
| 8.6 | Presentations | None | | | |
| 8.7 | Any other | None | |  | |
| 8.9 | MTE | One,20% | |  | |
| 8.10 | End-term Examination: One,50% | | | | |
| 9 | References | | | | |
|  | Text book |  | | | |
|  | Other references | 1. Quays 2. Films done by Jan Svankmajer 3. Plasticine Animation Caroline leaf 4. Bead Game, Afterlife - Ishu patel 5. Mindscape, Jacques Drouin 6. Papageno, the Adventures of Prince Achmed, Lotte Reiniger | | | |
|  |  |  | | | |

**Programme Outcomes:**

* Discover the significance of Material Animation.
* Analyze different techniques available in Material Animation.
* Working of different process and methods of Material Animation.
* Creation of Material Animation film from preferred medium.

**Semester V**

**Syllabus of Sound Design**

**FILENAME: Sound Design**

**B.Sc Third Year: Semester V**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Course number | BSA301 | |
| 2 | Course Title | Sound Design | |
| 3 | Credits | 3 | |
| 4 | Contact Hours (L-T-P) | 1-0-4 | |
| 5 | Course Objective | * Understand the technical aspects of producing and recording sounds. * Create Foleys and effects sounds using analog and digital techniques. * Understand the workflow used to producing and mastering sounds. * Export sound output to various Medias. * Establishing an environment Helping to tell a story, Defining mood, Rhythm and style Aiding flow of action. | |
| 6 | Course Outcomes | Students would be able to:   1. Discover the significance of Sound and its Application. 2. Analyze different techniques in Sound editing. 3. Utilizing equipments in recording, Music Production. 4. Recording of sound for different application. 5. Learn the Application techniques for Edit, Effects, mixing and managing. 6. Designing sound for Region specific sounds | |
| 7 | Outline syllabus: Sound Design | | |
| 7.01 | BSA301.A | Unit A | Sound Fundamentals |
| 7.02 | BSA301.A1 | Unit A Topic 1 | Fundamental of sound and sound Design. |
| 7.03 | BSA301.A2 | Unit A Topic 2 | Art and Techniques of sound editing. |
| 7.04 | BSA301.A3 | Unit A Topic 3 | Sound equipment and their significance. |
| 7.05 | BSA301.B | Unit B | Recording Techniques |
| 7.06 | BSA301.B1 | Unit B Topic 1 | Recording and Music Production Techniques |
| 7.07 | BSA301.B2 | Unit B Topic 2 | Fundamentals of Digital Audio |
| 7.08 | BSA301.C | Unit C | Sound Editing Application |
| 7.09 | BSA301.C1 | Unit C Topic 1 | Customizing workspace |
| 7.10 | BSA301.C2 | Unit C Topic 2 | Extracting audio clips |
| 7.11 | BSA301.C3 | Unit C Topic 3 | Foley sound recording |
| 7.12 | BSA301.D | Unit D | Sound Editing Techniques |
| 7.13 | BSA301.D1 | Unit D Topic 1 | Editing properties of sound |
| 7.14 | BSA301.D2 | Unit D Topic 2 | Mixing and Effects for sound. |
| 7.15 | BSA301.D3 | Unit D Topic 3 | Managing of sound files. |
| 7.16 | BSA301.E | Unit E | Designing of Sound |
| 7.17 | BSA301.E1 | Unit E Topic 1 | The psychology of sound |
| 7.18 | BSA301.E2 | Unit E Topic 2 | Crating Memorable Sounds |
| 7.19 | BSA301.E3 | Unit E Topic 3 | Region specific sounds |
| 8 | Course Evaluation | | |
| 8.1 | Course work:30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book | * Sound Design: The Expressive Power of Music, Voice and Sound Effects in Cinema by David Sonnenschein -2002 * The Sound Effects Bible: How to Create and Record Hollywood Style Sound Effects by Ric Viers (Oct 1, 2008) | |
|  | Other references | The Animator's Eye: Adding Life to Animation with Timing, Layout, Design, Color and Sound by Francis Glebas (Sep 24, 2012)Designing Sound by Andy Farnell (Aug 20, 2010) | |
|  |  |  | |

**Programme Outcomes:**

* Discover the significance of Sound and its Application.
* Analyze different techniques in Sound editing.
* Utilizing equipments in recording, Music Production.
* Recording of sound for different application.
* Learn the Application techniques for Edit, Effects, mixing and managing.
* Designing sound for Region specific sounds.

**Syllabus of Motion Graphics**

**FILENAME: Motion Graphics**

**B.Sc Third Year: Semester V**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Course number | BSA302 | |
| 2 | Course Title | Motion Graphics | |
| 3 | Credits | 4 | |
| 4 | Contact Hours (L-T-P) | 1-0-6 | |
| 5 | Course Objective | * Familiarize the tools and techniques to create Motion graphics and effects * Learn Problem solving techniques to rectify the errors during the process * Create content for broadcast, feature film and animation. | |
| 6 | Course Outcomes | Students would be able to:   1. The Scope of Motion Graphics for different media. 2. Analyze different tools and techniques in Motion Graphics. 3. Utilizing tools to create effects in Motion Graphics. 4. Discover the significance of motion theory in Motion Graphics. 5. Learn the Application techniques for Animation, Editing, and Effects. | |
| 7 | Outline syllabus: Foundation Art | | |
| 7.01 | BSA302.A | Unit A | Introduction to Motion graphics |
| 7.02 | BSA302.A1 | Unit A Topic 1 | History of Motion Graphics. |
| 7.03 | BSA302.A2 | Unit A Topic 2 | Evolution of Motion Graphics. |
| 7.04 | BSA302.A3 | Unit A3Topic 3 | Ideation of Motion graphics in Film titles and television |
| 7.05 | BSA302.B | Unit B | Scope |
| 7.06 | BSA302.B1 | Unit B Topic 1 | Possible areas for implementation of Motion graphics |
| 7.07 | BSA302.B2 | Unit B Topic 2 | Possible areas for implementation of Motion graphics |
| 7.08 | BSA302.C | Unit C | Tools and Techniques |
| 7.09 | BSA302.C1 | Unit C Topic 1 | Tools and Techniques in software |
| 7.10 | BSA302.C2 | Unit C Topic 2 | Integration of different software for motion graphics. |
| 7.11 | BSA302.D | Unit D | Effects in Motion Graphics |
| 7.12 | BSA302.D1 | Unit D Topic 1 | Various Effects in Motion Graphics like particle, light, flare and typography. |
| 7.13 | BSA302.E | Unit E | Motion Theory |
| 7.14 | BSA302.E1 | Unit E Topic 1 | Different types of Motion theory |
| 7.15 | BSA302.E | Unit F | Animation in Motion Graphics |
| 7.16 | BSA302.F1 | Unit F Topic 1 | Significance of Visual Properties |
| 7.17 | BSA302.F2 | Unit F Topic 2 | Types of Animation in Motion Graphics |
| 7.18 | BSA302.G | Unit G | Editing |
| 7.19 | BSA302.G1 | Unit G Topic 1 | Techniques in Editing |
| 8 | Course Evaluation | | |
| 8.1 | Course work:30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book |  | |
|  | Other references | * The Art and Science of Digital Compositing, Second Edition: * Techniques for Visual Effects, Animation and Motion Graphics (The Morgan Kaufmann Series in Computer Graphics) - **Ron Brinkmann (Author)** | |
|  |  |  | |

**Programme Outcomes:**

* The Scope of Motion Graphics for different media.
* Analyze different tools and techniques in Motion Graphics.
* Utilizing tools to create effects in Motion Graphics.
* Discover the significance of motion theory in Motion Graphics.
* Learn the Application techniques for Animation, Editing, and Effects.

**Syllabus of Project Management**

**FILENAME: Project Management**

**B.Sc Third Year: Semester V**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Course number | BSA303 | |
| 2 | Course Title | Project Management | |
| 3 | Credits | 3 | |
| 4 | Contact Hours (L-T-P) | 2-0-2 | |
| 5 | Course Objective | * To provide practical knowledge in setting up production studio. * To prepare and plan for pitching of a project * To manage the project of the production | |
| 6 | Course Outcomes | Students would be able to:   1. Distinguishing production for different Medias. 2. Designing pipeline for Different Production House. 3. Management of Project for Creative and Production team. 4. Designing a studio for Infrastructure and work force. | |
| 7 | Outline syllabus: Project Management | | |
| 7.01 | BSA303.A | Unit A | Production Overview |
| 7.02 | BSA303.A1 | Unit A Topic 1 | Working of Production House |
| 7.03 | BSA303.A2 | Unit A Topic 2 | Production houses for Film, TV Games |
| 7.04 | BSA303.A3 | Unit B | Pipeline |
| 7.05 | BSA303.B | Unit B Topic 1 | Requirement for a Production Pipeline |
| 7.06 | BSA303.B1 | Unit B Topic 2 | Pipeline designing for various Production house |
| 7.07 | BSA303.B2 | Unit B Topic 3 | A Typical Pipeline and Infrastructure |
| 7.08 | BSA303.C | Unit C | Project Management |
| 7.09 | BSA303.C1 | Unit C Topic 1 | Pipeline Management |
| 7.10 | BSA303.C2 | Unit C Topic 2 | Project Management |
| 7.11 | BSA303.D | Unit C Topic 3 | Work force and Recruitment |
| 7.12 | BSA303.D1 | Unit C Topic 4 | Studio Design |
| 8 | Course Evaluation | | |
| 8.1 | Course work:30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book |  | |
|  | Other references | * The Visual Effects Producer: Understanding the Art and Business of VFX - Charles Finance, **Susan Zwerman**, Publisher: Focal Press; 1 edition (August 28, 2009) * The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures - Jeffrey A. Okun, Publisher: Focal Press; 1 edition (July 8, 2010) | |
|  |  |  | |

**Programme Outcomes:**

* Distinguishing production for different Medias.
* Designing pipeline for Different Production House.
* Management of Project for Creative and Production team.
* Designing a studio for Infrastructure and work force

**Syllabus of Match Moving**

**FILENAME: Match Moving**

**B.Sc Third Year: Semester V**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Course number | BSA304 | |
| 2 | Course Title | Match Moving | |
| 3 | Credits | 4 | |
| 4 | Contact Hours (L-T-P) | 2-1-2 | |
| 5 | Course Objective | * Familiarize the tools and techniques to create Match moving and effects * Learn Problem solving techniques to rectify the errors during the process * Create content for broadcast, feature film and animation. | |
| 6 | Course Outcomes | Students would be able to:   1. Usage of Match moving on footage in a package. 2. Integrate various elements in scene in a 3D package. 3. Create, light, render the object and composite the result. | |
| 7 | Outline syllabus: Match Moving | | |
| 7.01 | BSA304.A | Unit A | Introduction to Match Moving |
| 7.02 | BSA304.A1 | Unit A Topic 1 | Need for Match Moving in a scene. |
| 7.03 | BSA304.A2 | Unit A Topic 2 | Understanding Camera and its types. |
| 7.04 | BSA304.A3 | Unit B | Tracking |
| 7.05 | BSA304.B | Unit B Topic 1 | Tracking Fundamentals for Match moving |
| 7.06 | BSA304.B1 | Unit B Topic 2 | Tools and Techniques in Tracking |
| 7.07 | BSA304.B2 | Unit C | Match Moving Process |
| 7.08 | BSA304.C | Unit C Topic 1 | Tools and Techniques in Match Moving |
| 7.09 | BSA304.C1 | Unit D | Tracking |
| 7.10 | BSA304.C2 | Unit D Topic 1 | Different types of Tracking |
| 7.11 | BSA304.D | Unit D Topic 2 | Calibrating Camera |
| 7.12 | BSA304.D1 | Unit D Topic 3 | Tracking and noise reduction |
| 7.13 | BSA304.E | Unit E | 3D Integration |
| 7.14 | BSA304.E1 | Unit E Topic 1 | Set and Coordinate system Fitting |
| 7.15 | BSA304.E2 | Unit E Topic 2 | Advanced tools and Techniques |
| 8 | Course Evaluation | | |
| 8.1 | Course work:30% | | |
| 8.2 | Attendance | None |  |
| 8.3 | Homework | 5 assignments, 20 marks | |
| 8.4 | Quizzes | None | |
| 8.5 | Lab | Separate | |
| 8.6 | Presentations | None | |
| 8.7 | Any other | None |  |
| 8.9 | MTE | One,20% |  |
| 8.10 | End-term Examination: One,50% | | |
| 9 | References | | |
|  | Text book |  | |
|  | Other references |  | |
|  |  |  | |

**Programme Outcomes:**

* Usage of Match moving on footage in a package.
* Integrate various elements in scene in a 3D package.
* Create object, light, render the object and composite the result.

**Syllabus of Matte Painting**

**FILENAME: Matte Painting**

**B.Sc Third Year: Semester V**

|  |  |  |  |
| --- | --- | --- | --- |
| *1* | *Course number* | BSA305 | |
| *2* | *Course Title* | Matte Painting | |
| *3* | *Credits* | *5* | |
| *4* | *Contact Hours (L-T-P)* | *2-0-6* | |
| *5* | *Course Objective* | * To impart Knowledge and Technical skills in creating BG. * Matte Paintings **for** Animation, games, and live action films. * Analyzing the significance of colour and tone in integrating elements. * Building different layers of objects to integrate with Live and CGI. | |
| *6* | *Course Outcomes* | *Students would be able to:*   1. Analyze the Evolution of Matte Painting with CG, Live Action and VFX movie. 2. Familiarize students with software its interface, tools and techniques. 3. Evaluate the significance of Layers, Light, shadow and composition in matte painting. 4. Application of Advanced techniques in creating matte painting. | |
| *7* | *Outline syllabus:*Matte Painting | | |
| *7.01* | BSA305.A | Unit A | History of Matte Painting |
| *7.02* | BSA305.A1 | Unit A Topic 1 | Camera and Projection Technique |
| *7.03* | BSA305*.A2* | Unit A Topic 2 | Paint and Pixel methods |
| *7.04* | BSA305*.A3* | Unit A Topic 3 | Digital Matte Painting |
| *7.05* | BSA305*.B* | Unit B | Basic 2D Matte Painting |
| *7.06* | BSA305*.B1* | Unit B Topic 1 | Photoshop panels for matte painting |
| *7.07* | BSA305*.B2* | Unit B Topic 2 | Layer and Brush management |
| *7.08* | BSA305*.C* | Unit C | Composition of Matte Paint |
| *7.09* | BSA305*.C1* | Unit C Topic 1 | Perspective in Matte Painting |
| *7.10* | BSA305*.C2* | Unit C Topic 2 | Projection in Space |
| *7.11* | BSA305*.D* | Unit D | Light and Shadow |
| *7.12* | BSA305*.D1* | Unit D Topic 1 | Creating seamless effects of realistic and semi realistic matte painting |
| *7.13* | BSA305*.E* | Unit E | Techniques of Matte Painting |
| *7.14* | BSA305*.E1* | Unit E Topic 1 | 2.5D Matte Painting |
| *7.15* | BSA305.E2 | Unit E Topic 2 | 3D Matte Painting |
| *7.16* | BSA305.E3 | Unit E Topic 3 | Using Video elements in Matte Painting |
| *8* | *Course Evaluation* | | |
| *8.1* | *Course work:30%* | | |
| *8.2* | *Attendance* | *None* |  |
| *8.3* | *Homework* | *5 assignments, 20 marks* | |
| *8.4* | *Quizzes* | *None* | |
| *8.5* | *Lab* | *Separate* | |
| *8.6* | *Presentations* | *None* | |
| *8.7* | *Any other* | *None* |  |
| *8.9* | *MTE* | *One,20%* |  |
| *8.10* | *End-term Examination: One,50%* | | |
| *9* | *References* | | |
|  | *Text book* | * + The Invisible Art: The Legends of Movie Matte Painting - Bargain Price, Publisher: Chronicle Books (November 2002).   + Beginner's Guide to Digital Painting in Photoshop - Nykolai Aleksander , Richard Tilbury, 3DTotal Team, Publisher: 3DTotal Publishing (January 31, 2012) | |
|  | *Other references* | * The Invisible Art: The Legends of Movie Matte Painting - Mark Cotta Vaz **(Author)**, Craig Barron **(Author)** * The Digital Matte Painting Handbook - David B. Mattingly | |
|  |  |  | |

**Programme Outcomes:**

* Analyze the Evolution of Matte Painting with CG, Live Action and VFX movie.
* Familiarize students with software its interface, tools and techniques.
* Evaluate the significance of Layers, Light, shadow and composition in matte painting.
* Application of Advanced techniques in creating matte painting for Landscapes, cityscapes, Buildings, Interiors and exteriors, Objects, Ancient Architectures, pavilions, parks etc.

**Syllabus of Visual Effects Compositing Techniques**

**FILENAME: Visual Effects Compositing Techniques**

**B.Sc Third Year: Semester V**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | Course number | BSA306 | | |
| 2 | Course Title | Visual Effects Compositing Techniques | | |
| 3 | Credits | 4 | | |
| 4 | Contact Hours (L-T-P) | 2-0-4 | | |
| 5 | Course Objective | * Familiarize the tools and techniques to create standard VFX shots * Learn Problem solving techniques to rectify the errors during compositing. * Create content for broadcast, games, feature film. | | |
| 6 | Course Outcomes | Students would be able to:   1. The Evolution of Visual Effects and its influence on compositing. 2. Analyze different tools and techniques in compositing. 3. Managing of Different layers form different departments and integrating it. 4. Significance Lighting and composition in Compositing. 5. Bridging the Live Action and CGI elements and effects 6. Learn the Application of Video Art for various Medias. | | |
| 7 | Outline syllabus: Visual Effects Compositing Techniques | | | |
| 7.01 | BSA306.A | Unit A | | History of Compositing |
| 7.02 | BSA306.A1 | Unit A Topic 1 | | History of Compositing. |
| 7.03 | BSA306.A2 | Unit A Topic 2 | | Terminologies and Concept of Compositing. |
| 7.04 | BSA306.A3 | Unit A Topic 3 | | Camera and its influence on Compositing |
| 7.05 | BSA306.B | Unit B | | Digital Image |
| 7.06 | BSA306.B1 | Unit B Topic 1 | | Digital Image, concepts and Parameters |
| 7.07 | BSA306.B2 | Unit B Topic 2 | | Properties and attributes in Image |
| 7.08 | BSA306.C | Unit C | | Layers |
| 7.09 | BSA306.C1 | Unit C Topic 1 | | Distinguish Layer and Node based compositing |
| 7.10 | BSA306.C2 | Unit C Topic 2 | | Matte and Keying Techniques |
| 7.11 | BSA306.D | Unit C Topic 3 | | Effects in Motion Graphics |
| 7.12 | BSA306.D1 | Unit C Topic 4 | | Tracking and Stabilizing Techniques |
| 7.13 | BSA306.E | Unit D | | Lighting and Composition |
| 7.14 | BSA306.E1 | Unit D Topic 1 | | Lighting in Compositing |
| 7.15 | BSA306.E | Unit D Topic 2 | | Live and Virtual Cameras |
| 7.16 | BSA306.F1 | Unit D Topic 3 | | Lighting passes and its integration |
| 7.17 | BSA306.F2 | Unit E | | Theory and Practice of Video Art |
| 7.18 | BSA306.G | Unit E Topic 1 | | History of Video Art and its Evolution |
| 7.19 | BSA306.G1 | Unit E Topic 2 | | Application of Video Art in different media |
| 8 | Course Evaluation | | | |
| 8.1 | Course work:30% | | | |
| 8.2 | Attendance | None |  | |
| 8.3 | Homework | 5 assignments, 20 marks | | |
| 8.4 | Quizzes | None | | |
| 8.5 | Lab | Separate | | |
| 8.6 | Presentations | None | | |
| 8.7 | Any other | None |  | |
| 8.9 | MTE | One,20% |  | |
| 8.10 | End-term Examination: One,50% | | | |
| 9 | References | | | |
|  | Text book |  | | |
|  | Other references | Compositing Digital Images - T. Porter and T. Duff I Proceedings of SIGGRAPH '84, 18 (1984) I   * The Art and Science of Digital Compositing - Ron Brinkmann * Wright'sCompositing Visual Effects: Essentials for the Aspiring Artist [Paperback]2007) - Paperback (2007) - S.Wright * Compositing Visual Effects – Essentials for aspiring artists - Steve Wright | | |
|  |  |  | | |

**Programme Outcomes:**

* The Evolution of Visual Effects and its influence on compositing.
* Analyze different tools and techniques in compositing.
* Managing of Different layers form different departments and integrating it.
* Significance Lighting and composition in Compositing.
* Bridging the Live Action and CGI elements and effects
* Learn the Application of Video Art for various Medias.

**SEMESTER VI**

**Syllabus of Final Project**

**FILENAME: Final Project**

**B.Sc Third Year: Semester VI**

**Course number: BSA307**

**Credits: 22**

**Contact Hours (L-T-P): 10-0-24**

Class Outline

Step 1: Think and Ink

Idea has to build and to be moulded for VFX movie. The idea can be vague or gag not necessarily a concept, but new and the idea should include all the key skills that you learnt in the two semesters. The Idea should be visual treat rather than a story or script treat since it’s a VFX movie. The created idea will be approved by the concerned Instructor according to the Achievable complexity with the provided resources.

Step 2: Idea to Script

Put your ideas into papers as script and create a story board for the same. The Story board should have a brief scene description which says the details about the Location, Camera and Lens, Cast and Crew, Light setup and digitization. So this is the place where you need to create the live and CG elements placement and the back and forth process of inserting and removing CG elements which will out the sufficient amount of details which will enhance the reality of visual treat.

The background score is added in the story board to give the final look of the movie. Make sure the story reveals the actual strength in the storyboarding part as a whole. Every aspect of sound should be there in the storyboard...for ex, The water flow, wind flow, object falling down, fight scene. Etc.

Step 3: StoryBoard to Previz

Used the cleaned plates for Rotoart and use the same footage for overall CG elements Previz to ensure that we follow the same time or more accurate time for the final output. Use dummies(low poly models) as models for the Previz which will replace the actual detailed(high poly models) CG elements. Though you should maintain the texture treatment just to freeze the look and feel of the shot.

Step 4 : Shooting on Location

Be on the spot to make the shot details work close to the CG plan that you planned in storyboard. Take the Camera angle measurements as well as the lens and camera color profile. If you are the director for the movie discuss with yourself that the time and schedule for the camera is more suitable to shoot and a visual mockup of such shots in the location itself will reduce your work.

Step 5: Production and Footage Processing

The Production processes are very parallel to footage matchup, so clean the plates and start comparing and placing the CG elements in the live footage and start rolling the production schedules.

Step 6: Compositing

This is the very important stage in VFX movie. By Playing a very Vitol role decides the look and feel of the your short film. Which involves many references like Color script, look and feel references and photography references to enhance the details in the film. This render output should match with the step 3 storyboard output which will bind the sound to the film.

Step 7: Final Cut

This is the editing stage. Remove unwanted shots and trim cut the shots for the better and more interesting results will make the audience more committed to the Film.

Learning objective

This Module is to make a visual FX short film by the students as Team or by an Individual. The content will be executed by their creative ability and process providing with the prior storyboard approvals in the earlier semester. Students can come up with a brand new ideas with respect to more scope for VFX that should include elements like FX-Dynamics, Live footage Tracking, Cleaning, including CG elements with the cleaned plates and compositing which eventually will be the industry practice output.

The Core practice of this Module will have unique ideas said that the content should not be re-created or it should not be the inspiration of any works which is published earlier in this medium. Provided sufficient amount of days to complete this Module as an output of VFX movie, students are asked to deliver the movie with enormous creative idea and new industry technology.

* To impart knowledge in recording and documenting the preproduction, Production and Post production of the Project
* To impart skills in the presentation of the concept of the project, Lay out for the visuals and various stages of the project in professional manner

Course Outline

To impart skills of relating with practical work and theories. To impart skills in articulating the practical production experience using technical language. To understand and communicate the team work of the project. To learn skills in relating the interdisciplinary subjects, electives learnt during this Module.

Learning Strategy

Research and Enquiry based learning