



**Karmaveer Bhaurao Patil University, Satara**

**Syllabus for**

**B. Sc. I (Animation Science)**

**Under**

**Faculty of Science and Technology**

**(As per NEP 2020)**

**With effect from Academic Year 2024-2025**

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## **Preamble:**

Animation is a lead Course in today's world. It has very good Prospects and it gives a broad platform to student creativity. The Course has wide scope. By considering the need of different Industries and present scenario in animation industry the syllabus is designed. While designing the syllabus intellectual level of UG Students have been considered. The students who don't know about the Animation will be able to understand and work independently in the Industrial world after completion of his graduate degree.

Animation is not only creation of cartoons but also its play's important role in Automobile industry, Mechanical industry, Web development, different coding, Vfx, Graphics designing, Film industry and etc. Bachelor of Animation course is one among the most demanded courses in today's world, In the very recent trend India is emerging in the field of "Animation" and this would create a very huge employment in India, there are many big giant companies who are outsourcing their animation work in India like Disney. Animation as a Profession can be the best decision for those who are computer lovers, who can think different, innovative and keep capacity of presenting what they think. While designing the syllabus, industrial training and latest software's like Adobe Photoshop, Corel draw, Adobe Flash, Dream viewer, Autodesk 3D Max, Autodesk 3D Maya, Adobe After Effect, Mud box are considered.

This syllabus is based on basic and applied approach with vigor and depth. At the SASE time precaution is taken to make the syllabus comparable to the syllabi of other universities and the needs of industries and research. The units of the syllabus are well defined, taking into consideration the level and capacity of students.

## **General Objectives of the Programme:**

- 1) To nurture academicians with focus and commitment with their subject.
- 2) To shape good and informed citizens from the students entering into the programme.
- 3) To create skilled workforce to match their requirement of the society.
- 4) To impart knowledge of the science is the basic objective of this programme.
- 5) To develop scientific attitude is the major objective so as to make the students open minded, critical and curious.
- 6) To develop skills in practical work and experiment along with the collection and interpretation of scientific data to contribute to science.

## General Program Outcomes:

- 1) The student will graduate with proficiency in the subject of their choice.
- 2) The student will be eligible to continue higher studies in their subject.
- 3) The student will be eligible to pursue higher studies abroad.
- 4) The student will be eligible to appear for the examinations for jobs in Visual Art department, government organizations as well as IT Industry and Entertainment Industry.

## Program Specific Objectives:

1. Computer Animation and Game Development graduates should have an understanding of critical and aesthetic issues in computer graphics and mixed-media.
2. They should know basic aesthetic principles and concepts, and the production process.
3. They should be able to effectively use technical, conceptual and critical abilities, and appropriate technology tools.
4. They should be effective written and oral communicators with the ability to function as effective members of collaborative multi-disciplinary teams in the production process.
5. They should be able to critically evaluate computer graphics and the mixed media. They will have an appreciation for the professional code of ethics for the creative process.

## Program Specific outcomes:

After successful completion of B.Sc. Animation science Course student will be able to:

1. Develop the ability to acquire knowledge using problem solving methods for technological future society
2. Explain and work on basis of graphics, UIUX, Website / application design and development, Game Design and development, 2D/3D Animation and VFX for IT and entertainment industry
3. Design , Apply, Analyzed, Create experiments in the labs and demonstrate the concepts, principles and theories of Animation Science.

4. Identify their area of interest in academics, research and development
5. Perform job in various fields like film industries, science, engineering, education, banking, business, public services and IT sector.
6. Become an entrepreneur with precision, analytical mind, innovative thinking, clarity of thought, expression, and systematic approach.

## Course Structure for B.Sc. I (Semester- I)

Level	Course No.	Course Code	Course Title	Category	Credit
4.5	<b>Course - I</b>				
	DSC - I	BAST-111	Animation visual Art	TH	02
	DSC - II	BAST-112	Digital Graphics	TH	02
	DSC P- I	BASP-113	Animation visual Art + Digital Graphics	PR	02
	<b>Course - II</b>				
	DSC - I	BAST- 114	Fundamentals of Computer	TH	02
	DSC - II	BAST- 115	Procedural Programming language	TH	02
	DSC P- I	BASP- 116	Fundamentals of Computer + Procedural Programming language	PR	02
	<b>Course - III</b>				
	DSC - I	BAST-117	Anatomy	TH	02
	DSC - II	BAST-118	Color theory	TH	02
	DSC P- I	BASP-119	Anatomy + Color theory	PR	02
	<b>OE</b>				
	OE - 1	BAST OE -	Introduction of Indian Music	TH	02
	<b>IKS</b>				
IKS - 1	BAST -	Introduction to Indian knowledge system	TH	02	

## (Semester- II)

Level	Course No.	Course Code	Course Title	Category	Credit
4.5	<b>Course - I</b>				
	DSC - III	BAST-121	Computer Graphics	TH	02
	DSC - IV	BAST-122	Sound Editing	TH	02
	DSC P- II	BASP-123	Computer Graphics + Sound Editing	PR	02
	<b>Course - II</b>				
	DSC - III	BAST- 124	Web Designing	TH	02
	DSC - IV	BAST- 125	Object Oriented Programming C++	TH	02
	DSC P- II	BASP- 126	Web Designing + Object Oriented Programming C++	PR	02
	<b>Course - III</b>				
	DSC - III	BAST-127	Digital Animation	TH	02
	DSC - IV	BAST-128	Video editing	TH	02
	DSC P- II	BASP-129	Digital Animation + Video editing	PR	02
	<b>OE</b>				
	OE - 2	BAST OE -	Indian Music's	TH	02
	<b>VEC</b>				
VEC - I	BAST -	Democracy, Election and Indian Constitution	TH	02	

# Semester – I

## DSC - I – BAST – 111 - ANIMATION VISUAL ART

**Course Objectives:** Students should be able to...

1. study history of Animation visual Art.
2. understand difference between Conceptual and Commercial Art
3. learn various visual art forms.
4. describe human anatomy and proportions.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER- I  Course I – BAST – 111 - ANIMATION VISUAL ART</b>	<b>No. of hours  30</b>
<b>UNIT-I</b>	<b>Introduction to Animation</b>	<b>(08)</b>
	Introduction to animation, History of Animation, Fundamentals of visual art (line, shape, form, space, colour, etc.). Understanding visual principles of composition (proportion, unity, harmony, etc.) Introduction to Drawing and sketching, History of drawing and sketching Various categories of drawing and sketching History of pencil, types of a Pencil, Instruments used in Drawing	
<b>UNIT-II</b>	<b>Visual Art Forms</b>	<b>(08)</b>
	Drawing, Illustration, Conceptual Art, Abstract Art, Commercial Art, Digital Art, Visual and creative development of an artist, How to draw gestures, Basic Proportions, Heads, Rotation in Arcs, Key Lines ,Perspective and its types , Introduction of Calligraphy, types of calligraphy, History of logo and how to design a Logo.	
<b>UNIT-III</b>	<b>Character Designing</b>	<b>(07)</b>
	Attributes and Proportion, Anatomy, Character model sheet, Pose and Gestures, Mannequin, Volume Construction, Balance, Muscles, Light & shade, Shape and Action Hands & Legs, Foreshortening Facial expressions. Introduction to pose to pose sketching (Action analysis).	
<b>UNIT-IV</b>	<b>Animation Background Layout</b>	<b>(07)</b>
	Focal Point, Composition, Rule of thirds, Golden Ratio, Perspective, Color and Lighting, Lighting and shadow, color harmony, Introduction to Acting, Modeling, Sketching from Acting, sketching from live models, Introduction to Rapid Sketching Techniques, Sketching from Memory, live action.	

**Course Outcomes:** Student will be able to...

1. evaluate ability to synthesize the use of drawing, two-dimensional design and colour.
2. apply shading, tint and tones to painting.
3. create model sheets and pose to pose character drawings.
4. develop sketches and background for animation.

**Reference Books:**

1. *Williams R.*, "The Animator Survival Kit", 25 September 2015, Publisher Faber & Faber
2. Mike S. F. , "Animation Background Layout", January 1, 2002, Imprint unknown
3. Box R., "*Basic Drawing Techniques*", May 1, 2000 published as Step-by-Step Leisure Arts
4. Christopher H., "How to Draw Animation"- Learn the Art of Animation from Character Design to Storyboards and Layouts 1 September 1997, Watson-Guptill; New ed. edition
5. John H., "The Art of the Storyboard" - Storyboarding for Film, TV, and Animation, Focal Press; 1st edition



## DSC - II - BAST 112- DIGITAL GRAPHICS

**Course Objectives:** Students should be able to...

1. Recognized and learn types of graphics.
2. understand graphics making tools and toolbox.
3. study difference between vector and raster graphics.
4. describe different between conceptual styles and commercial types of designs.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER-I  Course II- BAST 112-DIGITAL GRAPHICS</b>	<b>No. of hours  30</b>
<b>UNIT-I</b>	<b>Overview of Digital Graphics &amp; CorelDraw basics</b>	<b>(08)</b>
	Types of graphics, Starting and quitting CorelDraw, Changing the language, changing start-up settings Understanding vector graphics and bitmaps, Starting and opening drawings, working with multiple drawings, Undoing, redoing, and repeating actions, Zooming, panning, and scrolling	
<b>UNIT-II</b>	<b>Lines, shapes, and outlines&amp; Objects, symbols, and layers</b>	<b>(08)</b>
	Working with lines, outlines, and brushstrokes, Drawing shapes, Shaping objects, Working with objects, Working with layers, Working with symbols, Linking and embedding objects, Managing projects	
<b>UNIT-III</b>	<b>Color, fills, and transparencies &amp; Text</b>	<b>(07)</b>
	Working with color, Filling objects, Changing the transparency of objects, Managing and sharing fills and transparencies, Using color management, Adding and manipulating text, Formatting text Working with text in different languages, Managing fonts, Using writing tools	
<b>UNIT-IV</b>	<b>Working with pages and layout tools, printing &amp; File format</b>	<b>(07)</b>
	Specifying the page layout, Choosing a page background Adding, duplicating, renaming, and deleting pages, Inserting page numbers, Using the rulers, Printing basics, Preparing files for print service providers, Importing and exporting files, Supported file formats	

**Course Outcomes:** Student will be able to...

1. analyze different types of designing software and its interface.
2. apply Principles of Design in different project.
3. create a logo using a scientific color scheme.
4. execute printing issues and solutions.

**Reference Books:**

1. Editorial Services DT,” CorelDRAW 2018 in Simple Steps” , Dreamtech Press (1 January 2018)
2. Gary D. B.2014, “*CorelDraw X7 The Official Guide*, Publisher McGraw Hill” Publication date. 21 October 2014
3. Gary D. B., CorelDRAW X8: The Official Guide, published by McGraw- , 28 July 2008 , Hill Professional; Illustrated edition
4. Gary D.B, “CorelDRAW® X5 The Official Guide”, 2006, Published by The McGraw-Hill Companies
5. Mark S., “*CorelDraw Training*”-Back to the Basics and Beyond, 1 October 2004, Publisher lynda.com, Inc.

## DSC P- I -: BASP-113: Based on BAST-111 and BAST 112

**Course Objectives:** Students should be able to...

1. understand visual art and animation process.
2. differentiate between human, animal anatomy and proportions.
3. study action analysis and pose to pose.
4. recognize vector and raster graphics.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER - I LAB COURSE – I -: BASP 113 ANIMATION VISUAL ART + DIGITAL GRAPHICS</b>	<b>No. of hours 60 Hrs.</b>
<b>BASP-113 COURSE LAB – I</b>	<b>ANIMATION VISUAL ART</b>	
	<ol style="list-style-type: none"> <li>1. Freehand sketching from real objects:</li> <li>2. Building, vehicles, chair, table, trees etc.</li> <li>3. Sketching from live models</li> <li>4. How to draw gestures Basic Proportions, Heads, Rotation in Arcs</li> <li>5. Facial expressions</li> <li>6. Basic Head Drawings male, female, children, old person</li> <li>7. Draws Text and letters.</li> <li>8. Sketching of Life model.</li> <li>9. Draw BG(Backgrounds) Layouts for Animation.</li> <li>10. Realistic Human Drawings, Anatomy. Animal Drawings.</li> </ol>	
	<b>DIGITAL GRAPHICS</b>	
	<ol style="list-style-type: none"> <li>11. Draw Rainbow &amp; Sky in CorelDraw.</li> <li>12. Bottle Shaped Text Wrap using Envelope tool CorelDRAW.</li> <li>13. 3D Flower Pot Designing Idea CorelDraw.</li> <li>14. How to draw simple scenery with CorelDraw.</li> <li>15. Flex Design in CorelDraw.</li> <li>16. Professional Business Card in CorelDraw.</li> <li>17. Creating a Professional Certificate Design in CorelDRAW.</li> <li>18. How to make Hindu Wedding Card Design in CorelDraw.</li> <li>19. Invitation Card Design in CorelDraw.</li> <li>20. 3-FoldBrochureDesign in CorelDraw.</li> </ol>	

**Course Outcomes:** Student will be able to...

1. apply sketching types and techniques.
2. implement principles of design in Various project.
3. create a logo using scientific color scheme.
4. analyze Printing issues and solutions.

**Reference Books:**

1. Gary David Bouton, 2014, *CorelDraw X7 The Official Guide*, Publisher McGraw Hill. Publication date. 21 October 2014
2. Mark Swift, 2004, *CorelDraw Training-Back to the Basics and Beyond*, Publisher lynda.com, Inc. (1 October 2004)
3. Richards Box, May 1, 2000, *Basic Drawing Techniques*, published as Step-by-Step Leisure Arts
4. Victor Petard, 1928, *Drawing and Anatomy*, Publisher, Grace Prakashan Gary David Bouton

## Course I - BAST- 114-FUNDAMENTALS OF COMPUTER

**Course Objectives:** Student should be able to...

1. study basics of computer and working with OS
2. understand working skills and productivity tools Understand use of Microsoft office.
3. define computer literacy and Principles skills.
4. learn essential components in business, education and society.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER-I Course I - BAST- 114-FUNDAMENTALS OF COMPUTER</b>	<b>No. of hours 30</b>
<b>UNIT - I</b>	<b>Introduction to Computer</b>	<b>(08)</b>
	Evaluation of computer and its generations, Classification of Computer Software's (System and Application) Introduction to Microsoft Office. (Word, Excel, Power point, Access, PDF). Input and output devices, Secondary storage devices Memory and its types	
<b>UNIT - II</b>	<b>Number System</b>	<b>(08)</b>
	Number system and its conversions Boolean Algebra and its laws Computer Codes and combinational circuits	
<b>UNIT - III</b>	<b>Computer Languages</b>	<b>(07)</b>
	Introduction to Microcontrollers Algorithms and flowchart Computer Languages (High, Middle and Low-level languages)	
<b>UNIT - IV</b>	<b>Internet and its applications</b>	<b>(07)</b>
	introduction to internet, history and applications. basic services of internet (electronic mail, telnet, intranet, extranet) protocols (ftp, smtp, tcp/ip, ppp etc.) introduction to world wide web and browsers	

**Course outcomes:** Student will be able to...

1. differentiate evaluation of computer.
2. evaluate classification of Computer.
3. describe different number systems and basics of programming.
4. analyze history of Computer Languages.

### **Reference Books:**

1. Ata Elahi “Computer Systems”: Digital Design, Fundamentals of Computer Architecture and Assembly Language, 25 August 2018, Springer; Softcover reprint of the original 1st ed. 2018 edition
2. Sinha P.K, “*Computer Fundamentals*”, 2007 BPB Publications
3. Priti Sinha, Pradeep K., Sinha, by 30 November 2004, *Computer Fundamentals: Concepts, Systems & Applications- 8th Edition*, published
4. Josef Pieprzyk, Thomas Hardjono, Jennifer Seberry, “Fundamentals of Computer Security”, pringer; Softcover reprint of hardcover 1st ed. 2003 edition
5. Pradeep K Sinha, 2002 *Complete Book by BPB sixth Edition*, Publications Computer Fundamentals
6. Puri V.K., “*Digital Electronics circuits and systems*”, 2001, TMH Publication

## Course II – BAST 115-PROCEDURAL PROGRAMMING LANGUAGE

**Course Objectives:** Student should be able to...

1. study the fundamental of c language.
2. learning various operators of c language.
3. understand Output Statements and Data Input apply.
4. describe uses looping statements of c.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER-I Course II – BAST 115 PROCEDURAL PROGRAMMING LANGUAGE</b>	<b>No. of hours 30</b>
<b>UNIT - I</b>	<b>Fundamental of C language</b>	<b>(08)</b>
	Languages Fundamentals Algorithm, Flow Chart, What is „C“ Constants Variable data types in „C“ Statements, Definition Symbolic Constantans	
<b>UNIT - II</b>	<b>C language Operators</b>	<b>(08)</b>
	Operators Arithmetic Operator Relation Logical Assignments, Conditional, Comma, Increment and Decrement Expression	
<b>UNIT - III</b>	<b>Input / Output Statements of C</b>	<b>(07)</b>
	Data Input - Output Statements Data Input and Output Using get ch ( ) get che() , get char() , put char() Formatted input – output – printf ( ),scanf()	
<b>UNIT - IV</b>	<b>Control &amp; conditional Statements of C</b>	<b>(07)</b>
	Control Structures Conditional Statements- if, if else, nested if, switch Looping- while, do while, for, nested for	

**Course outcomes:** Student will be able to...

1. apply algorithm and flowcharts.
2. evaluate solve mathematical problem using various operators.
3. describe various conditional statements to solve the problem.
4. create various looping statements for getting desired result.

### Reference Books :

1. Kanetkar, Y “Let Us C”: Authentic guide to C programming language, BPB Publications; Nineteenth edition (15 December 2022); BPB Publications, Ansari Road, Dariya Ganj
2. Herbert Scheldt, “C The Complete Reference”, 2017, 4<sup>th</sup> Edition
3. Tharejs, R. ,”Computer Fundamentals & Programming in C”, 2016, 2<sup>nd</sup> edition
4. Kanetkar, Y. “Letus C”, 2015, BPB publication 12<sup>th</sup> Edition
5. EB algrurusamy, “ANCI,, C””, 2012, EBG Foundation, Coimbatore

## Lab Course I: BASP 116: Based on BAST 114 and BAST 115

**Course Objectives:** Student should be able to...

1. study operation of a computer processor
2. understand data and information in computer systems.
3. describe standard word and spread sheets, graphics generation packages.
4. learn flow chart.

<b>Credits (Total Credit 02)</b>	<b>SEMESTER-I LAB COURSE- I-BASP-116 FUNDAMENTALS OF COMPUTER + PROCEDURAL PROGRAMMING LANGUAGE</b>	<b>No. of hours 60 Hrs.</b>
<b>BASP - 116  LAB COURSE- I</b>	<b>FUNDAMENTALS OF COMPUTER</b>	
	<ol style="list-style-type: none"> <li>1. Microsoft Word, Excel (Taking 5 examples on each).</li> <li>2. Microsoft PowerPoint (Taking 5 examples on it).</li> <li>3. Microsoft Access (Taking 5 examples on it).</li> <li>4. Using Microsoft Access create data BAST and apply primary key (Taking 5 examples on it).</li> <li>5. Convert Binary and Decimal numbers to the number systems (Taking 5 examples each).</li> <li>6. Convert Octal and Hexa decimal numbers to the number systems (Taking 5 examples on each).</li> <li>7. Understanding control panel settings.</li> <li>8. Working with Internet connectivity.</li> <li>9. Working with Internet connectivity and creating account on any three servers.</li> <li>10. Creating Account and Upload, Download files.</li> </ol>	
	<b>PROCEDURAL PROGRAMMING LANGUAGE</b>	
	<ol style="list-style-type: none"> <li>11. Write an algorithm to calculate average of two numbers.</li> <li>12. Write an algorithm to Find the Area of a Triangle.</li> <li>13. Write an algorithm to Check Number Is Positive or Negative.</li> <li>14. Draw a flowchart to calculate average of two numbers.</li> <li>15. Convert Temperature Celsius into Fahrenheit.</li> <li>16. Draw a flow chart to Find the Area of a Triangle.</li> <li>17. Draw a flow chart to Check Number Is Positive or Negative.</li> <li>18. Write a C program to Find the Area and Circumference of a Circle.</li> <li>19. Write a C program to Find the Area of a Triangle.</li> <li>20. Write a C program to Check Number Is Positive or Negative.</li> </ol>	



**Course outcomes-**Students will be able to...

1. demonstrate the concept of input and output devices of computers.
2. generate operating system and problem-solving method.
3. create algorithms and flow chart problem-solving process
4. analyse programs and iterative control structures with functions.

**Reference Books:**

1. Kanetkar, Y “Let Us C”: Authentic guide to C programming language, BPB Publications; Nineteenth edition (15 December 2022); BPB Publications, Ansari Road, Dariya Ganj
2. Ata Elahi “Computer Systems”: Digital Design, Fundamentals of Computer Architecture and Assembly Language, 25 August 2018, Springer; Softcover reprint of the original 1st ed. 2018 edition
3. Herbert Schildt, “*C TheCompleteReference*”, 2017, 4<sup>th</sup>Edition
4. Herbert Schildt, “C: THE COMPLETE REFERENCE”, McGraw Hill Education; 4th edition (1 July 2017); McGraw Hill Education (India) Private Limited, B-4, Sector-63, Dist. Gautam Budh Nagar
5. Josef Pieprzyk, Thomas Hardjono, Jennifer Seberry, “Fundamentals of Computer Security”, pringer; Softcover reprint of hardcover 1st ed. 2003 edition

## Course I - BAST- 117- Anatomy

**Course Objectives:** Student should be able to...

1. Understand the definition of anatomy and its importance in the study of the human body.
2. Identify the various bones in the human body.
3. Discuss the significance and applications of studying animal anatomy in Animation fields
4. Discuss the significance and applications of studying animal anatomy in Animation fields

<b>Credits (Total Credits 2)</b>	<b>SEMESTER-I Course I - BAST- 117- Anatomy</b>	<b>No. of hours 30</b>
<b>UNIT - I</b>	<b>Introduction of Anatomy</b>	<b>(08)</b>
	Introduction of anatomy, Definition of anatomy, levels of structural organization, anatomical terminology and directional terms Anatomy and drawing, Proportion of anatomy, Methods of Drawing, Key, Skeleton, Bones, The arm Bones, Arm Muscles and insertion, Head and neck,	
<b>UNIT - II</b>	<b>Human Skeletal System</b>	<b>(08)</b>
	Bones and their functions, Types of bones, Bone structure, Joints and their classifications, Muscular System, Types of muscles Torso, Muscle tissue structure and function, Muscles and insertion, Muscle contraction and physiology, Spine, Nervous System, Hand Method Bloking, Skull, Facial Expression	
<b>UNIT - III</b>	<b>Animal Anatomy</b>	<b>(07)</b>
	Introduction to Animal Anatomy , Definition and importance of studying animal anatomy, Similarities and differences between human and animal anatomy, Basic anatomical terms and body planes in animals, Overview of organ systems in animals, Skeletal System, Structure and function of the skeletal system in animals, Anatomy and physiology of animal muscles, Anatomy and function of the nervous system in animals	
<b>UNIT - IV</b>	<b>Comics Anatomy and Catroon Anatomy</b>	<b>(07)</b>
	Introduction of comics and cartoon anatomy, Basic Shape Cartoon Construction, Anatomical Praportion, The skeleton Foundation, Construction of head, Types of Characters, Bulding and action poses, Difference between hero and villain Body proportion, Faicial Expression	

**Course outcomes:** Student will be able to...

1. describe the basic anatomical structures and functions of the human, animal, and cartoon bodies, and explain the similarities and differences among these anatomies.
2. analyze and compare the anatomical features and proportions of humans, animals, and cartoon characters.
3. apply their knowledge of human and animal anatomy to illustrate accurate and dynamic anatomical features in both realistic and stylized cartoon forms
4. create detailed anatomical drawings and models of humans, animals, and cartoon characters

**Reference Books:**

1. Sheppard, Joseph. \*Anatomy: A Complete Guide for Artists\*. New York: Watson-Guption Publications, 1992.
2. Perard, Victor. \*Anatomy and Drawing\*. London: B.T. Batsford, 1930.
3. Williams, Richard. \*The Animator's Survival Kit\*. London: Faber & Faber, 2001.
4. \*How to Draw Comic Book Heroes and Villains\*. New York: Watson-Guption Publications, 1995.

## Course II – BAST 118- Color Theory

**Course Objectives:** Student should be able to...

1. Understand and explain the fundamental principles of color science, including the range of the visible spectrum, colorimetry, and the interactions between color and light (Understanding level).
2. Apply knowledge of color theory to create harmonious color compositions and construct a color wheel, demonstrating an ability to mix primary, secondary, and tertiary colors to achieve desired effects
3. Analyze historical developments in color theory and evaluate various theories of color vision, including dispositional theories, color eliminative, and functionalist primary quality theories
4. Create original color compositions for artistic projects, such as paintings and color journals, and justify these choices by referencing color symbolism, psychological effects, and the phenomenon of afterimages

<b>Credits (Total Credits 2)</b>	<b>SEMESTER-I Course II – BAST 118-Color Theory</b>	<b>No. of hours 30</b>
<b>UNIT - I</b>	<b>Introduction of color</b>	<b>(08)</b>
	Introduction of colour, Introduction of color science, History of Color, Introduction of materials, History of Printing Media, Range of visible spectrum, Color Terminology, Physics, Color imetry, and Psychophysics, Computational Theories of Color Vision Introduction of materials	
<b>UNIT - II</b>	<b>Color Vision</b>	<b>(08)</b>
	Making Colour Wheel, Making composition with colors Color Journal, Comparative Color Vision and Evolution, Dispositions, Dispositional Theories of Color , Color Eliminativism, Functionalist Primary Quality Theories of Color , Spectrum Inversions ,Color Ontology, Color psychology.	
<b>UNIT - III</b>	<b>Color Gradation and symbolism</b>	<b>(07)</b>
	Interactions of Gradation and contrast, Color Vision ,Color Gamma, Interactions of Gradation and contrast, Warm and cool Colour, Mixing of primary, Secondary, Tertiary Colors, Tints, Tones and Shades, Making Color Wheel ,Making composition with colors, Color Journal Warm and cool Colour Color symbolism, Mixing of primary, Secondary, Tertiary Colors, Tints, Tones and Shades	
<b>UNIT - IV</b>	<b>color Harmony</b>	<b>(07)</b>
	Colour Wheel, Painting of some Scenes, Colour Journal, Color Harmony, Aesthetic response to Harmonious color, Phenomenon of after images, After images and attributes of color, Albert Munsell's theory of balanced color, Definition of balanced color, Creating Harmony in color, Effects of light, Color Constancy, Simultaneous Contrast, Color symbolism, Attaching noses to colors, Using Colors to express meaning, Symbolic meaning of colors	

**Course outcomes:** Student will be able to...

1. Recall and describe the fundamental principles of color theory, including primary and secondary colors, the color wheel, and color harmony.
2. Explain the causes of color perception, including the roles of light, object properties, and human vision as they relate to different theories of color, such as the Retinex Theory.
3. Apply the concepts of color constancy in practical scenarios by analyzing how various lighting conditions impact color perception in digital images or artworks.
4. Analyze different color vision theories and their implications for understanding human perception, comparing and contrasting the Retinex Theory with traditional models of color vision.

**Reference Books :**

1. Parramón, José María. \*Color Theory\*. Watson-Guption's Artist Library, 1989.
2. Byrne, Alex, and David R. Hilbert, eds. \*Readings on Color: The Philosophy of Color\*. Vol. 2. "Introduction." Cambridge, MA: MIT Press, 1997. Hardin, C. L. \*Color for Philosophers: Unweaving the Rainbow\*. Indianapolis: Hackett Publishing Company, 1988.
3. Nassau, Kurt. "The Causes of Color." \*Scientific American\* 243, no. 4 (1980): 124-154. MacAdam, David L. "The Physical Basis of Color Specification." \*Journal of the Optical Society of America\* 32, no. 5 (1942): 247-274. Hurvich, Leo M. \*Color Vision\*. Sunderland, MA: Sinauer Associates, 1981.
4. Land, Edwin H. "Recent Advances in Retinex Theory." \*Vision Research\* 26, no. 1 (1986): 7-21. Wandell, Brian A. "Color Constancy and the Natural Image." In \*The Visual Neurosciences\*, edited by Leo M. Chalupa and John S. Werner, 861-875. Cambridge, MA: MIT Press, 2004.

## Lab Course I: BASP 119: Based on BAST 117 and BAST 118

**Course Objectives:** Student should be able to...

1. Understand and explain the fundamental principles of color science, including the range of the visible spectrum, colorimetry, and the interactions between color and light (Understanding level).
2. Apply knowledge of color theory to create harmonious color compositions and construct a color wheel, demonstrating an ability to mix primary, secondary, and tertiary colors to achieve desired effects
3. Analyze historical developments in color theory and evaluate various theories of color vision, including dispositional theories, color eliminative, and functionalist primary quality theories
4. Create original color compositions for artistic projects, such as paintings and color journals, and justify these choices by referencing color symbolism, psychological effects, and the phenomenon of afterimages

<b>Credits (Total Credit 02)</b>	<b>SEMESTER-I LAB COURSE- I-BASP-119</b>	<b>No. of hours 60 Hrs.</b>
<b>BASP - 119</b>  <b>LAB COURSE- I</b>	<b>ANATOMY</b>	
	<ol style="list-style-type: none"> <li>1. Draw the Basic Drawing of human Anatomy</li> <li>2. Draw the Proportion of Male body with keys</li> <li>3. Draw the Proportion of Female body with keys</li> <li>4. Individual Muscles Leg and Foot with keys</li> <li>5. Draw the Proportion of Head and Neck with keys</li> <li>6. Proportion of Animal Anatomy with Limb Variation</li> <li>7. Different between human and animal</li> <li>8. Human Figure with Table of Muscle Origins and Insertion</li> <li>9. Facial Expression Study in Comics</li> <li>10. Action Poses and Character Design</li> </ol>	
	<b>COLOR THEORY</b>	
	<ol style="list-style-type: none"> <li>1. Creating a Primary Color Wheel</li> <li>2. Exploring Color Terminology</li> <li>3. Comparative Study of Color Vision</li> <li>4. Mixing Warm and Cool Colors</li> <li>5. Simultaneous Contrast Experiment</li> <li>6. Creating a Secondary and Tertiary Color Wheel</li> <li>7. Still life painting</li> <li>8. Creating Harmonious Color Compositions</li> <li>9. Exploring Color Symbolism</li> <li>10. Effects of Light on Color</li> </ol>	

**Course outcomes-**Students will be able to...

1. describe the basic anatomical structures and functions of the human, animal, and cartoon bodies, and explain the similarities and differences among these anatomies.
2. analyze and compare the anatomical features and proportions of humans, animals, and cartoon characters.
3. apply their knowledge of human and animal anatomy to illustrate accurate and dynamic anatomical features in both realistic and stylized cartoon forms
4. create detailed anatomical drawings and models of humans, animals, and cartoon characters

**Reference Books:**

1. Kanetkar, Y "Let Us C": Authentic guide to C programming language, BPB Publications; Nineteenth edition (15 December 2022); BPB Publications, Ansari Road, Dariya Ganj
2. Ata Elahi "Computer Systems": Digital Design, Fundamentals of Computer Architecture and Assembly Language, 25 August 2018, Springer; Softcover reprint of the original 1st ed. 2018 edition
3. Byrne, Alex, and David R. Hilbert, eds. \*Readings on Color: The Philosophy of Color\*. Vol. 2. "Introduction." Cambridge, MA: MIT Press, 1997. Hardin, C. L. \*Color for Philosophers: Unweaving the Rainbow\*. Indianapolis: Hackett Publishing Company, 1988.
4. Nassau, Kurt. "The Causes of Color." \*Scientific American\* 243, no. 4 (1980): 124-154. MacAdam, David L. "The Physical Basis of Color Specification." \*Journal of the Optical Society of America\* 32, no. 5 (1942): 247-274. Hurvich, Leo M. \*Color Vision\*. Sunderland, MA: Sinauer Associates, 1981.

## Semester II

### Major Subject

#### Course III – BAST-121-COMPUTER GRAPHICS

**Course Objectives:** Students should be able to...

1. learn graphics designing concepts.
2. understand scientific color theory and color mode.
3. classify image types and properties.
4. study printing principles composition process and techniques.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER-II Course III – BAST-121-COMPUTER GRAPHICS</b>	<b>No. of hours 30</b>
<b>UNIT-I</b>	<b>Workspace basics &amp; Toolbox</b>	<b>(08)</b>
	Workspace basics, Panels and menus, Tools, Positioning elements with snapping, Position with the Ruler tool, Rulers, Grid and guides, Pixel - Pixel – Resolution – Image Resolution– Printing Resolution – Monitor Resolution, about drawing, drawing shapes, Painting tools, Brush presets, Creating and modifying brushes, Painting with a pattern, creating patterns, drawing with the Pen tools, editing paths, Adding color to paths. Gradients Creating type, editing text, creating type effects, Formatting Characters, Line and character spacing, Formatting paragraphs	
<b>UNIT-II</b>	<b>Image and color basics</b>	<b>(08)</b>
	Image essentials, Image size and resolution, Creating, opening, and importing images, choosing colors in the Color and Swatches panels, viewing multiple images, convert an image to Bitmap mode, customizing indexed color tables, about color, choosing colors, High dynamic range images, blending modes, Color modes, converting between color modes, customizing color pickers and swatches, Understanding color management	
<b>UNIT-III</b>	<b>Layers &amp; selecting</b>	<b>(07)</b>
	Layer basics, Managing layers, Selecting, grouping, and linking layers, Moving, stacking, and locking layers, Editing layer masks, Masking layers with vector masks , Combining multiple images into a group portrait, Revealing layers with clipping masks, Aligning layers, Create Smart Objects, Layer opacity and blending, Blending modes , Layer effects and styles Making selections, Moving, copying, and deleting selected pixels, Making quick selections, Selecting with the lasso tools, Selecting with the marquee tools	
<b>UNIT-IV</b>	<b>Filters / effects &amp; saving, exporting, Printing</b>	<b>(07)</b>
	Filter basics, Oil Paint filter, Add Lighting Effects, applying specific filters, Layer effects and styles, saving images, File formats Supported file formats in Photoshop CC, Saving files in graphics formats, Printing from Photoshop CC, Printing withcolor management	



**Course outcomes:** Student will be able to...

1. analyze the elements of Photoshop.
2. create essential digital media designs.
3. generate print media design using CMYK Mode.
4. implement skills for presentational visual designs.

**Reference Books:**

1. James McCurry , Henry K Mills, “Adobe Photoshop CC 2022 Beginner's Guide: A Complete Step-By-Step Manual to Great Photography “ 27 July 2022, 1st Edition
2. John S., “*Photoshop: The Ultimate Beginners*” Guide to Mastering Adobe Photoshop, 15 December 2016
3. Lesa S., “*Photoshop CC the Missing Manual*”, 2014, Publisher(s): O'Reilly Media, Inc. August
1. Lisa DaNae Dayley, Brad Dayley , “Photoshop CC Bible”, Wiley; 1st edition (November 4, 2013)
2. Zorana G.P., “*3D in Photoshop CS6 The Ultimate Guide for Creative Professionals*”, Falco,20 September 2010, Focal Press; 1st edition

## Course IV – BAST-122- SOUND EDITING

**Course Objectives:** Students should be able to...

1. learn elements and equipment of sound editing.
2. study foley mixing techniques.
3. define set sound file and Sound track pipeline.
4. understand digital audio editing techniques.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER II</b>  <b>Course IV– BAST-122- SOUND EDITING</b>	<b>No. of hours 30</b>
<b>UNIT-I</b>	<p><b>Audition Interface</b></p> <p>Audio interface basics - Mac OS X audio setup , Windows setup, Testing inputs and outputs with Audition (Mac or Windows) ,Using external interfaces, The Audition Environment - Audition’s dual personality , The Audition Workspace ,Navigation, Basic Editing - Opening a file for editing ,Selecting a region for editing and changing its level , Cutting, deleting, and pasting audio regions, Cutting and pasting with multiple clipboards, Extending and shortening musical selections, Simultaneous mixing and pasting, Repeating part of a waveform to create a loop, Showing waveform data under the cursor, Fading regions to reduce artifacts</p>	<b>(08)</b>
<b>UNIT-II</b>	<p><b>Effect and Processing</b></p> <p>Signal Processing -, Using the Effects Rack , Amplitude and Compression effects , Delay and echo effects, Filter and EQ effects , Modulation effects, Noise reduction/restoration , Reverb effects , Special effects, Stereo imagery effects, Time and Pitch effect, Using the Effects menu , Managing presets, Audio Restoration - About audio restoration , Reducing hiss , Reducing crackles , Reducing pops and clicks , Reducing broadband noise , De-humming a file , Removing artifacts , Manual artifact removal, Alternate click removal Sound Design - About sound design , Creating rain sounds , Creating a babbling brook , Creating insects at night , Creating an alien choir , Creating sci-fi machine effects , Creating an alien drone fly by , Extracting frequency bands</p>	<b>(08)</b>
<b>UNIT-III</b>	<p><b>Production</b></p> <p>Creating and Recording Files - Recording into the Waveform Editor, Recording into the Multitrack Editor, Checking remaining free space , Drag-and-dropping into an Audition Editor , Importing tracks as individual files from an audio CD, Importing tracks as a single file from an audio CD, Saving a template, Multitrack Editor Orientation - About multi-track production ,Multi-track and Waveform Editor integration Changing track colors ,Loop selections for playback , Track controls ,Channel mapping in the Multitrack Editor , Side-chaining effects</p>	<b>(07)</b>

<b>UNIT-IV</b>	<b>Post Production</b>	<b>(07)</b>
	Recording in the Multitrack Editor - Getting ready to record a track, setting up the metronome, recording a part in a track, Recording an additional part (overdub), Composite recording Automation - About automation, Clip automation, Track automation, Mixing - About mixing, Testing your acoustics, The mixing process, Exporting a stereo mix of the song, Burning an audio CD of the song, Exporting to Sound Cloud.	

**Course Outcomes:** Student will be able to...

1. assemble equipment which are useful for sound recording and editing
2. record basic sound and export into various sound formats.
3. create clear soundtrack using audition noise removal
4. compose and compile various sound formats for professional projects.

**Reference Books:**

1. Maxim Jago, "Adobe Audition CC Classroom in a Book", Published Nov 7, 2018, 2nd Edition by Adobe Creative Team
2. Adobe Creative Team, Maxim Jago, "Adobe Audition CC Classroom in a Book, 2nd Edition", Published Nov 7, 2018 by Adobe Press
3. Simon L., "Digital Audio Editing: Correcting and Enhancing Audio in Pro Tools", 14 November 2013, Publisher Routledge; 1st edition
4. Maxim J., "Adobe Audition cc User Manual", 28 June 2012, 7 Adobe Systems Incorporated, 2018 Bible of Adobe Audition
5. Roger D., "PC Audio Editing with Adobe Audition 2.0, 10 July 2006, Broadcast, desktop and CD audio production

## Lab Course II: BASP -123: Based on BAST 121 and BAST 122

**Course Objectives:** Students should be able to...

1. study graphics software's and its characteristics.
2. understand image types and properties.
3. learn sound track and its frequencies.
4. describe sound composition techniques.

Credits (Total Credits 2)	<b>SEMESTER - II LAB COURSE –II – BASP- 123 COMPUTER GRAPHICS + SOUND EDITING</b>	<b>No. of hours 60 Hrs.</b>
<b>BASP- 123  LAB COURSE–IV</b>	<b>COMPUTER GRAPHICS</b>	
	<ol style="list-style-type: none"> <li>1. Background Change and Photo/Face Retouch.</li> <li>2. Insert any Damage image &amp; clear this image using various Healing tools.</li> <li>3. How to Make 3D Icon.</li> <li>4. A letter logo design.</li> <li>5. Movie poster editing Photoshop portrait effect.</li> <li>6. Make a Movie Poster with Texture Background.</li> <li>7. How to Create Black and White Photo to Colour Photo.</li> <li>8. Business card design.</li> <li>9. Tri Fold Brochure Design.</li> <li>10. Advertising Design.</li> </ol>	
	<b>SOUND EDITING</b>	
	<ol style="list-style-type: none"> <li>11. Importing and Changing File Property and format.</li> <li>12. Mono sound recording.</li> <li>13. Stereo Channels sound recording.</li> <li>14. Editing Multi – Chanel Audio.</li> <li>15. Recording stereo sound with markers.</li> <li>16. Importing Video file and Split sound.</li> <li>17. Applying Sound Effects (Effect Control).</li> <li>18. Mixing multi-track.</li> <li>19. Editing Video in Adobe audition.</li> <li>20. Exporting Final Sound.</li> </ol>	

**Course Outcomes:** Student will be able to...

1. create backgrounds using scientific color scheme.
2. generate Web templates and other essentials professional designs using Photoshop.
3. develop Mono and stereo sound tracks.
4. evaluate and compose Sound tracks for different medias.

**Reference Books:**

1. James McCurry , Henry K Mills, “Adobe Photoshop CC 2022 Beginner's Guide: A Complete Step-By-Step Manual to Great Photography “ 27 July 2022, 1st Edition
2. Adobe Creative Team, Maxim Jago,” Adobe Audition CC Classroom in a Book, 2nd Edition”, Published Nov 7, 2018 by Adobe Press
3. John S., “*Photoshop: The Ultimate Beginners*” Guide to Mastering Adobe Photoshop, 15 December 2016
4. Bob Katz , “Mastering Audio: The Art and the Science”, Routledge; 3rd edition (20 October 2014)
5. Simon L., “Digital Audio Editing: Correcting and Enhancing Audio in Pro Tools”, 14 November 2013, Publisher Routledge; 1st edition

## Minor Subject

### Course III – BAST-124- WEB DESIGNING

**Course Objectives:** Student should be able to...

1. study web works procedure.
2. understand effective web page designing process.
3. learn tool and strategies for websites designing
4. define HTML Simple and impressive design techniques.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER-II Course III – BAST-124- WEB DESIGNING</b>	<b>No. of hours 30</b>
<b>UNIT - I</b>	<b>Introduction to HTML</b>	<b>(08)</b>
	Introduction to HTML Editors ,Applications of HTML Difference between HTML and XML Basic HTML Elements , Headings , HTML Paragraphs HTML Styles	
<b>UNIT - II</b>	<b>Commands in HTML</b>	<b>(08)</b>
	Table, Hyperlink creation in HTML Cascade Style Sheet , CSS Links Web Page Designing using HTML. Comments in HTML	
<b>UNIT - III</b>	<b>HTML Form Design</b>	<b>(07)</b>
	HTML Forms, Form Elements in HTML Input Types HTML, Input Attributes	
<b>UNIT - IV</b>	<b>Introduction to Dream viewer software</b>	<b>(07)</b>
	Interface of Dream viewer Toolbox Workspace, Web Page designing using Dream viewer Applications, Advantages and Disadvantages of Dream viewer	

**Course outcomes:** Student will be able to...

1. evaluate theories and conventions in web design
2. create tagging text and content.
3. analyse background coding in modern websites with HTML and CSS.
4. generate Entire website Using HTML.

#### Reference Books :

1. Prem Kumar, “Web Design With HTML & CSS” : HTML & CSS Complete Beginner's Guide, Notion Press (31 October 2021)
2. Prof. DepaliR. Dhainje, 2005, Server Database and Application Development
3. Thomas A. Powell, “The Complete Reference HTML and XHTML4/e, TMH.” 2003,
4. Wendy Willard, 2000, HTML beginners guide, TMH.
5. Steven Holzner, Jul3, 2000, HTML blackbook, Dreamtech Press

## Course IV- BASP- 125 - OBJECT ORIENTED PROGRAMMING C++

**Course Objectives:** Student should be able to...

1. study fundamental C++ programming concepts.
2. describe Classes and objects in C++.
3. learn Constructors and destructors in C++.
4. understand files management and templates in C++.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER-II Course IV- BAST- 125 - OBJECT ORIENTED PROGRAMMING C++</b>	<b>No. of hours 30</b>
<b>UNIT - I</b>	<b>Introduction to Language</b>	<b>(08)</b>
	Why to Learn C++, Object-Oriented Programming, C++ Keywords, Primitive Built-in Types, Variables, Type Qualifiers in C++, operator : Arithmetic Operators, Relational Operators, Logical Operators, Bitwise Operators, Assignment Operators, Misc Operators.	
<b>UNIT - II</b>	<b>Loops and Statements</b>	<b>(08)</b>
	While loop, for loop, do...while loop, nested loop, break statement, continue statement, goto statement	
<b>UNIT - III</b>	<b>Access Control and Inheritance and Type of Inheritance</b>	<b>(07)</b>
	Classes and Objects, Access Control and Inheritance, Type of Inheritance, C++ overloading	
<b>UNIT - IV</b>	<b>Polymorphism</b>	<b>(07)</b>
	C++ polymorphism, Data abstraction, C++ encapsulation	

**Course outcomes:** Student will be able to...

1. modify and extend short programs that use standard conditional and control structures and functions.
2. demonstrate the use of arithmetic and relational operators including operator precedence and the use of parentheses
3. create Design, implement, debug and test programs using the fundamental elements of C++.
4. design the use of data abstraction & encapsulation

### Reference Books:

1. E Balagurusamy, "Object-Oriented Programming with C++", 8th Edition [Paperback] Balagurusamy, McGraw Hill; Eighth edition (24 September 2020)
2. Rick Mercer Mac Millan, "Computing fundamentals with C++", Object oriented programming & design (2nd edition) 2019
3. Delores Etter, Jeanine Ingber, "Problem Solving with C++", 6 September 2016, publisher Pearson (4th edition)
4. Object Oriented Neural Networks in C++ Joey Rogers Academic Press
5. Steve Oualline, "Practical C++ Programming", 1995

## Lab Course II: BASP-126: Based on BAST 124 and BAST 125

**Course Objectives:** Student should be able to...

1. study and design an effective web page.
2. describe tool and strategies for websites designing
3. learn fundamental programming concepts and methodologies.
4. understand Files management and templates in C++.

<b>Credits (Total Credit 02)</b>	<b>SEMESTER-II LAB COURSE-II- BASP - 126 WEB DESIGNING + OBJECT ORIENTED PROGRAMMING C++</b>	<b>No. of hours 60 Hrs.</b>
<b>BASP - 126  LAB COURSE-II</b>	<b>WEB DESIGNING</b>	
	<ol style="list-style-type: none"> <li>1. Create HTML pages using basic HTML tags.</li> <li>2. Create HTML page and display FRAME and TABLE.</li> <li>3. Design page using CSS.</li> <li>4. Insert images and clip art using HTML.</li> <li>5. Working with Hyperlinks and Tabular information of Students bio data using HTML.</li> <li>6. Create web template using marquee tag.</li> <li>7. Create a form design with controls using HTML.</li> <li>8. Design a simple Web site template and themes using HTML.</li> <li>9. Design a simple Login form and Registration form using HTML.</li> <li>10. Design a simple College Website using Dream viewer.</li> </ol>	
	<b>OBJECT ORIENTED PROGRAMMING C++</b>	
	<ol style="list-style-type: none"> <li>11. Write a C++ program to calculate Fibonacci Series.</li> <li>12. Write a C++ program to calculate Prime number.</li> <li>13. Write a C++ program to calculate Sum of Digits.</li> <li>14. Write a C++ program to calculate Swap two numbers without using third variable.</li> <li>15. Write a C++ program to calculate to Check Whether Number is Even or Odd.</li> <li>16. Write a C++ program for OOPs Concepts.</li> <li>17. Write a C++ program for Constructor.</li> <li>18. Write a C++ program for Destructor.</li> <li>19. Write a C++ program for Inheritance.</li> <li>20. Write a C++ program for Encapsulation</li> </ol>	



**Course outcomes-Students will be able to...**

1. organize theories and conventions in web design
2. create tagging text and content.
3. modify and extend short programs that use standard conditional and control structures and functions.
4. demonstrate the use of arithmetic and relational operators including operator precedence and the use of parentheses

**Reference Books:**

1. Prof. Depali R. Dhainje, 2005, Server Database and Application Development
2. Prem Kumar, "Web Design With HTML & CSS" : HTML & CSS Complete Beginner's Guide, Notion Press (31 October 2021)
3. E Balagurusamy, "Object-Oriented Programming with C++", 8th Edition [Paperback] Balagurusamy, McGraw Hill; Eighth edition (24 September 2020);
4. Rick Mercer Mac Millan, "Computing fundamentals with C++", Object oriented programming & design (2nd edition) 2019
5. Object Oriented Neural Networks in C++ Joey Rogers Academic Press Steve Oualline, , "Practical C++ Programming" ,1995

## Course III- BAST-127-DIGITAL ANIMATION

**Course Objectives:** Student should be able to...

1. study multimedia and its types.
2. understand Flash Properties.
3. learn tweens and articulated motions with inverse.
4. describe post production and outputs.

Credits (Total Credits 2)	<b>SEMESTER-II</b> <b>Course III- BAST-127-DIGITAL ANIMATION</b>	<b>No. of hours</b> <b>30</b>
<b>UNIT - I</b>	<b>Interface</b>	<b>(08)</b>
	Getting to Know the Workspace, working with the Library Panel, Understanding the Timeline, Organizing Layers in a Timeline, Using the Properties Inspector, Using the Tools Panel Undoing Steps in Flash, Previewing Your Movie, Modifying the Content and Stage, Saving Your Movie Publishing Your Movie, Finding Resources for Using Flash, Checking for Updates	
<b>UNIT - II</b>	<b>Toolbox</b>	<b>(08)</b>
	Understanding Strokes and Fills ,Creating Shapes ,Making Selections, Editing Shapes, Using Gradient and Bitmap Fills , Making Patterns and Decorations, Creating Curves, Creating Transparencies, Creating and Editing Text, creating and editing symbol, Importing Illustrator Files ,About ,Creating Symbols, Importing Photoshop Files Editing and Managing Symbols, Changing the Size and Position of Instances, Changing the Color Effect of Instances, Understanding Display Options Applying Filters for Special Effects Positioning in 3D Space, Animation Understanding the Project File ,Animating Position ,Changing the Pacing and Timing Animating Transparency Animating Filters Changing the Path of the Motion, Swapping Tween Targets, Creating Nested Animation, Using the Motion Editor Easing ,Animating 3D Motion ,Testing Your Movie	
<b>UNIT - III</b>	<b>Inverse Kinematics and constraint</b>	<b>(07)</b>
	Testing Your Movie, Articulated Motion with Inverse Kinematics, Constraining Joints, Inverse Kinematics with Shapes ,Armature Options, Morphing with Shape Tweens, Using Shape Hints, Simulating Physics with Inverse Kinematics About Interactive Movies, Creating Buttons Understanding ActionScript 3.0, Preparing the Timeline ,Adding a Stop Action, Creating Event Handlers for Buttons, Creating Destination, Keyframes, Creating a Home Button with Code Snippets, Code Snippets Options, Playing Animation at the Destination, Animated Buttons ,Understanding TLF Text Adding Simple Text, Adding Multiple Columns	

<b>UNIT - IV</b>	<b>Rendering in 2d</b>	<b>(07)</b>
	Production and post production, Understanding the Project File, Using Sounds, Understanding Flash Video, Using Adobe Media Encoder, Understanding Encoding Options, Playback of External Video, Working with Video and Transparency, Using Cue Points, Loading External Content, Removing External Content, Controlling Movie Clips Creating Masks, Testing a Flash Document, Understanding Publishing, Publishing for the Web, Understanding the Bandwidth Profiler, Adding Metadata, Publishing a Desktop Application, Publishing for a Mobile Device, Keeping Organized with Projects	

**Course outcomes:** Student will be able to...

1. evaluate types and trick of 2d animation.
2. create Animated GIF.
3. generate Background Motion Animations.
4. design 2D character Action animation.

**References Books:**

1. Chris Georgenes, *"How to Cheat in Adobe Flash CS6: The Art of Design and Animation"*, Published by Focal Press in 2012
2. Todd Perkins, *"Adobe Flash Professional CS6 Classroom in a Book"*, Published by Adobe Press in 2012
3. Rich Shupe and Zevan Rosser, *"Learning ActionScript 3.0: A Beginner's Guide"*, Published by O'Reilly Media in 2010
4. Keith Peters, *"ActionScript 3.0 Animation: Making Things Move!"* Published by O'Reilly Media in 2007
5. Sham Bhangal, *"Foundation ActionScript Animation: Making Things Move!"*, Published by friends of ED in 2006

## Course IV – BAST – 128-VIDEO EDITING

**Course Objectives:** Student should be able to...

1. study of freeware editing software and recent tools with parameters.
2. understand the fundamental concepts of video editing
3. describe video techniques prevalent for industry.
4. learn post production process using effect rack.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER-II Course IV – BAST – 128-VIDEO EDITING</b>	<b>No. of hours 30</b>
<b>UNIT - I</b>	<b>Workspace and workflows</b>	<b>(08)</b>
	Introduction of Adobe Premiere, Interface of Adobe Premiere Working with Projects, Capturing and Importing Source Clips, Working with Panels, Tools panel and Options panel, Creating projects, Set preferences, Set Audio Hardware preferences, Working with Photoshop and Premiere Pro, Set up a Color workspace, Apply basic color correction, Adjust color using color correction curves	
<b>UNIT - II</b>	<b>Importing footage into Premiere Pro</b>	<b>(08)</b>
	Importing still images, Importing digital audio, Capturing and digitizing footage, Working with timecode, Editing sequences and clips in Premiere Pro, Rendering and previewing sequences, Multi-camera editing workflow, Working with markers, Create and play clips, Trimming clips, Freeze and hold frames, Working with captions, Graphics, titles, and Motion Graphics templates	
<b>UNIT - III</b>	<b>Effects</b>	<b>(07)</b>
	Fixed effects, Standard effects, Applying, removing, finding, and organizing effects, Viewing and adjusting effects and keyframes, Master Clip effects, Masking and tracking, Transition, Motion: position, scale, and rotate clips, Adjustment Layers, Color correction effects, Lighting Effects	
<b>UNIT - IV</b>	<b>Transitions</b>	<b>(07)</b>
	Audio effects and transitions, The rolling shutter repair effect, Video effects and transitions, Blur and Sharpen effects, Channel effects, Color Correction effects, Distort effects, Noise & Grain effects, Perspective effects, Animation and keyframes in Premiere Pro, Editing audio in Premiere Pro, Compositing in Premiere Pro.	

**Course outcomes:** Student will be able to...

1. create organize content and sequences for video editing.
2. generate advanced documentary.
3. developed e-contain video for e-learning or IT industry.
4. analyze post for film making.

**Reference Books:**

1. Maxim Jago, *"Adobe Premiere Pro CC Classroom in a Book"* Published by Adobe Press (ongoing series)
2. Richard Harrington, *"An Editor's Guide to Adobe Premiere Pro"*, Published by Peachpit Press in 2021
3. Jan Ozer, *"Adobe Premiere Pro CC: A Tutorial Approach"* Published by Mercury Learning and Information in 2019
4. Paul Ekert, *"Adobe Premiere Pro CC - A Complete Course and Compendium of Features"* Published by Beezix Inc. in 2019
5. Jeff I. Greenberg and Robbie Carman, *"Adobe Premiere Pro Studio Techniques"* Published by Adobe Press in 2013 (includes multiple editions)
6. Richard Harrington and Robbie Carman, *"From Still to Motion: A Photographer's Guide to Creating Video with your DSLR"*, Published by Peachpit Press in 2010 (includes Adobe Premiere Pro workflows)

## Lab Course II: BASP 129: Based on BAST 127 and BAST 128

**Course Objectives:** Student should be able to...

1. study different animation techniques based on style, requirements and advantages.
2. learn principles of 2D animation.
3. classify video types and its formats.
4. understand various style and concept of Video editing.

Credits (Total Credit 02)	<b>SEMESTER-II LAB COURSE –II-BASP 129 DIGITAL ANIMATION + VIDEO EDITING</b>	No. of hou rs <b>60</b> Hrs.
<b>BASP 129  LAB COURSE–II</b>	<b>DIGITAL ANIMATION</b>	
	<ol style="list-style-type: none"> <li>1. Animate bouncing ball using Adobe Flash CS6</li> <li>2. Animating flag by using Adobe Flash CS6</li> <li>3. Grapping/Rigging character by using Adobe flash CS6</li> <li>4. Digital layout design by using Adobe Flash Cs6</li> <li>5. Animating Human Walk cycle by using-by-using Adobe Flash CS6</li> <li>6. Animating Animal Walk cycle by using-by-using Adobe Flash CS6</li> <li>7. Animating Human Run cycle by using-by-using Adobe Flash CS6</li> <li>8. Animating Animal Run cycle by using-by-using Adobe Flash CS6</li> <li>9. Creating advance action animation by using Adobe Flash CS6</li> <li>10. Render scene with bg and character animation.</li> </ol>	
	<b>VIDEO EDITING</b>	
	<ol style="list-style-type: none"> <li>11. Color Corrections.</li> <li>12. Multicam Editing.</li> <li>13. Audio Editing.</li> <li>14. Video Editing</li> <li>15. Adding Markers.</li> <li>16. Adding Effects &amp; Transitions.</li> <li>17. Mixing Audio.</li> <li>18. Creating Titles in Adobe Premiere Pro.</li> <li>19. Animating a Clip in Adobe Premiere Pro.</li> <li>20. Export / Render Video setting in Adobe Premiere Pro.</li> </ol>	

**Course outcomes-**Students will be able to...

1. evaluate traditional and digital 2D animation techniques.
2. create 2D Animation classical and digital character Animation.
3. developed e-contain video for e-learning or IT industry.
4. demonstrate video effects & transitions in premiere pro.

**References Books:**

1. Jan Ozer, "Adobe Premiere Pro CC: A Tutorial Approach" Published by Mercury Learning and Information in 2019
2. Paul Ekert, "Adobe Premiere Pro CC - A Complete Course and Compendium of Features" Published by Beezix Inc. in 2019
3. Jeff I. Greenberg and Robbie Carman, "Adobe Premiere Pro Studio Techniques" Published by Adobe Press in 2013 (includes multiple editions)
4. Chris Georgenes, "How to Cheat in Adobe Flash CS6: The Art of Design and Animation", Published by Focal Press in 2012
5. Todd Perkins, "Adobe Flash Professional CS6 Classroom in a Book", Published by Adobe Press in 2012

# SEC

## Course SEC 103– LAYOUT DESIGNER

**Course Objectives:** Student should be able to...

1. learn drawing skills and conceptual skills.
2. describe integrate color and design theories in the art.
3. understand design theories and art techniques in the production.
4. study perspective patterns of 2D & 3D drawings.

<b>Credits (Total Credits 2)</b>	<b>SEMESTER-II Course SEC 103 - LAYOUT DESIGNER</b>	<b>No. of hours 15</b>
<b>UNIT - I</b>	<b>Basic of Drawing</b>	<b>7</b>
	Drawing basics, material handling and understanding, teaching variety of lines, vertical, horizontal, diagonal, curved lines, dotted lines, and basic shapes, forms, geometrical shapes and non geometrical shapes, drawing balance, paper balance, freehand drawings, creating image using combinations of different lines, 2D & 3D – geometrical shapes – basic shapes, patterns, textures, perspectives, overlapping objectives, Principles of Design	
<b>UNIT - II</b>	<b>Color Balance &amp; Perspective</b>	<b>8</b>
	Color, RYB Color System, And Properties of Color: Hue - Value - Tint - Shade - Tone -Intensity, Color scheme: Monochromatic, Analogous, Complementary, Color domination - Colours in terms of Weight, Making Color Wheel - Primary, Secondary, Tertiary Colors - Warm and cool Colour - Additive Colour System (RGB) -Subtractive Colour System (CMYK), Introduction of Perspective, importance of Perspective, perspective terminology, horizon line, eye level, vanishing point, view point, orthogonal line, ground line, picture plane, Types of perspective views, One point perspective, Two-point perspective, Three-point perspective, bird's view, worm's view.	

**Course outcomes:** Student will be able to...

1. evaluate principles of layout designing and art techniques.
2. analyze the Shapes and Patterns of the 2D & 3D forms.
3. create or draw One- and Two-point perspective layout
4. generate human anatomy using Perspective.



## References Books:

1. David Dabner, Sandra Stewart, and Eric Zempel, "*Graphic Design School: The Principles and Practice of Graphic Design*" Published by Wiley in various editions in 2020
2. Ellen Lupton, "*Thinking with Type: A Critical Guide for Designers, Writers, Editors, & Students*"  
Published by Princeton Architectural Press in various editions in 2019
3. Timothy Samara, "*Layout Workbook: A Real-World Guide to Building Pages in Graphic Design*"  
Published by Rockport Publishers in various editions in 2017
4. Jim Krause, "*Design Basics Index*", Published by How Books in various editions in 2017
5. Josef Müller-Brockmann: "*Grid Systems in Graphic Design*" Published by Niggli in various editions in 2015
6. Luke Herriott, "*Grids: Creative Solutions for Graphic Designers*", Published by RotoVision in 2021

**Chairman**  
Bord of Studies  
Department of Animation Science

