

Scheme & Syllabus of B.Sc. (Multimedia)

Batch 2026 onwards



By

Board of Study Computer Applications

Department of Academics

IK Gujral Punjab Technical University

I. K. Gujral Punjab Technical University
B.Sc. (Multimedia)

B.Sc. in Multimedia:

It is an Under Graduate (UG) Program of 3 years duration (6 semesters)

Eligibility:

All those candidates who have passed the 10+2 or its equivalent examination in any stream conducted by a recognized Board / University / Council.

OR

Those candidates who have passed their Matriculation examination AND have also passed three-year Diploma in any Trade from Punjab State Board of Technical Education & Industrial Training, Chandigarh or such Examination from any other recognized State Board of Technical Education, or Sant Longowal Institute of Engineering & Technology, Longowal.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

The Bachelor of Science (Animation & Multimedia) program aims to prepare students with creative, technical, and professional competencies required for the animation, multimedia, digital media, and creative communication industries.

PEO1: To develop strong artistic, creative, and visual communication skills through comprehensive training in animation, multimedia, graphic design, video production, and digital media technologies.

PEO2: To equip students with practical and technical competencies in industry-standard software tools, multimedia production workflows, and emerging digital media technologies.

PEO3: To prepare students for professional careers, freelancing, entrepreneurship, higher education, and interdisciplinary opportunities in animation, multimedia, entertainment, advertising, gaming, UI/UX, and digital content industries.

PEO4: To develop problem-solving abilities, teamwork, leadership, communication skills, and ethical professional practices required in creative media environments.

PEO5: To encourage innovation, lifelong learning, portfolio development, industry engagement, and adaptation to evolving trends in animation, multimedia, artificial intelligence, and interactive media technologies.

PROGRAM OUTCOMES (POs)

After successful completion of the program, the graduates will be able to:

P01 – Creative Knowledge: Apply artistic principles, design fundamentals, animation concepts, and multimedia theories for creative media production.

P02 – Technical Competency: Use industry-standard software, digital tools, and multimedia technologies for design, animation, video editing, visual effects, and interactive media production.

P03 – Problem Solving: Identify and solve creative, technical, and production-related challenges using critical thinking and innovative approaches.

P04 – Design & Development: Design and develop multimedia projects including graphics, animations, motion graphics, videos, UI/UX interfaces, and digital media content.

P05 – Modern Tool Usage: Utilize contemporary software applications, AI-assisted creative tools, multimedia platforms, and emerging technologies effectively.

P06 – Communication Skills: Demonstrate effective verbal, visual, written, and presentation skills for professional communication and creative storytelling.

P07 – Teamwork & Leadership: Work effectively as an individual and as a member or leader in multidisciplinary creative teams and production environments.

P08 – Professional Ethics: Understand professional ethics, intellectual property rights, social responsibilities, and industry practices related to digital media and creative industries.

P09 – Project Management: Plan, organize, execute, and manage multimedia production projects within timelines and resource constraints.

P010 – Entrepreneurship & Freelancing: Develop entrepreneurial capabilities,

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freelancing skills, portfolio management, and digital branding competencies for self-employment opportunities.

P011 – Lifelong Learning: Recognize the need for continuous learning and adaptation to emerging technologies, creative trends, and industry developments.

P012 – Industry Readiness

Demonstrate professional competency through internships, live projects, portfolio development, showreel production, and industry interaction.

PROGRAM SPECIFIC OUTCOMES (PSOs)

After completion of the program, students will be able to:

PS01: Create professional-quality graphic designs, illustrations, branding materials, and digital communication content using modern multimedia tools and software.

PS02: Develop 2D/3D animations, motion graphics, video productions, visual effects, and interactive media projects using industry-standard production workflows.

PS03: Design and manage creative portfolios, digital content platforms, freelance projects, and multimedia production assignments for employment and entrepreneurship opportunities in the creative media industry.

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First Semester

Course Code	Course Type	Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
UGCA2601	Core Theory	Mathematics for Design	3	1	0	40	60	100	4
UGCA2602	Core Theory	Fundamentals of Computer and IT	3	1	0	40	60	100	4
UGAM2601	Core Theory	Introduction to Multimedia & Digital Creativity	3	1	0	40	60	100	4
UGAM2602	Practical/Laboratory	Digital Creativity Lab	0	0	4	60	40	100	2
UGCA2605	Core Practical/Laboratory	Drawing & Sketching Lab	0	0	4	60	40	100	2
UGCA2606	Core Practical/Laboratory	Fundamentals of Computer and IT Laboratory	0	0	4	60	40	100	2
BTHU103/18	Ability Enhancement Compulsory Course (AECC)-I	English	1	0	0	40	60	100	1
BTHU104/18	Ability Enhancement Compulsory Course (AECC)	English Practical/Laboratory	0	0	2	30	20	50	1
HVPE101-18	Ability Enhancement Compulsory Course (AECC)	Human Values, De-addiction and Traffic Rules	3	0	0	40	60	100	3
HVPE102-18	Ability Enhancement Compulsory Course (AECC)	Human Values, De-addiction and Traffic Rules (Lab/ Seminar)	0	0	1	25	--**	25	1
BMPD102-18		Mentoring and Professional Development	0	0	1	25	--**	25	1
	TOTAL		13	3	16	460	440	900	25

****The Human Values, De-addiction and Traffic Rules (Lab/ Seminar) and Mentoring and Professional Development course will have internal evaluation only. (See guidelines at the last page of this file)**

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Second Semester

Course Code	Course Type	Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
UGCA2607	Core Theory	Web Design Fundamentals	3	1	0	40	60	100	4
UGAM2603	Core Theory	Photography & Audio-Video Production Basics	3	1	0	40	60	100	4
UGAM2604	Core Theory	Graphic Design & Digital Illustration	3	1	0	40	60	100	4
UGCA2610	Core Practical/Laboratory	Web Design Laboratory	0	0	4	60	40	100	2
UGAM2605	Core Practical/Laboratory	Photography & Video Editing Lab	0	0	4	60	40	100	2
UGAM2606	Practical/Laboratory	Graphic Design lab	0	0	4	60	40	100	2
EVS102-18	Ability Enhancement Compulsory Course (AECC) -III	Environmental Studies	2	0	0	40	60	100	2
BMPD202-18		Mentoring and Professional Development	0	0	1	25	--	25	1
	TOTAL		11	3	13	365	360	725	21

SEMESTER –I

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Course Code: UGCA2601

Course Name: Mathematics for Design

Program: B.Sc. in Multimedia	L: 3 T: 1 P: 0
Branch: Computer Applications	Credits: 4
Semester: 1 st	Contact hours: 44 hours
Internal max. marks: 40	Theory/Practical: Theory
External max. marks: 60	Duration of end semester exam (ESE): 3hrs
Total marks: 100	Elective status: core/elective: Core

Course Objectives:

The course introduces mathematical concepts and digital measurement techniques required for graphic design, web design, computer graphics, and digital media production. It develops analytical skills for geometric construction, coordinate systems, transformations, scaling, digital imaging, and graphical modeling.

Course Outcomes: After studying this course, students will be able to:

CO#	Course Outcomes
CO1	Apply mathematical principles and algebraic methods to design-related problems.
CO2	Use geometric and trigonometric concepts for visual composition and layout design.
CO3	Perform calculations involving digital measurements, image resolution, color systems, and file sizes.
CO4	Apply vectors, matrices, and geometric transformations in computer graphics and web design.
CO5	Understand mathematical foundations of curves, surfaces, and 3D graphical representations used in modern digital media.

Detailed contents	Contact hours
<u>Unit-I</u> Number systems and numerical representation, Scale factors and dimensional calculations, Golden ratio and mathematical proportions in design, Mathematical patterns and symmetry in visual communication.	8 hours

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<u>Unit-II</u>	
Basic geometric shapes and properties, Angles, polygons, circles and geometric constructions, Coordinate geometry fundamentals, Trigonometric functions and identities, Measurement of angles and distances, Applications of trigonometry in computer graphics and design	9 hours
<u>Unit -III</u>	
Introduction to vectors and vector notation, Vector addition, subtraction and scalar multiplication, Dot product and geometric interpretation, Applications of vectors in graphics, Matrix concepts and matrix operations, Determinants and inverse matrices, Matrix representation of geometric transformations	9 hours
<u>Unit-IV</u>	
Digital units: pixels, points, picas, inches and centimeters, Image dimensions and aspect ratios, Screen resolution, PPI and DPI, File size estimation and storage calculations, RGB, CMYK and hexadecimal color values, Translation, rotation, scaling and reflection, Composite transformations in 2D graphics	9 hours
<u>Unit-V</u>	
Introduction to mathematical modeling in computer graphics, Parametric representation of curves, Bézier curves and spline concepts, Surface representation fundamentals, Three-dimensional coordinate systems, Projection and viewing concepts in computer graphics	9 hours

Suggested Readings:

1. John Vince, *Mathematics for Computer Graphics*, Springer.
2. John Vince, *Geometry for Computer Graphics*.
3. David Salomon, *Transformations and Projections in Computer Graphics*.
4. Alan Watt and Mark Watt, *Advanced Animation and Rendering Techniques*.

Reference Books:

1. Foley, van Dam, Feiner and Hughes, *Computer Graphics: Principles and Practice*.
2. Rogers and Adams, *Mathematical Elements for Computer Graphics*.
3. Francis D.K. Ching, *Design Drawing*.
4. Timothy Samara, *Making and Breaking the Grid*.

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Course Code: UGCA2602

Course Name: Fundamentals of Computer and IT

Program: B.Sc in Graphics and Web Designing	L: 3 T: 1 P: 0
Branch: Computer Applications	Credits: 4
Semester: 1 st	Contact hours: 44 hours
Internal max. marks: 40	Theory/Practical: Theory
External max. marks: 60	Duration of end semester exam (ESE): 3hrs
Total marks: 100	Elective status: Core

Course Outcomes: After studying this course, students will be able to:

CO#	Course outcomes
CO1	Understanding the concept of input and output devices of Computers
CO2	Learn the functional units and classify types of computers, how they process information and how individual computers interact with other computing systems and devices.
CO3	Understand an operating system and its working, and solve common problems related to operating systems
CO4	Learn basic word processing, Spreadsheet and Presentation Graphics Software skills.
CO5	Study to use the Internet safely, legally, and responsibly

Detailed Contents	Contact hours
Unit-I Human Computer Interface Concepts of Hardware and Software; Data and Information. Functional Units of Computer System: CPU, registers, system bus, main memory unit, cache memory, Inside a computer, SMPS, Motherboard, Ports and Interfaces, expansion cards, ribbon cables, memory chips, processors. Devices: Input and output devices (with connections and practical demo), keyboard, mouse, joystick, scanner, OCR, OMR, bar code reader, web camera, monitor, printer, plotter. Memory: Primary, secondary, auxiliary memory, RAM, ROM, cache memory, hard disks, optical disks. Data Representation: Bit, Byte, Binary, Decimal, Hexadecimal, and Octal Systems, Conversions and Binary Arithmetic (Addition/ Subtraction/ Multiplication) Applications of IT.	12

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Unit-II Concept of Computing, Types of Languages: Machine, assembly and High level Language; Operating system as user interface, utility programs. Word processing: Editing features, formatting features, saving, printing, table handling, page settings, spell-checking, macros, mail-merge, equation editors.	10
Unit-III Spreadsheet: Workbook, worksheets, data types, operators, cell formats, freeze panes, editing features, formatting features, creating formulas, using formulas, cell references, replication, sorting, filtering, functions, Charts & Graphs. Presentation Graphics Software: Templates, views, formatting slide, slides with graphs, animation, using special features, presenting slide shows.	10
Unit-IV Electronic Payment System: Secure Electronic Transaction, Types of Payment System: Digital Cash, Electronic Cheque, Smart Card, Credit/Debit Card E-Money, Bit Coins and Crypto currency, Electronic Fund Transfer (EFT), Unified Payment Interface (UPI), Immediate Payment System (IMPS), Digital Signature and Certification Authority. Introduction to Bluetooth, Cloud Computing, Big Data, Data Mining, Mobile Computing and Embedded Systems and Internet of Things (IoT)	12

Textbooks:

1. Introduction to Information Technology, ITL Education Solutions limited, Pearson Education, second edition, 2012.
2. Computer Fundamentals , A. Goel, Pearson Education, First edition, 2010.
3. Fundamentals of Computers, P. K.Sinha & P. Sinha, BPB Publishers, Reprint Edition 2018 edition (30 November 2004).
4. “Introduction to Information Technology”, Satish Jain, Ambrish Rai & Shashi Singh, Paperback Edition, BPB Publications, 2014.
5. IT Tools, R.K. Jain, Khanna Publishing House.

Reference Books:

1. “Introduction to Computers”, Peter Norton, McGraw Hill Education; 7 edition (1 July 2017).
2. Computers Today, D. H. Sanders, McGraw Hill. First Edition edition (1983)
3. “Computers”, Larry long & Nancy long, Twelfth edition, Prentice Hall. (January 13, 2004)
4. Problem Solving Cases in Microsoft Excel, Joseph Brady & Ellen F Monk, Thomson Learning , Cengage Learning; 15 edition (February 23, 2017).

E Books/ Online learning material

1. www.sakshat.ac.in
2. <https://swayam.gov.in/course/4067-computer-fundamentals>

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Course Code: UGAM2601

Course Name: Introduction to Multimedia & Digital Creativity

Program: B.Sc in Multimedia	L: 3 T: 1 P: 0
Branch: Computer Applications	Credits: 4
Semester: 1 st	Contact hours: 44 hours
Theory/Practical: Theory	Theory/Practical: Theory
Internal max. marks: 40	Duration of end semester exam (ESE): 3hrs
External max. marks: 60	Elective status: Core
Total marks: 100	

Course Objectives:

The course is designed to: Introduce students to the fundamentals of multimedia and digital media, Develop understanding of multimedia components and applications, Familiarize students with digital creativity tools and workflows, Enhance creative thinking and multimedia communication skills, Prepare students for advanced studies in animation and multimedia production.

Course Outcomes: After studying this course, students will be able to:

CO#	Course outcomes
CO1	Understand the concepts and applications of multimedia and digital creativity.
CO2	Identify various multimedia elements and production processes.
CO3	Apply creative thinking in multimedia content development
CO4	Demonstrate basic knowledge of digital media tools and technologies.
CO5	Develop multimedia concepts for creative communication projects.

Detailed Contents	Contact hours
Unit-I Introduction to Multimedia, Meaning and scope of multimedia, Evolution of multimedia, Components of multimedia, Text, graphics, audio, video, animation, Applications of multimedia in education, entertainment, advertising, and digital media industries.	10
Unit-II Digital Creativity & Visual Communication, Creative thinking process, Digital storytelling concepts, Visual communication basics, Principles of multimedia design, Interactive media concepts, Multimedia project planning.	11

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Unit-III Multimedia Production Process, Stages of multimedia production, Pre-production, production, and post-production, Multimedia hardware and software basics, File formats and digital media types, Digital Productions Specifications (Pixel and Resolution, DPI and PPI, RGB and CYMK, Aspect Ratio, File formats(JPEG,PNG,SVG,MP4) AI Assisted Creativity(Into to Gen AI, AI In graphics, Ai in Animation, Ethical Use of AI)	11
Unit-IV Emerging Trends in Multimedia, Social media content creation, Web and mobile multimedia, Introduction to animation and motion graphics, AI-assisted creative tools, Career opportunities in animation and multimedia industry. Digital Content Creations(Social Media Content, Reels and Short Videos, Creator Economy Basics)	12

Software Integration: Students must use Adobe Photoshop, Canva, MS PowerPoint for multimedia presentations, digital content creation, and creative assignments.

Suggested Practical Exercises: Multimedia presentation design, Digital poster creation, Storyboard preparation, Creative content planning, Social media creative design, Multimedia project documentation, visual storytelling exercises

Suggested Readings

1. Tay Vaughan, *Multimedia: Making It Work*, McGraw Hill.
2. Nigel Chapman & Jenny Chapman, *Digital Multimedia*, Wiley Publications.
3. Fred Halsall, *Multimedia Communications*, Pearson Education.
4. Ze-Nian Li & Mark Drew, *Fundamentals of Multimedia*, Springer.

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Course Code: UGAM2602

Course Name: Digital Creativity Lab

Program: B.Sc in Graphics and Web Designing	L: 0 T: 0 P: 4
Branch: Computer Applications	Credits: 2
Semester: 1 st	Contact hours: 4 Hours per week
Internal max. marks: 60	Theory/Practical: Practical
External max. marks: 40	Duration of end semester examinations (ESE): ---
Total marks: 100	Elective status: Core

COURSE OBJECTIVES

The course is designed to: Introduce students to digital creativity tools and multimedia applications, Develop practical skills in digital content creation and editing, Enhance creativity through computer-based design exercises, Familiarize students with digital workflows and multimedia production techniques, Prepare students for advanced animation and multimedia software training.

COURSE OUTCOMES

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

CO#	Course outcomes
CO1	Understand basic digital creativity and multimedia production processes.
CO2	Create simple digital graphics and multimedia content using creative software tools.
CO3	Apply digital editing and composition techniques in creative projects.
CO4	Develop visual communication materials for digital platforms.
CO5	Prepare portfolio-ready multimedia assignments and creative presentations.

COURSE CONTENTS

Detailed Contents	Contact hours
UNIT I Introduction to Digital Creativity, Basics of digital media, Computer graphics fundamentals, Digital imaging concepts, Introduction to creative software tools, Multimedia workflow basics, File formats and digital assets.	11
UNIT II Digital Design Practice, Image editing basics, Layer management, Selection and masking tools, Color correction techniques, Typography practice, Creative composition exercises.	11

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UNIT IV Creative Multimedia Applications, Digital portfolio preparation, Multimedia project workflow, Visual communication design, Interactive media concepts, Creative project presentation, Portfolio enhancement techniques.	11
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SOFTWARE INTEGRATION: Students may use Adobe Photoshop, Canva, CorelDRAW, MS PowerPoint for digital content creation, multimedia assignments, and portfolio development.

SUGGESTED PRACTICAL EXERCISES: Digital poster design, Social media creative development, Image editing assignments, Typography exercises, Multimedia presentation design, Banner and layout creation, Digital portfolio sheets

SUGGESTED READINGS

1. Tay Vaughan, *Multimedia: Making It Work*, McGraw Hill.
2. Nigel Chapman & Jenny Chapman, *Digital Multimedia*, Wiley Publications.
3. Adobe Press, *Adobe Photoshop Classroom in a Book*, Adobe Press.
4. Robin Williams, *The Non-Designer's Design Book*, Peachpit Press.
5. David Dabner, *Graphic Design School*, Thames & Hudson.

Course Code: UGCA2605

Course Name: Drawing and Sketching Lab

Program: B.Sc. in Graphics and Web Designing	L: 0 T: 0 P: 4
Branch: Computer Applications	Credits: 2
Semester: 1 st	Contact hours: 4 Hours per week
Theory/Practical: Practical	Duration of end semester exam (ESE): ---
Internal max. marks: 60	Elective status: Core
External max. marks: 40	
Total marks: 100	

Course Objectives:

The course is designed to develop practical drawing and sketching skills essential for graphic and web design professionals. It emphasizes observation, visualization, freehand drawing, perspective techniques, object construction, and creative representation. The course enables students to translate ideas into visual forms through sketching and concept development exercises. It encourages artistic expression, creative thinking, and the development of visual communication skills required for design projects. The course also serves as a foundation for illustration, interface design, storyboarding, branding, and digital design applications.

Course Outcomes: After studying this course, students will be able to:

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CO#	Course Outcomes
CO1	Demonstrate proficiency in freehand drawing and sketching techniques
CO2	Apply perspective, proportion, shading, and composition principles in visual representation.
CO3	Create observational sketches of objects, products, and human forms with accuracy.
CO4	Develop creative concepts and communicate ideas through sketches and visual layouts.
CO5	Prepare presentation-quality drawing sheets and visual studies for design projects.

Detailed Contents	Contact hours
UNIT-I Basic Drawing Exercises: Freehand drawing techniques, line quality and control, geometric shape construction, object studies, contour drawing, observational sketching, visual perception exercises, hand-eye coordination development.	12
Unit-II Perspective & Rendering Techniques: One-point and two-point perspective drawing, scale and proportion, light and shadow studies, tonal rendering, texture representation, depth creation, composition and visual balance exercises	10
Unit-III Human Figure & Environmental Sketching: Human proportions, facial features and expressions, gesture drawing, environmental sketching, indoor and outdoor scene studies, visual storytelling through sketches, character observation techniques.	10
UNIT IV Creative Sketch Development: Concept sketching, thumbnail development, storyboard sketches, logo roughs, packaging concepts, website layout roughs, interface sketches, presentation rendering techniques and portfolio sheet preparation.	12

Software Integration: Students may use Adobe Photoshop, Adobe Fresco, SketchBook, Krita, Canva and Figma for digital sketch enhancement, rendering, concept visualization, storyboard creation, interface sketching and portfolio presentation.

Suggested Practical Exercises: Freehand sketching exercises., Line, shape and form studies., Perspective drawing sheets., Object and product sketching., Human figure and facial expression studies., Light and shadow rendering exercises., Creative visualization sketches., Website wireframe rough sketches., User interface concept sketches., Storyboard and visual storytelling panels., Portfolio presentation sheets.

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Suggested Readings

1. Bert Dodson, *Keys to Drawing*, North Light Books.
2. Barrington Barber, *The Fundamentals of Drawing*, Arcturus Publishing.
3. Douglas Cooper, *Drawing and Perceiving*, Wiley Publications.
4. Robert W. Gill, *Rendering with Pen and Ink*, Thames & Hudson.
5. Giovanni Civardi, *Drawing: A Complete Guide*, Search Press.

Course Code: UGCA2606

Course Name: Fundamentals of Computer and IT Laboratory

Program: B.Sc in Graphics and Web Designing	L: 0 T: 0 P: 4
Branch: Computer Applications	Credits: 2
Semester: 1 st	Contact hours: 4 Hours per week
Internal max. marks: 60	Theory/Practical: Practical
External max. marks: 40	Duration of end semester exam (ESE): ---
Total marks: 100	Elective status: Core

Prerequisite: -NA-

Co requisite: -NA-

Additional material required in ESE: - NA-

Course Outcomes: After studying this course, students will be able to:

CO#	Course outcomes
CO1	Familiarizing with Open Office (Word processing, Spreadsheets and Presentation).
CO2	To acquire knowledge on editor, spread sheet and presentation software.
CO3	The students will be able to perform documentation and accounting operations.
CO4	Students can learn how to perform presentation skills.

Instructions:

Word Orientation:

The instructor needs to give an overview of word processor.

Details of the four tasks and features that would be covered Using word – Accessing, overview of toolbars, saving files, Using help and resources, rulers, format painter.

1.	Using word to create Resume Features to be covered: - Formatting Fonts in word, Drop Cap in word, Applying Text effects, Using Character Spacing, Borders and Colors, Inserting Header and Footer, Using Date and Time option in Word.
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2.	Creating an Assignment Features to be covered: - Formatting Styles, Inserting table, Bullets and Numbering, Changing Text Direction, Cell alignment, Footnote, Hyperlink, Symbols, Spell Check, Track Changes.
3.	Creating a Newsletter Features to be covered :- Table of Content, Newspaper columns, Images from files and clipart, Drawing toolbar and Word Art, Formatting Images, Textboxes and Paragraphs
4.	Creating a Feedback form Features to be covered:- Forms, Text Fields, Inserting objects, Mail Merge in Word.
Excel Orientation: The instructor needs to tell the importance of Excel as a Spreadsheet tool, give the details of the four tasks and features that would be covered Excel – Accessing, overview of toolbars, saving excel files,	
1.	Creating a Scheduler Features to be covered :- Gridlines, Format Cells, Summation, auto fill, Formatting Text
2.	Calculations Features to be covered :- Cell Referencing, Formulae in excel – average, std.deviation, Charts, Renaming and Inserting worksheets, Hyper linking, Count function, LOOKUP/VLOOKUP
3.	Performance Analysis Features to be covered :- Split cells, freeze panes, group and outline, Sorting, Boolean and logical operators, Conditional formatting
4.	Game (like Cricket, badminton) Score Card Features to be covered :- Pivot Tables, Interactive Buttons, Importing Data, Data Protection, Data Validation
Presentation Orientation:	
1.	Students will be working on basic power point utilities and tools which help them create basic power point presentation. Topic covered includes :- PPT Orientation, Slide Layouts, Inserting Text, Word Art, Formatting Text, Bullets and Numbering, Auto Shapes, Lines and Arrows
2.	This session helps students in making their presentations interactive. Topics covered includes : Hyperlinks, Inserting –Images, Clip Art, Audio, Video, Objects, Tables and Charts
3.	Concentrating on the in and out of Microsoft power point. Helps them learn best practices in designing and preparing power point presentation. Topics covered includes: - Master Layouts (slide, template, and notes), Types of views (basic, presentation, slide slotter, notes etc), Inserting – Background, textures, Design Templates, Hidden slides. Auto content wizard, Slide Transition, Custom Animation, Auto Rehearsing

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4.	Power point test would be conducted. Students will be given model power point presentation which needs to be replicated
Internet and its Applications The instructor needs to tell the how to configure Web Browser and to use search engines by defining search criteria using Search Engines	
1.	To learn to setup an e-mail account and send and receive e-mails
2.	To learn to subscribe/post on a blog and to use torrents for accelerated downloads
3.	Hands on experience in online banking and Making an online payment for any domestic bill

Reference Books:

1. IT Tools, R.K. Jain, Khanna Publishing House.
2. Introduction to Information Technology, ITL Education Solutions limited, Pearson Education, second edition, 2012.
3. Introduction to information technology, Turban, Rainer and Potter, John Wiley and Sons, 3rd Edition edition (24 May 2004).
4. Problem Solving Cases in Microsoft Excel, Joseph Brady & Ellen F Monk, Thomson Learning, Cengage Learning; 15 edition (February 23, 2017).

AECC (For UGC courses)

BTHU103-18 English:

Program: B.Sc. in Multimedia	L: 1 T: 0 P: 0
Branch: Computer Applications	Credits: 1
Semester: 1 st	Contact hours: --
Theory/Practical: Theory	Percentage of numerical/design problems: --
Internal max. marks: 40	Duration of end semester exam (ESE): --
External max. marks: 60	Elective status: core/elective: --
Total marks: 100	

Course Outcomes: After studying this course, students will be able to:

CO#	Course Outcomes
CO1	The objective of this course is to introduce students to the theory, fundamentals and tools of communication.

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CO2	To help the students become the independent users of English language.
CO3	To develop in them vital communication skills which are integral to their personal, social and professional interactions.
CO4	The syllabus shall address the issues relating to the Language of communication. Students will become proficient in professional communication such as interviews, group discussions, office environments, important reading skills as well as writing skills such as report writing, note taking etc.

The recommended readings given at the end are only suggestive; the students and teachers have the freedom to consult other materials on various units/topics given below. Similarly, the questions in the examination will be aimed towards assessing the skills learnt by the students rather than the textual content of the recommended books.

Detailed Contents:

Unit1- 1 (Introduction)

- Theory of Communication
- Types and modes of Communication

Unit- 2 (Language of Communication)

- Verbal and Non-verbal
- (Spoken and Written)
- Personal, Social and Business
- Barriers and Strategies
- Intra-personal, Inter-personal and Group communication

Unit-3 (Reading and Understanding)

- Close Reading
- Comprehension
- Summary Paraphrasing
- Analysis and Interpretation
- Translation (from Hindi/Punjabi to English and vice-versa)

OR

Precise writing /Paraphrasing (for International Students)

- Literary/Knowledge Texts

Unit-4 (Writing Skills)

- Documenting
- Report Writing
- Making notes
- Letter writing

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Recommended Readings:

1. *Fluency in English* - Part II, Oxford University Press, 2006.
2. *Business English*, Pearson, 2008.
3. *Language, Literature and Creativity*, Orient Blackswan, 2013.
4. *Language through Literature* (forthcoming) ed. Dr. Gauri Mishra, DrRanjanaKaul, Dr Brati Biswas
5. *On Writing Well*. William Zinsser. Harper Resource Book. 2001
6. *Study Writing*. Liz Hamp-Lyons and Ben Heasley. Cambridge University Press. 2006.

AECC

Course Code: BTHU104/18

Course Name: English Practical/Laboratory

Program: B.Sc in Multimedia	L: 0 T: 0 P: 2
Branch: Computer Applications	Credits: 1
Semester: 1 st	Contact hours:
Theory/Practical: Practical	Percentage of numerical/design problems: --
Internal max. marks: 30	Duration of end semester exam (ESE):
External max. marks: 20	Elective status:
Total marks: 50	

Course Outcomes: After studying this course, students will be able to:

CO#	Course Outcomes
CO1	The objective of this course is to introduce students to the theory, fundamentals and tools of communication.
CO2	To help the students become the independent users of English language.
CO3	To develop in them vital communication skills which are integral to their personal, social and professional interactions.
CO4	The syllabus shall address the issues relating to the Language of communication. Students will become proficient in professional communication such as interviews, group discussions, office environments, important reading skills as well as writing skills such as report writing, note taking etc.

The recommended readings given at the end are only suggestive; the students and teachers have the freedom to consult other materials on various units/topics given below. Similarly, the questions in the examination will be aimed towards assessing the skills learnt by the students rather than the textual content of the recommended books.

Interactive practice sessions in Language Lab on Oral Communication

- Listening Comprehension
- Self-Introduction, Group Discussion and Role Play

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- Common Everyday Situations: Conversations and Dialogues
- Communication at Workplace
- Interviews
- Formal Presentations
- Monologue
- Effective Communication/ Mis- Communication
- Public Speaking

Recommended Readings:

1. *Fluency in English* - Part II, Oxford University Press, 2006.
2. *Business English*, Pearson, 2008.
3. *Practical English Usage*. Michael Swan. OUP. 1995.
4. *Communication Skills*. Sanjay Kumar and PushpLata. Oxford University Press. 2011.
5. *Exercises in Spoken English*. Parts. I-III. CIEFL, Hyderabad. Oxford University Press, 1997.

Course Code: HVPE101-18

Course Name: Human Values, De-addiction and Traffic Rules

Program: B.Sc in Multimedia	L: 3 T: 0 P: 0
Branch: Computer Applications	Credits: 3
Semester: 1 st	Contact hours: 33 hours
Internal max. marks: 40	Theory/Practical: Theory
External max. marks: 60	Duration of end semester exam (ESE): 3hrs
Total marks: 100	Elective status: Ability Enhancement

Prerequisite: -NA-

Co requisite: -NA-

Additional material required in ESE: -NA-

Course Outcomes: After studying this course, students will be able to:

CO#	Course outcomes
CO1	To help the students appreciate the essential complementarity between ‘VALUES’ and ‘SKILLS’ to ensure sustained happiness and prosperity which are the core aspirations of all human beings.

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CO2	To facilitate the development of a Holistic perspective among students towards life, profession and happiness, based on a correct understanding of the Human reality and the rest of Existence. Such a holistic perspective forms the basis of Value based living in a natural way.
CO3	To highlight plausible implications of such a Holistic understanding in terms of ethical human conduct, trustful and mutually satisfying human behavior and mutually enriching interaction with Nature.

Note: This course is intended to provide a much needed orientational input in Value Education to the young enquiring minds.

Detailed Contents	Contact hours
Unit-I Course Introduction - Need, Basic Guidelines, Content and Process for Value Education 1. Understanding the need, basic guidelines, content and process for Value Education 2. Self-Exploration—what is it? - its content and process; ‘Natural Acceptance’ and Experiential Validation- as the mechanism for self-exploration 3. Continuous Happiness and Prosperity- A look at basic Human Aspirations 4. Right understanding, Relationship and Physical Facilities- the basic requirements for fulfillment of aspirations of every human being with their correct priority 5. Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario 6. Method to fulfill the above human aspirations: understanding and living in harmony at various levels	8
Unit-II Understanding Harmony in the Human Being - Harmony in Myself! 1. Understanding human being as a co-existence of the sentient ‘I’ and the material ‘Body’	8

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2. Understanding the needs of Self ('I') and 'Body' - <i>SukhandSuvidha</i> 3. Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer) 4. Understanding the characteristics and activities of 'I' and harmony in 'I' 5. Understanding the harmony of I with the Body: <i>Sanyam</i> and <i>Swasthya</i>; correct appraisal of Physical needs, meaning of Prosperity in detail 6. Programs to ensure <i>Sanyam</i> and <i>Swasthya</i> - Practice Exercises and Case Studies will be taken up in Practice Sessions.	
Unit-III Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship 1. Understanding harmony in the Family- the basic unit of human interaction 2. Understanding values in human-human relationship; meaning of <i>Nyaya</i> and program for its fulfillment to ensure <i>Ubhay-tripti</i>; Trust (<i>Vishwas</i>) and Respect (<i>Samman</i>) as the foundational values of relationship 3. Understanding the meaning of <i>Vishwas</i>; Difference between intention and competence 4. Understanding the meaning of <i>Samman</i>, Difference between respect and differentiation; the other salient values in relationship 5. Understanding the harmony in the society (society being an extension of family): <i>Samadhan</i>, <i>Samridhi</i>, <i>Abhay</i>, <i>Sah-astitva</i> as comprehensive Human Goals 6. Visualizing a universal harmonious order in society- Undivided Society (<i>AkhandSamaj</i>), Universal Order (<i>SarvabhaumVyawastha</i>)- from family to world family! - Practice Exercises and Case Studies will be taken up in Practice Sessions.	6
Unit-IV Understanding Harmony in the Nature and Existence - Whole existence as Co-existence 1. Understanding the harmony in the Nature 2. Interconnectedness and mutual fulfillment among the four orders of nature- recyclability and self-regulation in nature 3. Understanding Existence as Co-existence (<i>Sah-astitva</i>) of mutually	5

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interacting units in all-pervasive space 4. Holistic perception of harmony at all levels of existence - Practice Exercises and Case Studies will be taken up in Practice Sessions.	
Unit-V Implications of the above Holistic Understanding of Harmony on Professional Ethics 1. Natural acceptance of human values 2. Definitiveness of Ethical Human Conduct 3. Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order 4. Competence in professional ethics: a) Ability to utilize the professional competence for augmenting universal human order, b) Ability to identify the scope and characteristics of people-friendly and eco-friendly production systems, c) Ability to identify and develop appropriate technologies and management patterns for above production systems. 5. Case studies of typical holistic technologies, management models and production systems 6. Strategy for transition from the present state to Universal Human Order: a) At the level of individual: as socially and ecologically responsible engineers, technologists and managers b) At the level of society: as mutually enriching institutions and organizations.	6

Text Book

1. R R Gaur, R Sangal, G P Bagaria, 2009, *A Foundation Course in Value Education*.

Reference Books

1. Ivan Illich, 1974, *Energy & Equity*, The Trinity Press, Worcester, and HarperCollins, USA.
2. E.F. Schumacher, 1973, *Small is Beautiful: a study of economics as if people mattered*, Blond & Briggs, Britain.
3. A Nagraj, 1998, *Jeevan Vidyaek Parichay*, Divya Path Sansthan, Amarkantak.
4. Sussan George, 1976, *How the Other Half Dies*, Penguin Press. Reprinted 1986, 1991.

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5. PL Dhar, RR Gaur, 1990, *Science and Humanism*, Commonwealth Publishers.
6. A.N. Tripathy, 2003, *Human Values*, New Age International Publishers.
7. Subhas Palekar, 2000, *How to practice Natural Farming*, Pracheen (Vaidik) Krishi Tantra Shodh, Amravati.
8. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, *Limits to Growth – Club of Rome's report*, Universe Books.
9. E G Seebauer & Robert L. Berry, 2000, *Fundamentals of Ethics for Scientists & Engineers*, Oxford University Press
10. M Govindrajran, S Natrajan & V.S. Senthil Kumar, *Engineering Ethics (including Human Values)*, Eastern Economy Edition, Prentice Hall of India Ltd.
11. B P Banerjee, 2005, *Foundations of Ethics and Management*, Excel Books.
12. B L Bajpai, 2004, *Indian Ethos and Modern Management*, New Royal Book Co., Lucknow. Reprinted 2008.

Relevant CDs, Movies, Documentaries & Other Literature:

1. Value Education website, <http://uhv.ac.in>
2. Story of Stuff, <http://www.storyofstuff.com>
3. Al Gore, An Inconvenient Truth, Paramount Classics, USA
4. Charlie Chaplin, Modern Times, United Artists, USA
5. IIT Delhi, Modern Technology – the Untold Story

Course Code: HVPE102-18

Course Name: Human Values, De-addiction and Traffic Rules (Lab/ Seminar)

Program: B.Sc in Multimedia	L: 0 T: 0 P: 1
Branch: Computer Applications	Credits: 1
Semester: 1 st	Contact hours:
Internal max. marks: 25	Theory/Practical: Practical
External max. marks: 0	Duration of end semester exam (ESE): --
Total marks: 25	Elective status: Ability Enhancement

One each seminar will be organized on Drug De-addiction and Traffic Rules. Eminent scholar and experts of the subject will be called for the Seminar at least once during the semester. It will be binding for all the students to attend the seminar.

SEMESTER –II

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Course Code: UGCA2607
Course Name: Web Design Fundamentals

Program: B.Sc in Multimedia	L: 3 T: 1 P: 0
Branch: Computer Applications	Credits: 4
Semester: 2 nd	Contact hours: 44 hours
Internal max. marks: 40	Theory/Practical: Theory
External max. marks: 60	Duration of end semester exam (ESE): 3hrs
Total marks: 100	Elective status: Core

Course Objectives:

The course introduces students to the fundamental concepts of web design and development. It covers website planning, design principles, user experience, web page structure using HTML, styling with CSS, responsive design concepts, and web publishing techniques. The course aims to develop the skills required to design visually appealing and user-friendly websites.

Course Outcomes: After studying this course, students will be able to:

CO#	Course Outcomes
CO1	Understand the principles and processes of web design.
CO2	Create structured web pages using HTML.
CO3	Apply CSS for styling and layout design.
CO4	Develop responsive and user-friendly web interfaces.
CO5	Design website layouts using modern design principles.
CO6	Publish and maintain simple websites.
CO7	Create a professional web design portfolio.

Detailed Contents	Contact hours
Unit I Introduction to Web Design and Internet Technologies Evolution of the World Wide Web, Types of Websites, Website Planning and Development Process, Domain Names and Web Hosting, Web Browsers and Web Standards, Principles of Good Web Design, User Interface (UI) and User Experience (UX) Basics, Website Navigation Systems.	11 hours
UNIT II: HTML Fundamentals Introduction to HTML, HTML and the World Wide Web, HTML elements, basic structure elements of HTML, creating HTML pages, HTML tags, colour and fonts, formatting the body section, creating links. Adding graphics with image elements, using image as links,	11 Hours

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image maps, image files. Adding sound and Video formats, other multimedia formats, adding multimedia to web pages, Tables, Forms and Input Controls, Semantic HTML5 Elements, Website Structure Development	
UNIT III: Cascading Style Sheets (CSS) Introduction to CSS, CSS Syntax and Selectors, Colors, Backgrounds and Borders, Typography for Web Design, CSS Box Model, Margins, Padding and Positioning, CSS Flexbox, CSS Grid Layout, Responsive Design Principles, Media Queries	11 hours
UNIT IV Web Interface Design and Publishing Layout Design Principles, Visual Hierarchy, Wire framing and Mockups, Navigation Design, Landing Page Design, Mobile-First Design Approach, Accessibility and Usability Guidelines (Web Content Accessibility Guidelines), Website Optimization Techniques, Introduction to Content Management Systems, Website Testing and Publishing, Portfolio Website Planning	11 hours

Text Books

Primary Text Book

1. Jon Duckett, HTML and CSS: Design and Build Websites, Wiley Publications.
2. HTML & CSS: The Complete Reference, Fifth Edition (English, Paperback, Powell Thomas), edition Tata McGraw-Hill, 2003.
3. Internet& Web Technologies by Raj Kamal, edition Tata McGraw-Hill Education.2009.
4. Jason Beaird, The Principles of Beautiful Web Design.
5. Steve Krug, Don't Make Me Think.

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Course Code: UGAM2603

Course Name: Photography & Audio-Video Production Basics

Program: B.Sc. in Graphics and Web Designing	L:3 T:1 P:0
Branch: Computer Applications	Credits: 4
Semester: 2 nd	Contact hours: 44 hours
Theory/Practical: Theory	Duration of end semester exam (ESE): 3hrs
Internal max. marks: 40	Elective status: Core
External max. marks: 60	
Total marks: 100	

COURSE OBJECTIVES: The course is designed to: Introduce students to photography and audio-video production fundamentals, Develop understanding of camera operations and composition techniques, Enhance storytelling through photography and video production, Build practical knowledge of audio-video recording and editing workflows, Prepare students for multimedia production and digital content creation.

COURSE OUTCOMES

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

CO1: Understand photography and audio-video production concepts.

CO2: Apply camera techniques and visual composition principles effectively.

CO3: Create basic photography and video production projects.

CO4: Demonstrate understanding of audio recording and editing techniques.

CO5: Develop multimedia storytelling projects using photo and video content.

COURSE CONTENTS

Detailed Contents	Contact hours
UNIT I Introduction to Photography, History and scope of photography, Types of cameras, Camera operations and settings, Exposure triangle, Composition techniques, Lighting fundamentals. Camera Fundamentals (ISO, Aperture, Shutter Speed, Exposure Triangle)	11
UNIT II Photography Techniques, Portrait photography, Product photography, Outdoor and indoor photography, Photo storytelling, Image framing and composition, Digital photography workflow.	11
UNIT III Audio & Video Production Basics, Introduction to audio recording, Microphones and sound basics, Video production process, Camera movements and angles, Shot composition, Storyboarding basics. Video Storytelling (Shot Types, Camera Angles, Shot composition, Storytelling through video)	11

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UNIT IV Editing & Multimedia Production, Basics of photo editing, Introduction to video editing, Audio synchronization, Multimedia storytelling, Social media video production, Digital content creation workflow. Audio Basic(Voice Recording, Background Music, Sound Effects, Noise Reduction)	11
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SOFTWARE INTEGRATION: Students may use Adobe Lightroom, Adobe Premiere Pro, Adobe Photoshop, Audacity for photography enhancement, audio editing, and video production assignments.

SUGGESTED PRACTICAL EXERCISES: Photography composition exercises, Portrait and product photography, Lighting practice assignments, Audio recording exercises, Short video production, Storyboard preparation, Video editing practice

SUGGESTED READINGS

1. Michael Langford, *Basic Photography*, Focal Press.
2. Tom Ang, *Digital Photography Masterclass*, DK Publications.
3. Herbert Zettl, *Video Basics*, Cengage Learning.
4. Bruce Block, *The Visual Story*, Focal Press.
5. Walter Murch, *In the Blink of an Eye*, Silman-James Press.

Course Code: UGAM2604

Course Name: Graphic Design & Digital Illustration

Program: B.Sc. in Multimedia	L:3 T:1 P:0
Branch: Computer Applications	Credits: 4
Semester: 2 nd	Contact hours: 44 hours
Internal max. marks: 40	Theory/Practical: Theory
External max. marks: 60	Duration of end semester exam (ESE): 3hrs
Total marks: 100	Elective status: Core

BAM201-26: Graphic Design & Digital Illustration

COURSE OBJECTIVES

The course is designed to: Develop understanding of graphic design and digital illustration principles, Introduce students to raster and vector graphic workflows, Enhance creativity in visual communication and branding design, Build practical skills in image editing and digital illustration techniques, Prepare students for professional graphic design and multimedia production environments.

COURSE OUTCOMES

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

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CO1: Understand principles of graphic design and digital illustration.

CO2: Apply raster and vector editing techniques in creative projects.

CO3: Create digital illustrations and branding materials professionally.

CO4: Demonstrate understanding of composition, color, and visual hierarchy.

CO5: Develop creative graphic assets for multimedia and digital media applications.

COURSE CONTENTS

Detailed Contents	Contact hours
UNIT I: Introduction to Graphic Design, Meaning and scope of graphic design, Raster and vector graphics, Principles of visual communication, Design workflow basics, Graphic design applications, Creative composition concepts.	11
UNIT II: Digital Illustration Techniques, Drawing tools and brushes, Shape and path creation, Layer management, Color application techniques, Typography integration, Illustration workflow methods.	11
UNIT III: Image Editing & Branding Design, Photo retouching concepts, Image manipulation techniques, Poster and advertisement design, Branding basics, Social media creatives, Layout and composition methods.	11
UNIT IV: Creative Graphic Production, Digital painting basics, Packaging and promotional design, Portfolio artwork preparation, Export formats and optimization, Creative presentation techniques, Multimedia graphic applications.	11

SOFTWARE INTEGRATION

Students may use: Adobe Photoshop, Adobe Illustrator, CorelDRAW, Canva for graphic design and digital illustration assignments. Inkscape

SUGGESTED PRACTICAL EXERCISES

- Vector illustration exercises
- Digital painting practice
- Poster and banner design
- Social media creative design
- Photo retouching assignments
- Branding and logo design
- Portfolio presentation sheets

SUGGESTED READINGS

1. David Dabner, *Graphic Design School*, Thames & Hudson.
2. Robin Williams, *The Non-Designer's Design Book*, Peachpit Press.
3. Derek Lea, *Creative Photoshop*, Focal Press.
4. Von Glitschka, *Vector Basic Training*, Peachpit Press.
5. Ellen Lupton, *Graphic Design: The New Basics*, Princeton Architectural Press.

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Course Code: UGCA2610

Course Name: Web Design Laboratory

Program: B.Sc in Graphics and Web Designing	L:0 T:0 P:4
Branch: Computer Applications	Credits: 2
Semester: 2 nd	Contact hours: 4 Hours per week
Internal max. marks: 60	Theory/Practical: Practical
External max. marks: 40	Duration of end semester exam (ESE): ---
Total marks: 100	Elective status: Core

Course Objectives

The course is designed to provide practical training in website design and front-end web development using contemporary web technologies. It enables students to apply web design principles, responsive design techniques, user-centered design concepts, and digital publishing standards in real-world web projects. The course emphasizes website planning, layout development, interface design, content organization, and implementation using HTML and CSS. It develops technical proficiency, creative problem-solving abilities, and professional workflow practices required for designing modern websites. The course also prepares learners for advanced studies in web development, UI/UX design, content management systems, and interactive media.

Course Outcomes: After studying this course, students will be able to:

CO#	Course outcomes
CO1	Demonstrate proficiency in designing and developing static and responsive web pages.
CO2	Apply web design principles, layout techniques, and usability considerations in website projects.
CO3	Create visually appealing and user-friendly website interfaces using HTML, CSS, and modern design practices.
CO4	Develop structured web content and navigation systems suitable for diverse digital platforms.
CO5	Produce professional-quality website projects and web design portfolios for academic and industry applications.

Detailed Contents	Contact hours
Unit-I Website Planning & Interface Design: Website planning process, sitemap creation, content organization, wireframing techniques, page layout structures, navigation systems, user-centered design principles, visual hierarchy and interface planning.	10

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Unit-II HTML-Based Web Development: Web page structure, semantic HTML elements, text formatting, hyperlinks, images, lists, tables, forms, multimedia integration, page organization and website construction techniques.	12
Unit-III CSS Styling & Responsive Design: CSS fundamentals, selectors and properties, typography styling, colour schemes, layout design, flexbox concepts, responsive design principles, media queries, mobile-friendly design and cross-device compatibility.	10
Unit-IV Website Production & Publishing: Website testing techniques, usability evaluation, accessibility considerations, optimization methods, web publishing procedures, hosting concepts, domain management basics, portfolio website development and project presentation.	12

Software Integration: Students may use Visual Studio Code, Figma, Adobe XD, Adobe Dreamweaver, Bootstrap, Google Fonts and browser developer tools for website development, interface design, responsive layouts, testing and project deployment.

Suggested Practical Exercises: Website planning exercises., Sitemap development., Wireframe creation assignments., HTML page development., Navigation menu design., Contact form creation., CSS styling projects., Responsive webpage development., Landing page design., Portfolio website creation., Website testing activities., Project presentation sheets.

Suggested Readings

1. Jon Duckett, *HTML and CSS: Design and Build Websites*, Wiley.
2. Jennifer Niederst Robbins, *Learning Web Design*, O'Reilly Media.
3. Ethan Marcotte, *Responsive Web Design*, A Book Apart.
4. David McFarland, *HTML, CSS & JavaScript All-in-One for Dummies*, Wiley.
5. Keith J. Grant, *CSS in Depth*, Manning Publications.

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Course Code: UGAM2605

Course Name: Photography & Video Editing Lab

Program: B.Sc. in Multimedia	L: 0 T: 0 P: 4
Branch: Computer Applications	Credits: 2
Semester: 2 nd	Contact hours: 4 Hours per week
Internal max. marks: 60	Theory/Practical: Practical
External max. marks: 40	Duration of end semester exam (ESE): ---
Total marks: 100	Elective status: Core

COURSE OBJECTIVES

The course is designed to: Develop practical skills in photography and video editing techniques, Enhance creativity in visual storytelling and multimedia production, Build understanding of camera handling, composition, and lighting methods, Familiarize students with digital editing workflows and post-production processes, Prepare students for professional multimedia and digital content production environments.

COURSE OUTCOMES

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

C01: Apply photography composition and camera techniques effectively.

C02: Demonstrate practical understanding of lighting and visual storytelling methods.

C03: Create edited multimedia videos using professional editing workflows.

C04: Apply audio-video synchronization and visual enhancement techniques.

C05: Develop creative photography and video production portfolio projects.

COURSE CONTENTS

Detailed Contents	Contact hours
UNIT I: Photography Practice, Camera handling techniques, Exposure and composition exercises, Portrait photography, Product photography, Indoor and outdoor photography, Creative framing methods.	10
UNIT II: Lighting & Visual Composition, Natural and artificial lighting practice, Shadow and reflection studies, Background setup techniques, Storytelling through images, Photo sequencing exercises.	12
UNIT III: Video Editing Practice, Video importing and sequencing, Timeline editing workflow, Audio synchronization, Transitions and effects, Color correction basics, Video rendering methods.	10
UNIT IV: Creative Multimedia Production, Social media video production, Promotional video editing, Slideshow and multimedia presentation, Short video storytelling, Portfolio preparation, Final multimedia presentation.	12

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SOFTWARE INTEGRATION

Students may use:

- Adobe Premiere Pro
- Adobe Lightroom
- Adobe Photoshop
- Audacity

for photography enhancement and video editing projects.

SUGGESTED PRACTICAL EXERCISES

- Portrait photography assignments
- Product photography setup
- Lighting practice exercises
- Photo editing and enhancement
- Video sequencing practice
- Promotional video editing
- Social media reel production
- Multimedia storytelling project

SUGGESTED READINGS

1. Michael Langford, *Basic Photography*, Focal Press.
2. Tom Ang, *Digital Photography Masterclass*, DK Publications.
3. Herbert Zettl, *Video Basics*, Cengage Learning.
4. Walter Murch, *In the Blink of an Eye*, Silman-James Press.
5. Adobe Creative Team, *Adobe Premiere Pro Classroom in a Book*, Adobe Press.

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Course Code: UGAM2606

Course Name: Graphic Design lab

Program: B.Sc. in Multimedia	L:0 T:0 P:4
Branch: Computer Applications	Credits: 2
Semester: 2 nd	Contact hours: 4 Hours per week
Theory/Practical: Practical	Percentage of numerical/design problems: --
Internal max. marks: 60	Duration of end semester exam (ESE): --
External max. marks: 40	Elective status: Core
Total marks: 100	

COURSE OBJECTIVES

The course is designed to: Develop practical skills in graphic design and digital illustration, Enhance creativity through studio-based design exercises, Build understanding of branding and visual communication workflows, Familiarize students with professional design tools and techniques, Prepare students for portfolio and industry-oriented graphic projects.

COURSE OUTCOMES

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

CO1: Create professional graphic design compositions using digital tools.

CO2: Apply typography, color, and layout techniques in practical projects.

CO3: Develop branding and advertising design materials.

CO4: Demonstrate digital illustration and creative composition skills.

CO5: Prepare portfolio-ready graphic design assignments.

COURSE CONTENTS

Detailed Contents	Contact hours
UNIT I Graphic Design Practice, Digital illustration exercises, Shape and vector drawing, Logo sketching, Poster composition, Layout organization, Creative composition techniques.	11
UNIT II Branding & Advertising Design, Logo development, Identity design, Advertisement layouts, Brochure and banner design, Packaging concepts, Brand communication exercises.	11
UNIT III Typography & Print Media, Typography practice, Print media layouts, Magazine and brochure design, Grid systems, Social media creative layouts, Visual hierarchy applications.	11

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UNIT IV Creative Design Projects, Portfolio sheet preparation, Multimedia creative compositions, Digital campaign designs, Presentation layouts, Design workflow management, Final design presentation.	11
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SOFTWARE INTEGRATION: Students may use Adobe Illustrator, Adobe Photoshop, CorelDRAW, Canva for graphic design and digital illustration projects.

SUGGESTED PRACTICAL EXERCISES: Logo design sheets, Poster and brochure layouts, Advertisement design, Social media creatives, Packaging concepts, Typography practice, Portfolio presentation sheets

SUGGESTED READINGS

1. David Dabner, *Graphic Design School*, Thames & Hudson.
2. Robin Williams, *The Non-Designer's Design Book*, Peachpit Press.
3. Steven Heller, *Becoming a Graphic Designer*, Wiley Publications.
4. Gavin Ambrose & Paul Harris, *The Fundamentals of Graphic Design*, AVA Publishing.
5. Ellen Lupton, *Graphic Design: The New Basics*, Princeton Architectural Press.

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Ability Enhancement Compulsory Course

Course Code: EVS102-18

Course Name: Environmental Studies

Program: B.Sc. in Multimedia	L: 2 T: 0 P: 0
Branch: Computer Applications	Credits: 2
Semester: 2nd	Contact hours: --
Theory/Practical: Theory	Percentage of numerical/design problems: --
Internal max. marks: 40	Duration of end semester exam (ESE): --
External max. marks: 60	Elective status: Core
Total marks: 100	

Course Outcomes:

1. Students will enable to understand environmental problems at local and national level through literature and general awareness.
2. The students will gain practical knowledge by visiting wildlife areas, environmental institutes and various personalities who have done practical work on various environmental Issues.
3. The students will apply interdisciplinary approach to understand key environmental issues and critically analyze them to explore the possibilities to mitigate these problems.
4. Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world

UNIT-1: Introduction to Environmental Studies

Multidisciplinary nature of Environmental Studies: Scope & Importance
Need for Public Awareness

UNIT-2: Ecosystems

Concept of an Ecosystem: Structure & functions of an ecosystem (Producers, Consumers & Decomposers)

Energy Flow in an ecosystem: Food Chain, Food web and Ecological Pyramids

Characteristic features, structure & functions of following Ecosystems:

- Forest Ecosystem
- Aquatic Ecosystem (Ponds, Lakes, River & Ocean)

UNIT-3: Natural Resources

Renewable & Non-renewable resources

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Forest Resources: Their uses, functions & values (Biodiversity conservation, role in climate change, medicines) & threats (Overexploitation, Deforestation, Timber extraction, Agriculture Pressure), Forest Conservation Act

Water Resources: Their uses (Agriculture, Domestic & Industrial), functions & values, Overexploitation and Pollution of Ground & Surface water resources (Case study of Punjab), Water Conservation, Rainwater Harvesting,

Land Resources: Land as a resource; Land degradation, soil erosion and desertification

Energy Resources: Renewable & non-renewable energy resources, use of alternate energy resources (Solar, Wind, Biomass, Thermal), Urban problems related to Energy

UNIT-4: Biodiversity & its conservation

Types of Biodiversity: Species, Genetic & Ecosystem

India as a mega biodiversity nation, Biodiversity hot spots and biogeographic regions of India

Examples of Endangered & Endemic species of India, Red data book

UNIT-5: Environmental Pollution & Social Issues

Types, Causes, Effects & Control of Air, Water, Soil & Noise Pollution

Nuclear hazards and accidents & Health risks

Global Climate Change: Global warming, Ozone depletion, Acid rain, Melting of Glaciers & Ice caps, Rising sea levels

Environmental disasters: Earthquakes, Floods, Cyclones, Landslides

UNIT-6: Field Work

Visit to a National Park, Biosphere Reserve, Wildlife Sanctuary

Documentation & preparation of a Biodiversity (flora & fauna) register of campus/river/forest

Visit to a local polluted site: Urban/Rural/Industrial/Agricultural

Identification & Photography of resident or migratory birds, insects (butterflies)

Public hearing on environmental issues in a village

Suggested Books:

1. Bharucha, E. Text Book for Environmental Studies. University Grants Commission, New Delhi.
2. Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
3. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad – 380 013, India, Email:mapin@icenet.net (R)
4. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p
5. Clark R.S., Marine Pollution, Clanderson Press Oxford (TB)
6. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumabai, 1196p
7. De A.K., Environmental Chemistry, Wiley Eastern Ltd.
8. Down to Earth, Centre for Science and Environment (R)

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9. Gleick, H.P. 1993. Water in crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute Oxford Univ. Press. 473p
 10. Hawkins R.E., Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R)
 11. Heywood, V.H &Waston, R.T. 1995. Global Biodiversity Assessment. Cambridge Univ. Press 1140p.
 12. Jadhav, H &Bhosale, V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284 p.
 13. Mckinney, M.L. & School, R.M. 1996. Environmental Science systems & Solutions, Web enhanced edition. 639p.
 14. Mhaskar A.K., Matter Hazardous, Techno-Science Publication (TB)
 15. Miller T.G. Jr. Environmental Science, Wadsworth Publishing Co. (TB)
 16. Odum, E.P. 1971. Fundamentals of Ecology. W.B. Saunders Co. USA, 574p
 17. Rao M N. &Datta, A.K. 1987. Waste Water treatment. Oxford & IBH Publ. Co. Pvt. Ltd. 345p.
 18. Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut
 19. Survey of the Environment, The Hindu (M)
 20. Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (TB)
 21. Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication (TB)
 22. Wanger K.D., 1998 Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p
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