



**Birla Institute of Technology - Mesra, Ranchi**

**Department of Animation and Multimedia**

**B.Sc. Animation & Multimedia**

**Choice Based Credit System (CBCS) Syllabus**

**2018**



## **Department of Animation and Multimedia**

Birla Institute of Technology, Mesra, Ranchi -835215 (India)

### **Institute Vision**

To become a Globally Recognized Academic Institution in consonance with the social, economic and ecological environment, striving continuously for excellence in education, research and technological service to the National needs.

### **Institute Mission**

- To educate students at Graduate, post graduate and Doctoral levels to perform challenging engineering and Managerial jobs in industry.
- To provide excellent research and development facilities to take up Ph.D. programmes and research projects.
- To develop effective teaching learning skills and state of art research potential of the faculty.
- To build national capabilities in education, and research in emerging areas.

### **Department Vision**

Pursuit of excellence in-order-to be recognized as a pioneer and frontrunner in the field of Animation and Multimedia studies in the country; to be in consonance with the emerging and current socio -economic reality and simultaneously be responsive to our ecological environment and remain motivated to contribute to the nation building process through excellence in research and development activities

### **Department Mission**

- Enable Post Graduate students & Doctoral scholars to achieve excellence both in skill and knowledge that is at par with industry standards & perform better in challenging situations
- To encourage cutting edge, interdisciplinary and futuristic research in response to the needs of the government, industry and society
- To nurture first generation entrepreneurs with innovative mindset.

- To develop a curriculum where students will intrinsically understand the requirements and standards of the industry and remain equipped to achieve the next level
- To provide excellent Consulting, and Research & Development facilities for faculty and students.
- To uphold the values of Personal Integrity and Social Responsibility

### **Program Educational Objectives (PEO)**

1. To develop animation, multimedia and communication competence of the students to enable them to take up eminent and gainful position in the industry or foray as first-generation entrepreneurs in the domain.
2. To impart professional education and training in the field of 2D& 3D Animation, Digital Games, Film Making, Post production, Graphic Designing, User interface designing, Web & Apps Designing and Communication education.
3. To disseminate knowledge and information by industry-academia interface and continuing interaction with alumni to meet the demand of quality education
4. To produce graduates who are socially responsible and capable of engaging in Lifelong learning
5. Create scholars involved and engaged in futuristic research and quality consulting

### **Program Outcomes (PO)**

**On successfully completing the program a graduate shall be able to:**

- a) Apply basic concepts of management and its interdisciplinary knowledge to identify and analyse complex issues pertaining to contemporary organisations.
- b) Initiate and participate in change process and value creation across all levels.
- c) Identify suitable resources and utilise them optimally.
- d) Take decisions with commitment to professional ethics and responsibilities.

**Detailed Syllabus of  
B.Sc. A&M, I semester**



## COURSE INFORMATION SHEET

**Course Code: AM101**

**Course Title: History of Animation**

**Pre-requisite(s): Nil**

**Credits: 3**

**Class schedule per week: 03**

**Class: B.Sc. (Animation & Multimedia)**

**Semester / Level: I**

**Branch: BAM**

**Type: Lecture and Tutorial**

### Course Objectives

This course enables the students to:

|           |                                                                                         |
|-----------|-----------------------------------------------------------------------------------------|
| <b>A.</b> | Understand the Early approaches to motion in art                                        |
| <b>B.</b> | Learn about different Devices that successfully displayed animated images               |
| <b>C.</b> | Learn about History of American, Japanese, Indian Animation and their comparative study |
| <b>D.</b> | Understand Traditional Animation Process, and different techniques of Animation         |
| <b>E.</b> | Learn how Animation has evolved with technology                                         |

### Course Outcomes

After the completion of this course, students will be able to:

|           |                                                                  |
|-----------|------------------------------------------------------------------|
| <b>1.</b> | Understand how Animation started and has evolved with technology |
| <b>2.</b> | Know about different Animation techniques and styles             |
| <b>3.</b> | Know about popular Animation Studios, Films, and Artists         |
| <b>4.</b> | Understand the key terms in Animation Production process         |
| <b>5.</b> | Know about the application and influence of Animation            |

## Syllabus

### Module I

**[8 Lectures]**

- **Early approaches to motion in art** – Sequential series of events/action depicted in Egyptian Murals and Leonardo da Vinci's Drawings
- **Animation before film** - Devices that successfully displayed animated images, like the Magic Lantern, Thaumatrope, Phenakistoscope, Zoetrope, Flip book, Praxinoscope.

### Module II

**[8 Lectures]**

- **History of American animation** - Biography of Walt Disney. Brief discussion of Disney studio, Warner Studio and UPA studio. Influences on pop-culture.
- **Brief history of Japanese animation** - Biography of Osamu Tezuka.

### Module III

[8 Lectures]

- **History of Indian Animation** - Case Studies of popular Indian Animation Film Makers and their Films
- **Traditional animation** – Traditional Animation Process, Terms and definitions, early examples, classic films. Animation Techniques – Stop Motion, CGI Animation

### Module IV

[8 Lectures]

- **Introduction and definition of important and key terms** – Cinema, theatre, 2d animation, 3d animation, Fine art vs commercial art and Design.
- **Genesis of figure drawing** – Drawing and the production process of animation (to appreciate the changes that happened with time.)

### Module V

[8 Lectures]

- **Influence of Technology and media** – Influence of Video camera on animation, influence of Television on animation, influence of Internet on animation.
- **Emerging technologies** – Use of animation in corporate scene.

### Reference Books:

1. Hundred Years of Cinema Animation By Giannalberto Bendazzi
2. Of Mice and Magic By Leonard Maltin
3. Art Over 2500 Works from Cave to Contemporary By Andrew Graham- Dixon
4. Art: A World History By Elne Linda Buchholz, Susanne Kaeppele, Karoline Hille, Irina Stortland, Gerhard Buhler
5. The Craft of International History: A Guide to Method By Marc Trachtenberg
6. Animators survival kit- Richard Williams
7. Animation writing and development- Jean Ann wright



## COURSE INFORMATION SHEET

**Course Code:** AM102  
**Course Title:** Introduction to Visual Studies  
**Pre-requisite(s):** Nil  
**Credits:** 3 L:3 T:0 P:0  
**Class schedule per week:** 03  
**Class:** B.Sc. (Animation & Multimedia)  
**Semester / Level:** I  
**Branch:** BAM  
**Type:** Lecture and Tutorial

### Course Objectives

This course enables the students to:

|    |                                                                                |
|----|--------------------------------------------------------------------------------|
| A. | Understand the fundamentals of Visual Art                                      |
| B. | Understand Art forms, Elements of Art, Principles of Art                       |
| C. | Know about Pre-historic Art and early civilization                             |
| D. | Study various old artists, discuss their art techniques and their contribution |
| E. | Understand basic drawings                                                      |

### Course Outcomes

After the completion of this course, students will be able to:

|    |                                                                                               |
|----|-----------------------------------------------------------------------------------------------|
| 1. | Implement the fundamentals of Visual Art in practice                                          |
| 2. | Absorb concepts of visual art                                                                 |
| 3. | Understand early attempts of art by human being                                               |
| 4. | Prepare a document on old artists, their techniques and contribution                          |
| 5. | Draw still life, human figure in simplified forms, and submit 200 sketches of out- door study |

### Syllabus

#### Module I

Topics: Introduction to Visual Art, 2 Dimension and 3 Dimension art form, Different medium of art, Different types of Paintings. [No. of Lectures: 8]

#### Module II

Topic: Six Limbs of Indian Paintings, Elements of Art, Principles of Art Evolution of Art. Pre-modernism-Sculpture, Painting (Mural Paintings and manuscript paintings) [No. of Lectures:8]

#### Module III

Topic: Pre-historic Art: Cave Paintings, Art of Indus valley civilization [No. of Lectures:8]

#### Module IV

Topic: Introduction of Artists- Picasso, Salvador Dali, Paul Gauguin, Van Gogh etc.

**Module V**

Topic: Drawing Basics (Basic Shapes), Drawing Classes (Out Door), Object Drawing Classes (Still Life)  
Live Model Drawing, and Perspective Drawings [No. of Lectures: 8]

**Reference Book**

1. Figure study by Aditya Chari
2. Perspective drawing by Joseph D'Amelio
3. Art theory for beginners (History of art) by Richard Osborne

**Gaps in the syllabus (to meet industry / Profession requirements)****POs met through Gaps in the syllabus****Topics beyond syllabus / advanced topics / design****POs met through topics beyond syllabus / advanced topics / design**

| <b>Course Delivery Method</b>                              |
|------------------------------------------------------------|
| Lecture by use of boards/ LCD/ Projectors / OHP Projectors |
| Tutorial / Assignment                                      |
| Seminars                                                   |
| Mini Projects / Projects                                   |
| Laboratory Experiments / Teaching Aids                     |
| Industrial / Guest Lecture                                 |
| Industrial Visits / in-plant training                      |
| Self-learning such as use of NPTEL materials and internets |
| Simulation                                                 |

**Course Outcome (CO) Attainment Assessment Tools and Evaluation Procedure****Direct Assessment**

| <b>Assessment Tools</b>    | <b>% Contribution during CO Assessment</b> |
|----------------------------|--------------------------------------------|
| Quiz (I, II)               | 20                                         |
| Mid-term Examination Marks | 25                                         |
| Attendance                 | 5                                          |
| End-term Examination Marks | 50                                         |

| <b>Assessment Components</b> | <b>CO1</b> | <b>CO2</b> | <b>CO3</b> | <b>CO4</b> | <b>CO5</b> |
|------------------------------|------------|------------|------------|------------|------------|
| Quiz (I, II)                 | ✓          | ✓          | ✓          |            |            |
| End Sem Examination Marks    | ✓          | ✓          | ✓          | ✓          | ✓          |
| Mid-Term Examination Marks   |            |            | ✓          | ✓          | ✓          |

**Indirect Assessment**

1. Student feedback on Faculty
2. Student feedback on Course outcome

|                                                             |
|-------------------------------------------------------------|
| <b>Mapping between COs and Course Delivery (CD) methods</b> |
|-------------------------------------------------------------|



| <b>CD</b> | <b>Course Delivery Method</b>                                 | <b>Course Outcome</b> | <b>Course Delivery Method</b> |
|-----------|---------------------------------------------------------------|-----------------------|-------------------------------|
| CD1       | Lecture by use of boards/ LCD/<br>Projectors / OHP Projectors | C01                   | CD1, CD2, CD3                 |
| CD2       | Tutorial / Assignment                                         | C02                   | CD1, CD2, CD3                 |
| CD3       | Seminars                                                      | C03                   | CD1, CD2, CD3                 |
| CD4       | Mini Projects / Projects                                      | C04                   | CD1, CD2, CD3, CD4,<br>CD5    |
| CD5       | Laboratory Experiments / Teaching Aids                        | C05                   | CD1, CD2, CD5                 |
| CD6       | Industrial / Guest Lecture                                    |                       |                               |
| CD7       | Industrial Visits / in-plant training                         |                       |                               |
| CD8       | Self-learning such as use of NPTEL<br>materials and internets |                       |                               |
| CD9       | Simulation                                                    |                       |                               |



## COURSE INFORMATION SHEET

**Course Code: AM 103**

**Course Title: Introduction to Communication**

**Pre-requisite(s): Nil**

**Credits: 3 L:3 T:0 P:0**

**Class schedule per week: 03**

**Class: B.Sc. (Animation & Multimedia)**

**Semester / Level: I**

**Branch: BAM**

**Type: Lecture and Tutorial**

### Course Objectives

This course enables the students to:

|           |                                                                            |
|-----------|----------------------------------------------------------------------------|
| <b>A.</b> | Understand Communication as a major and an independent discipline          |
| <b>B.</b> | Understand Communication as an interdisciplinary subject                   |
| <b>C.</b> | Gain proficiency with the fundamental concepts of the domain               |
| <b>D.</b> | Be able to apply these concepts to solve real life problems and situations |
| <b>E.</b> | Get exposed to the fundamental theories of Communication                   |

### Course Outcomes

After the completion of this course, students will be able to:

|           |                                                                                            |
|-----------|--------------------------------------------------------------------------------------------|
| <b>1.</b> | Express their ideas with more confidence and clarity leading to better presentation skills |
| <b>2.</b> | Become a more sensitive and sensible human being and professional                          |
| <b>3.</b> | Use the principles and tools to solve problem.                                             |
| <b>4.</b> | Understand conflict and manage stress                                                      |
| <b>5.</b> | Understand culture and challenges of cross-cultural environment better.                    |

### Syllabus

#### Module I INTRODUCTION

[No. of Lectures:8]

Topics: Definition, Communication as a two-way process, Effective Communication, Benefits of Good and Effective Communication, Role and responsibility of Sender and Receiver.

#### Module II TYPE OF COMMUNICATION

[No. of Lectures:8]

Topics: Business & Corporate Communication, Internal and External Communication, Top-down & Bottom – up Communication, Grapevine, Advocacy Communication, Mass Communication

**MODULE III Non-Verbal Communication****[No. of Lectures:8]**

Topics: Understanding Space, Posture, Gestures, Expressions as essential Communication Cues, Nonverbal cues in written communication, Importance and effectiveness of nonverbal communication,

**Module IV Multiplicity Paradigm****[No. of Lectures:8]**

Topics: Medium, media, and channels of communication, Introduction to traditional and folk media, Introduction to print and electronic media, Introduction to emerging new media

**Module V Communication for Animation****[No. of Lectures:8]**

Topics: Use of Animation in Communication, Relevance and use of video games in communication, Population and Target Audience, Democratization of Communication and Participation

**Text Book:**

1. Business Communication, Suparna Dutta, PHI, New Delhi, 2013

**Reference Book:**

1. Bovee & Hill, Business Communication Today, Tata McGraw- Hill. 2005
2. John Seely, Oxford Guide to Effective Writing and Speaking, OUP

**Gaps in the syllabus (to meet industry / Profession requirements)**

**POs met through Gaps in the syllabus**

**Topics beyond syllabus / advanced topics / design**

**POs met through topics beyond syllabus / advanced topics / design**

|                                                            |
|------------------------------------------------------------|
| <b>Course Delivery Method</b>                              |
| Lecture by use of boards/ LCD/ Projectors / OHP Projectors |
| Tutorial / Assignment                                      |
| Seminars                                                   |
| Mini Projects / Projects                                   |
| Laboratory Experiments / Teaching Aids                     |
| Industrial / Guest Lecture                                 |
| Industrial Visits / in-plant training                      |
| Self-learning such as use of NPTEL materials and internets |
| Simulation                                                 |

**Course Outcome (CO) Attainment Assessment Tools and Evaluation Procedure****Direct Assessment**

| Assessment Tools | % Contribution during CO Assessment |
|------------------|-------------------------------------|
|------------------|-------------------------------------|

|                            |    |
|----------------------------|----|
| Quiz (I, II)               | 20 |
| Mid-term Examination Marks | 25 |
| Attendance                 | 5  |
| End-term Examination Marks | 50 |

| Assessment Components      | CO1 | CO2 | CO3 | CO4 | CO5 |
|----------------------------|-----|-----|-----|-----|-----|
| Quiz (I, II)               | ✓   | ✓   | ✓   |     |     |
| End Sem Examination Marks  | ✓   | ✓   | ✓   | ✓   | ✓   |
| Mid-Term Examination Marks |     |     | ✓   | ✓   | ✓   |

### Indirect Assessment

1. Student feedback on Faculty
2. Student feedback on Course outcome

| Mapping between COs and Course Delivery (CD) methods |                                                            |  |                |                         |
|------------------------------------------------------|------------------------------------------------------------|--|----------------|-------------------------|
| CD                                                   | Course Delivery Method                                     |  | Course Outcome | Course Delivery Method  |
| CD1                                                  | Lecture by use of boards/ LCD/ Projectors / OHP Projectors |  | C01            | CD1, CD2, CD3           |
| CD2                                                  | Tutorial / Assignment                                      |  | C02            | CD1, CD2, CD3           |
| CD3                                                  | Seminars                                                   |  | C03            | CD1, CD2, CD3           |
| CD4                                                  | Mini Projects / Projects                                   |  | C04            | CD1, CD2, CD3, CD4, CD5 |
| CD5                                                  | Laboratory Experiments / Teaching Aids                     |  | C05            | CD1, CD2, CD5           |
| CD6                                                  | Industrial / Guest Lecture                                 |  |                |                         |
| CD7                                                  | Industrial Visits / in-plant training                      |  |                |                         |
| CD8                                                  | Self-learning such as use of NPTEL materials and internets |  |                |                         |
| CD9                                                  | Simulation                                                 |  |                |                         |



## COURSE INFORMATION SHEET

**Course Code: AM 104**

**Course Title: Introduction to Multimedia**

**Pre-requisite(s): Nil**

**Credits: 3 L:3 T:0 P:0**

**Class schedule per week: 03**

**Class: B.Sc. (Animation & Multimedia)**

**Semester / Level: I**

**Branch: BAM**

**Type: Lecture and Tutorial**

### Course Objectives

This course enables the students to:

|   |                                                                    |
|---|--------------------------------------------------------------------|
| A | Understand various elements of multimedia                          |
| B | Gain introductory knowledge of working mechanism of these elements |
| C | Understand steps involved in designing a multimedia project        |
| D | Understand emerging technologies in the field of multimedia        |
| E | To develop ability to design a multimedia message                  |

### Course Outcomes

After the completion of this course, students will be able to:

|   |                                                                                       |
|---|---------------------------------------------------------------------------------------|
| A | Understand various aspects of multimedia communication                                |
| B | Technical details related to various elements of multimedia and emerging technologies |
| C | Understand the role played by various multimedia platforms                            |
| D | Design a multimedia project by combining various elements of multimedia               |
| E | Design a Graphic Story book, Template of Website and App or Video                     |

## Syllabus

### **Module I: Introduction to Multimedia**

[No. of Lectures: 8]

Topics: What is Multimedia, Elements of Multimedia in detail, Linear and Non-Linear Multimedia, Uses of Sound and Typography in Multimedia

### **Module II: Authoring Tools:**

[No. of Lectures: 8]

Topics: Introduction to Authoring Tools, Different types of Authoring Tools, Designing outputs using various authoring tools, Study of Media platforms related to authoring tools like print and electronics.

### **Module III: Visual Communication using Multimedia**

[No. of Lectures: 8]

Topics: What is Visual Communication, Use of Authoring tools in Visual Communication, Principles of Gestalt theory, Introduction to Color theory, Storytelling through multimedia.

### **Module IV Introduction to Internet Technology**

[No. of Lectures: 8]

Topics: How internet works, Defining LAN, WAN and WWW , Uses of Internet , Understanding IP address ,ISP and role of Browser , Internet protocol (http, https, ftp, smtp, pop,)–

### **Module V Emerging Multimedia Technologies**

[No. of Lectures: 8]

Topics: Introduction to AR/VR, Applications of AR/VR, Study of New Media platforms like Websites and Apps

### **Text Book:**

1. Fundamentals of Creative Design by Gavin Ambrose/Paul Introduction to Multimedia by Ramesh Bangia (Khanna Book Publishing Co. Pvt. Ltd) (T1)
2. Mass Communication in India by Keval J. Kumar (T2)

### **Reference Book:**

- 1 Fundamentals of Creative Design by Gavin Ambrose/Paul Harris (R1)
2. Fundamentals of Graphic Design by Gavin Ambrose/Paul Harris (R2)
3. Kidzztale by Partho Acharya (R3)
4. The Design Process by Karl Aspelund (R4)
5. Principles Of Gestalt Psychology by Kurt Koffka (R5)
6. The Design of Everyday Things by Don Norman (R6)
7. Multimedia on the Web by Stephen McGloughlin

**Gaps in the syllabus (to meet industry / Profession requirements)**

**POs met through Gaps in the syllabus**

**Topics beyond syllabus / advanced topics / design**

**POs met through topics beyond syllabus / advanced topics / design**

| <b>Course Delivery Method</b>                              |
|------------------------------------------------------------|
| Lecture by use of boards/ LCD/ Projectors / OHP Projectors |
| Tutorial / Assignment                                      |
| Seminars                                                   |
| Mini Projects / Projects                                   |
| Laboratory Experiments / Teaching Aids                     |
| Industrial / Guest Lecture                                 |
| Industrial Visits / in-plant training                      |
| Self-learning such as use of NPTEL materials and internets |
| Simulation                                                 |

**Course Outcome (CO) Attainment Assessment Tools and Evaluation Procedure**

**Direct Assessment**

| <b>Assessment Tools</b>    | <b>% Contribution during CO Assessment</b> |
|----------------------------|--------------------------------------------|
| Quiz (I, II)               | 20                                         |
| Mid-term Examination Marks | 25                                         |
| Attendance                 | 5                                          |
| End-term Examination Marks | 50                                         |

| <b>Assessment Components</b> | <b>CO1</b> | <b>CO2</b> | <b>CO3</b> | <b>CO4</b> | <b>CO5</b> |
|------------------------------|------------|------------|------------|------------|------------|
| Quiz (I, II)                 | ✓          | ✓          |            |            |            |
| End Sem Examination Marks    | ✓          | ✓          | ✓          | ✓          | ✓          |
| Mid-Term Examination Marks   | ✓          | ✓          | ✓          |            |            |

**Indirect Assessment**

1. Student feedback on Faculty
2. Student feedback on Course outcome

| <b>Mapping between COs and Course Delivery (CD) methods</b> |                                                            |  |                       |                               |
|-------------------------------------------------------------|------------------------------------------------------------|--|-----------------------|-------------------------------|
| <b>CD</b>                                                   | <b>Course Delivery Method</b>                              |  | <b>Course Outcome</b> | <b>Course Delivery Method</b> |
| CD1                                                         | Lecture by use of boards/ LCD/ Projectors / OHP Projectors |  | C01                   | CD1                           |
| CD2                                                         | Tutorial / Assignment                                      |  | C02                   | CD1, CD2                      |
| CD3                                                         | Seminars                                                   |  | C03                   | CD1, CD2, CD4, CD8            |
| CD4                                                         | Mini Projects / Projects                                   |  | C04                   | CD1, CD8                      |
| CD5                                                         | Laboratory Experiments / Teaching Aids                     |  | C05                   | CD1, CD8                      |
| CD6                                                         | Industrial / Guest Lecture                                 |  |                       |                               |
| CD7                                                         | Industrial Visits / in-plant training                      |  |                       |                               |
| CD8                                                         | Self-learning such as use of NPTEL materials and internets |  |                       |                               |
| CD9                                                         | Simulation                                                 |  |                       |                               |





## COURSE INFORMATION SHEET

**Course Code: AM105**

**Course Title: Experimental Animation**

**Pre-requisite (s): Nil**

**Credits: 2 L:0 T:0 P:4**

**Class schedule per week: 04**

**Class: B.Sc. (Animation & Multimedia)**

**Semester / Level: I**

**Branch: BAM**

**Type: Lecture, Tutorial and Workshop**

### Course Objectives

This course enables the students to:

|    |                                                                                |
|----|--------------------------------------------------------------------------------|
| A. | Understand the fundamentals of Experimental Animation                          |
| B  | Understanding implementation of Animation Production Process                   |
| C. | Learning related hardware, software and other tools for experimental animation |
| D. | Introduction to Flip Book, clay modeling, cutout animation and set design      |
| E. | Gaining experience of working in a group                                       |

### Course Outcomes

After the completion of this course, students will be able to:

|    |                                                                                           |
|----|-------------------------------------------------------------------------------------------|
| 1. | Submit an independent Flip Book, a Short experimental group film in any medium            |
| 2. | Operate relevant animation and camera equipment                                           |
| 3. | Understanding of character development and storytelling                                   |
| 4. | Gain experience in handling different raw materials like; Clay, Paper, Sand ,Colours etc. |
| 5. | Experience in working within a timetable and schedule                                     |

### Syllabus

#### Module 1: Introduction to Experimental Animation

[8 Lectures]

History (Related to Stop-Motion Short Films), Mix Media Animation, Stop – Motion Animation Techniques, Cut -out Animation and Flip Book. Step by Step Procedure for Stop-Motion Films, Case Studies of Stop-Motion films, Contemporary experiments by stop motion film makers.

#### Module 2: Software and Hardware Requirements

[8 Lectures]

Introduction to Animation Equipments- Light box, Line Test Machine, Punch Machine, Choosing DSLR / Video Camera and lenses, Animation Softwares, Frame Grabber, Stop-Motion Apps. Few experiments related to stop-motion animation to be done by students.

**Module 3: Pre- Production Design (Planning & Design)**

[8 Lectures]

Idea – Script- Treatment, Character Design, Prop Design/ Set Design, Storyboard Design, Animatics, Layouts of Character and sets.

**Module 4: Production Design (Implementation)**

[8 Lectures]

Clay Modeling, Paper Cut, Puppet making, Wire frame or Armatures, building of Sets, Making Properties, Creating Animation, collecting AVIs, Basic Editing on Movie Maker or any other software.

**Module 5: Assignments**

[8 Lectures]

Use of conventional and unconventional methods to create visual display and motion. Students working in groups/ individual try to find innovative methods of using tools. The following assignments to be submitted by the students:

Flip Book, Animation Pre-production Film Designs, Animation Project with different media like; Paper, Clay, Sand, Colours etc. with proper editing.

**Reference Book:**

1. Stop Motion: Craft Skills for Model Animation by Susannah Shaw
2. Timing for Animation by Harold Whittaker and John Halas
3. The Advanced Art of Stop Motion By Ken A. Priebe
4. The Kultz Book of Animation: How to Make Your Own Stop Motion Movies By Nicholas Berger and John Cassiday
5. The Animator Inside of You How to Make Stop Motion and Clay Animation Basic Tricks and Tips By Chris Capps
6. The Art of Aardman: The Makers of Wallace & Gromit, Chicken Run, and More By Peter Lord, David Sproxton
7. Flipping Out: The Art of Flip Book Animation: Learn to illustrate & create your own animated flip books step by step by David Hurtado
8. The Animation Bible: A Practical Guide to the Art of Animating from Flipbooks to Flash Paperback by Maureen Furniss

Gaps in the syllabus (to meet industry / Profession requirements)

POs met through Gaps in the syllabus

Topics beyond syllabus / advanced topics / design

POs met through topics beyond syllabus / advanced topics / design

| Course Delivery Method                                     |
|------------------------------------------------------------|
| Lecture by use of boards/ LCD/ Projectors / OHP Projectors |
| Tutorial / Assignment                                      |
| Seminars                                                   |
| Mini Projects / Projects                                   |
| Laboratory Experiments / Teaching Aids                     |
| Industrial / Guest Lecture                                 |
| Industrial Visits / in-plant training                      |
| Self-learning such as use of NPTEL materials and internets |
| Simulation                                                 |

### Course Outcome (CO) Attainment Assessment Tools and Evaluation Procedure

#### Direct Assessment

| Assessment Tools | % Contribution during CO Assessment |
|------------------|-------------------------------------|
| Internal Marking | 60                                  |
| External Marking | 40                                  |
| <b>Total</b>     | <b>100</b>                          |

| Assessment Components   | CO1 | CO2 | CO3 | CO4 | CO5 |
|-------------------------|-----|-----|-----|-----|-----|
| Lab Quiz (Mid Sem.)     | ✓   | ✓   | ✓   |     |     |
| End Sem Lab Examination | ✓   | ✓   | ✓   | ✓   | ✓   |

#### Indirect Assessment

1. Student feedback on Faculty
2. Student feedback on Course outcome

| Mapping between COs and Course Delivery (CD) methods |                                                            |  |                |                         |
|------------------------------------------------------|------------------------------------------------------------|--|----------------|-------------------------|
| CD                                                   | Course Delivery Method                                     |  | Course Outcome | Course Delivery Method  |
| CD1                                                  | Lecture by use of boards/ LCD/ Projectors / OHP Projectors |  | C01            | CD1, CD2, CD3           |
| CD2                                                  | Tutorial / Assignment                                      |  | C02            | CD1, CD2, CD3           |
| CD3                                                  | Seminars                                                   |  | C03            | CD1, CD2, CD3           |
| CD4                                                  | Mini Projects / Projects                                   |  | C04            | CD1, CD2, CD3, CD4, CD5 |
| CD5                                                  | Laboratory Experiments / Teaching Aids                     |  | C05            | CD1, CD2, CD5           |
| CD6                                                  | Industrial / Guest Lecture                                 |  |                |                         |
| CD7                                                  | Industrial Visits / in-plant training                      |  |                |                         |
| CD8                                                  | Self-learning such as use of NPTEL materials and internets |  |                |                         |
| CD9                                                  | Simulation                                                 |  |                |                         |



## COURSE INFORMATION SHEET

**Course Code: AM106**  
**Course Title: Introduction to 3D**  
**Pre-requisite(s): Nil**  
**Credits: 2 L:0 T:0 P:4**  
**Class schedule per week: 04**  
**Class: B.Sc. (Animation & Multimedia)**  
**Semester / Level: I**  
**Branch: BAM**  
**Type: Practical**

### Course Objectives

This course enables the students to:

|           |                                                              |
|-----------|--------------------------------------------------------------|
| <b>A.</b> | Understand forms shapes and volumes                          |
| <b>B.</b> | sketch forms shapes with ease                                |
| <b>C.</b> | Analyzing products and its designs                           |
| <b>D.</b> | Visualize and create design concepts using different mediums |
| <b>E.</b> | Visualize Prototypes and miniatures                          |

### Course Outcomes

After the completion of this course, students will be able to:

|           |                                                 |
|-----------|-------------------------------------------------|
| <b>1.</b> | Solid understanding of forms shapes and volumes |
| <b>2.</b> | Create their own sketches                       |
| <b>3.</b> | Create product designs                          |
| <b>4.</b> | Creating Real world design                      |
| <b>5.</b> | Create miniatures and prototypes                |

### Syllabus

#### Module I

[No. of Lectures: 8]

Topics :

Introduction to lines, Circles, and other geometrical shapes,  
Understanding the concepts of geometry and its implementation into drawing.  
Understanding 3 dimensional forms.  
Creating Cubes and Cuboids etc.

#### Module II

[No. of Lectures: 8]

Topics:

Perspective and its use.  
Introduction of positive and negative extrusion  
Creating different Joints  
Shadow creations

Projection drawing.

**Module III**

**[No. of Lectures: 8]**

Topics:

Combining Geometrical shapes to create objects

Isometric Drawings

Creating Concepts and working Features of Product design

Product Design

**Module IV**

**[No. of Lectures: 8]**

Topics:

Working on Real world design concepts, spotting design faults and create solutions to rectify the problems.

**Module V**

**[No. of Lectures: 8]**

Topics:

Hard surface models with cardboard, glue and paper etc. Handling of Clay

Basic techniques of moulding and casting, Handling of POP

Making miniatures and prototype models using different mediums.

**Text Book:**

1. Perspective Drawing Handbook by Joseph D'Amelio

**Reference Book:**

1. Design Sketching by ERIK OLOFSSON

2. The Industrial Designer's Guide to Sketching by Nenad Pavel

3. Architecture - Form, Space and Order by Francis D.K. Ching

**Gaps in the syllabus (to meet industry / Profession requirements)**

**POs met through Gaps in the syllabus**

**Topics beyond syllabus / advanced topics / design**

**POs met through topics beyond syllabus / advanced topics / design**

| <b>Course Delivery Method</b>                              |
|------------------------------------------------------------|
| Lecture by use of boards/ LCD/ Projectors / OHP Projectors |
| Tutorial / Assignment                                      |
| Seminars                                                   |
| Mini Projects / Projects                                   |
| Laboratory Experiments / Teaching Aids                     |
| Industrial / Guest Lecture                                 |
| Industrial Visits / in-plant training                      |
| Self-learning such as use of NPTEL materials and internets |
| Simulation                                                 |

### **Course Outcome (CO) Attainment Assessment Tools and Evaluation Procedure**

#### **Direct Assessment**

| <b>Assessment Tools</b> | <b>% Contribution during CO Assessment</b> |
|-------------------------|--------------------------------------------|
| Internal Marking        | 60                                         |
| External Marking        | 40                                         |
| <b>Total</b>            | <b>100</b>                                 |

| <b>Assessment Components</b> | <b>CO1</b> | <b>CO2</b> | <b>CO3</b> | <b>CO4</b> | <b>CO5</b> |
|------------------------------|------------|------------|------------|------------|------------|
| Lab Quiz (Mid Sem.)          | ✓          | ✓          | ✓          |            |            |
| End Sem Lab Examination      | ✓          | ✓          | ✓          | ✓          | ✓          |

#### **Indirect Assessment**

1. Student feedback on Faculty
2. Student feedback on Course outcome

| <b>Mapping between COs and Course Delivery (CD) methods</b> |                                                            |  |                       |                               |
|-------------------------------------------------------------|------------------------------------------------------------|--|-----------------------|-------------------------------|
| <b>CD</b>                                                   | <b>Course Delivery Method</b>                              |  | <b>Course Outcome</b> | <b>Course Delivery Method</b> |
| CD1                                                         | Lecture by use of boards/ LCD/ Projectors / OHP Projectors |  | C01                   | CD1, CD2, CD3, CD8            |
| CD2                                                         | Tutorial / Assignment                                      |  | C02                   | CD1, CD2, CD3, CD8            |
| CD3                                                         | Seminars                                                   |  | C03                   | CD1, CD2, CD3, CD8            |
| CD4                                                         | Mini Projects / Projects                                   |  | C04                   | CD1, CD2, CD3, CD4, CD5, CD8  |
| CD5                                                         | Laboratory Experiments / Teaching Aids                     |  | C05                   | CD1, CD2, CD5, CD8            |
| CD6                                                         | Industrial / Guest Lecture                                 |  |                       |                               |
| CD7                                                         | Industrial Visits / in-plant training                      |  |                       |                               |
| CD8                                                         | Self-learning such as use of NPTEL materials and internets |  |                       |                               |
| CD9                                                         | Simulation                                                 |  |                       |                               |



## COURSE INFORMATION SHEET

**Course Code: AM117**

**Course Title: GAME APPRECIATION**

**Pre-requisite(s): Nil**

**Credits: 2 L:2 T:0 P:0**

**Class schedule per week: 02**

**Class: B.Sc. (Animation & Multimedia)**

**Semester / Level: I**

**Branch: BAM**

**Type: Lecture and Tutorial**

### Course Objectives

This course enables the students to:

|           |                                                                                                                                                                                                                                                                        |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A.</b> | Understand the video games as a tool of storytelling and entertainment. Students will explore information about earlier games to current games. Students will have discussions and observe the creative aspects of digital interactive form of art i.e. Digital games. |
| <b>B.</b> | Learn History and evolution of digital games. Learn to explore and appreciate digital games in terms of a Game Designer.                                                                                                                                               |
| <b>C.</b> | Understand the concept of process of Game Development and Game Development parts.                                                                                                                                                                                      |
| <b>D.</b> | Explore various popular digital games and to analyse them critically.                                                                                                                                                                                                  |
| <b>E.</b> | Share each other's experiences of different games.                                                                                                                                                                                                                     |
| <b>F.</b> | Understand the fundamentals of Digital Games starting from games in general then digital games. Students learn about the elements of a game.                                                                                                                           |
| <b>G.</b> | There will be examples of number of games in class. Student need not to play all of them, but he should play some of them, or, at least, watch YouTube videos of game play.                                                                                            |

### Course Outcomes

After the completion of this course, students will be able to:

|           |                                                                                   |
|-----------|-----------------------------------------------------------------------------------|
| <b>1.</b> | Understand digital games and its elements.                                        |
| <b>2.</b> | Students will be able to look at Games as digital medium for story telling        |
| <b>3.</b> | Students will make up their mind if and which field of Game Production suit them. |
| <b>4.</b> | Students will explore and enjoy the story telling capabilities of games.          |
| <b>5.</b> | Students will learn to critically analyse the digital games.                      |

## Syllabus

### Module I

[No. of Lectures: 6]

#### Topics

1. What is Game?
  - a. What is Game, How Game is Different from other modes of entertainment
  - b. Elements of a game
  - c. Visualizing the Game, Idea generation for games, Balance in a game
2. History of Games
  - a. History of Game Consoles
  - b. History of Games
  - c. Discussion about popular games from past
3. Game Genre

### Module II

[No. of Lectures: 6]

#### Topics

1. Process of Game Development
2. Game Production Parts
3. Game Design Document

### Module III

[No. of Lectures:6]

#### Topics

1. Game Analysis of famous Game ‘Tetris’.
2. Game Analysis of any current popular game for example ‘Fortnite: battle Royale’.
3. Writing exercise – Game Analysis of some popular games by students.

### Module IV

[No. of Lectures: 6]

#### Topics

1. Exercise - Case Studies
2. Exercise - Presentations by students on an era or particular game from “History of Games”.  
(Students will present case studies and presentations in groups. It will be treated as an assignment / quiz also.)

### Module V

[No. of Lectures: 6]

#### Topics

1. Game Play Sessions
2. Video Showcase of Popular Games

#### Text Book:

1. Monograph on Fundamentals of Game technology, Dept. of Animation and Multimedia, BIT Mesra

#### Reference Book:

References in Syllabus

1. Game Design Workshop: A Playcentric Approach to Creating Innovative Games, by Fullerton Tracy (2014), RC Press/Taylor & Francis



2. Understanding Video Games: The Essential Introduction by Simon Egenfeldt-Nielsen, Jonas Heide Smith, Susana Pajares Tosca, Routledge Taylor & Francis Group (2009)
3. Game Design for Teens by Les Pardew, Premier Press (2004)
4. History of Video Games Paris, David (2017)
5. Game Development and Production by Erik Bethke, Wordware Publishing, Inc. (2003)
6. Game Programming All in One by Bruno Miguel Teixeira de Sousa, Premier Press (2002)
7. Tetris: The Games People Play by Box Brown, Macmillan (2016)
8. The Tetris Effect: The Game that Hypnotized the World by Dan Ackerman (2016)
9. Gamers at Work: Stories Behind the Games People Play by Morgan Ramsay, (2012), Apress
10. What video games have to teach us about learning and literacy by James Paul Gee (2003)
11. Games user research: a case study approach by Garcia-Ruiz, Miguel A, Author: Garcia-Ruiz, Miguel A, (2016), CRC Press
12. The Comic Book Story of Video Games: The Incredible History of the Electronic Gaming Revolution, By Jonathan Hennessey (2017) Potter / Ten

**Gaps in the syllabus (to meet industry / Profession requirements)**

**POs met through Gaps in the syllabus**

**Topics beyond syllabus / advanced topics / design**

**POs met through topics beyond syllabus / advanced topics / design**

| <b>Course Delivery Method</b>                              |
|------------------------------------------------------------|
| Lecture by use of boards/ LCD/ Projectors / OHP Projectors |
| Tutorial / Assignment                                      |
| Seminars                                                   |
| Mini Projects / Projects                                   |
| Laboratory Experiments / Teaching Aids                     |
| Industrial / Guest Lecture                                 |
| Industrial Visits / in-plant training                      |
| Self-learning such as use of NPTEL materials and internets |
| Simulation                                                 |

**Course Outcome (CO) Attainment Assessment Tools and Evaluation Procedure**

**Direct Assessment**

| <b>Assessment Tools</b>    | <b>% Contribution during CO Assessment</b> |
|----------------------------|--------------------------------------------|
| Quiz (I, II)               | 20                                         |
| Mid-term Examination Marks | 25                                         |
| Attendance                 | 5                                          |
| End-term Examination Marks | 50                                         |

| <b>Assessment</b> | <b>CO1</b> | <b>CO2</b> | <b>CO3</b> | <b>CO4</b> | <b>CO5</b> |
|-------------------|------------|------------|------------|------------|------------|
|-------------------|------------|------------|------------|------------|------------|

| <b>Components</b>          |   |   |   |   |   |
|----------------------------|---|---|---|---|---|
| Quiz (I, II)               | ✓ | ✓ | ✓ |   |   |
| End Sem Examination Marks  | ✓ | ✓ | ✓ | ✓ | ✓ |
| Mid-Term Examination Marks | ✓ | ✓ | ✓ |   |   |

### **Indirect Assessment**

1. Student feedback on Faculty
2. Student feedback on Course outcome

| <b>Mapping between COs and Course Delivery (CD) methods</b> |                                                            |                       |                               |
|-------------------------------------------------------------|------------------------------------------------------------|-----------------------|-------------------------------|
| <b>CD</b>                                                   | <b>Course Delivery Method</b>                              | <b>Course Outcome</b> | <b>Course Delivery Method</b> |
| CD1                                                         | Lecture by use of boards/ LCD/ Projectors / OHP Projectors | C01                   | CD1, CD2, CD3, CD8            |
| CD2                                                         | Tutorial / Assignment                                      | C02                   | CD1, CD2, CD3, CD8            |
| CD3                                                         | Seminars                                                   | C03                   | CD1, CD2, CD3, CD8            |
| CD4                                                         | Mini Projects / Projects                                   | C04                   | CD1, CD2, CD3, CD4, CD5, CD8  |
| CD5                                                         | Laboratory Experiments / Teaching Aids                     | C05                   | CD1, CD2, CD5, CD8            |
| CD6                                                         | Industrial / Guest Lecture                                 |                       |                               |
| CD7                                                         | Industrial Visits / in-plant training                      |                       |                               |
| CD8                                                         | Self-learning such as use of NPTEL materials and internets |                       |                               |
| CD9                                                         | Simulation                                                 |                       |                               |

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