



केन्द्रीय प्रौद्योगिकी संस्थान कोकराझार
CENTRAL INSTITUTE OF TECHNOLOGY KOKRAJHAR

Deemed to be University, MoE, Govt. of India
Kokrajhar, Assam 783370

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COURSE STRUCTURE
AND
SYLLABUS FOR
DIPLOMA PROGRAMME
IN
ANIMATION AND MULTIMEDIA TECHNOLOGY
1st year (Semester II)
(APPLICABLE FROM AY 2024-2025 ONWARDS)

CENTRAL INSTITUTE OF TECHNOLOGY KOKRAJHAR

AMT Diploma 2nd Semester Course Structure & Syllabus
(In line with AICTE / NEP)

Semester – 2

Sl. No.	Course Code	Course Name	L	T	P	C
01.	DHS201	Professional Communication	2	0	2	3
02.	DCS201	Introduction to IT Systems	2	1	0	3
03.	DMD201	Elements of Multimedia	2	0	0	2
04.	DMD202	2D Animation Techniques	2	0	0	2
05.	DMD203	Audio Video Editing	2	0	0	2
06.	DCS271	Introduction to IT Systems Lab	0	0	2	1
07.	DMD271	Elements of Multimedia Lab	0	0	2	1
08.	DMD272	2D Animation Techniques Lab	0	0	6	3
09.	DMD273	Audio Video Editing Lab	0	0	6	3
	Contact Hours: 29		10	1	18	20

Objective:

1. Enhance proficiency in English language skills for effective communication.
2. Develop advanced writing skills suitable for various media platforms.
3. Understand the principles of effective verbal and non-verbal communication.
4. Explore advanced concepts in media-related language usage.
5. Apply communication strategies in diverse media contexts.

Course Content:

Module 1. Advanced Writing Techniques for Media

Writing for Digital Platforms

Editing and Proofreading Practices

Creative Storytelling and Narrative Structures

Module 2. Verbal and Non-Verbal Communication Strategies

Public Speaking and Presentation Skills

Active Listening and Responding Techniques

Effective Group Discussions and Role-plays

Cultural Sensitivity in Communication

Module 3. Professional Communication in Media Industry

Communication and Negotiation Strategies

Industry-specific Email and Office Etiquette

Project Report Writing

CV, Resume, Job Application and Interview

Module 4. Media-related Language Usage and Style

Media Literacy and Critical Analysis

Language Norms in Advertising, News, and Entertainment

Adapting Language for Target Audiences

Module 5. Language Proficiency in Different Media Genres

Language in Fiction, Non-Fiction, and Documentary

Writing for Specific Media Genres

Language Skills for Media Professionals

Module 6. Effective Communication in Visual and Digital Media

Crafting Messages for Digital and Social Media Platforms

Visual Storytelling and Infographics

Interactive Media Communication Strategies

Module 7. Multimodal Communication Skills

Integrating Visual, Verbal, and Textual Elements

Multimodal Presentations

Effectiveness of Mixed-media Communication

Course Outcome:

1. Improved proficiency in written and spoken English.
2. Advanced writing skills suitable for various media genres.
3. Enhanced understanding of effective communication principles.
4. Application of advanced language usage in media contexts.
5. Proficient communication in diverse media platforms.

Recommended Text Books and References:

1. *Media Writing: Print, Broadcast, and Public Relations* by W. Richard Whitaker, Janet E. Ramsey, Ronald D. Smith. Taylor & Francis, 2009.
2. *Creative Writing for Dummies* by Maggie Hamand. Wiley, 2012.
3. *Writing for Digital Media* by Brian Carroll. Taylor & Francis, 2023.
4. *The Art of Public Speaking* by Stephen E. Lucas. McGraw-Hill, 2004.
5. *Nonverbal Communication in Human Interaction* by Mark L. Knapp, Judith A. Hall. Cengage Learning, 2014.
6. *Presentation Skills for Students* by Joan van Emden, Lucinda Becker. Bloomsbury Publishing, 2017
7. *Business Communication: Process and Product* by Mary Ellen Guffey, Dana Loewy. Cengage Learning, 2021.
8. *Media Literacy* by W. James Potter, SAGE Publications, 2013.
9. *Writing for the Media* by Adrian Wheeler, Emerald Publishing Limited, 2019.
10. *The Language of New Media* by Lev Manovich, MIT Press, 2012.
11. *Writing for Visual Media* by Anthony Friedmann, Routledge, 2021.
12. *Visual Communication: Images with Messages* by Paul Martin Lester, Thomson Wadsworth, 2006.

Course Title: Introduction to IT Systems

L-T-P-C: 2-1-0-3

Course Code: DCS201

Total Contact Hours: 36

Course Objectives: This course is intended to make new students comfortable with computing environment - Learning basic computer skills, Learning basic application software tools, Understanding Computer Hardware, Cyber security awareness

UNIT 1: Basic Internet skills: Understanding browser, efficient use of search engines, awareness about Digital India portals (state and national portals) and college portals. General understanding of various computer hardware components – CPU, Memory, Display, Keyboard, Mouse, HDD and other Peripheral Devices

Contact Hours: 8

UNIT 2: Introduction to Operating System, Types and Role of OS. OS Installation (Linux and MS Windows), Unix Shell and Commands, vi editor.

Contact Hours: 8

UNIT 3: HTML4, CSS, making basic personal webpage.

Contact Hours: 8

UNIT 4: Office Tools: OpenOffice Writer, OpenOffice Spreadsheet (Calc), OpenOffice Impress.

Contact Hours: 6

UNIT 5: Information security best practices and basics of C programming.

Contact Hours: 6

Books/ References:

- R.S. Salaria, Computer Fundamentals, Khanna Publishing House
- Ramesh Bangia, PC Software Made Easy – The PC Course Kit, Khanna Publishing House
- Online Resources, Linux man pages, Wikipedia.
- Mastering Linux Shell Scripting: A practical guide to Linux command-line, Bash scripting, and Shell programming, by Mokhtar Ebrahim, Andrew Mallett.
- E. Balagurusamy, Programming in ANSI C, 8/e., McGraw-Hill Education.
- Yashwant Kanetkar, Let us C, BPB Publication.

Course outcomes:

At the end of the course student will be able to comfortably work on computer, install and configure OS, assemble a PC and connect it to external devices, write documents, create worksheets, prepare presentations, protect information and computers from basic abuses/ attacks.

Course Title: Introduction to IT Systems Lab

L-T-P-C: 0-0-2-1

Course Code: DCS271

Total Contact Hours: 32

UNIT 1: Understanding browser, efficient use of search engines, awareness about Digital India portals.

Contact Hours: 4

UNIT 2: OS Installation (Linux and MS Windows), Unix Shell and Commands, vi editor.
Hours: 8

UNIT 3: HTML4, CSS, making basic personal webpage.

Contact Hours: 8

UNIT 4: Office Tools: OpenOffice Writer, OpenOffice Spreadsheet (Calc), OpenOffice Impress.

Contact Hours: 6

UNIT 5: Information security best practices and basics of C programming.

Contact Hours: 6

Books/ References:

- R.S. Salaria, Computer Fundamentals, Khanna Publishing House
- Ramesh Bangia, PC Software Made Easy – The PC Course Kit, Khanna Publishing House
- Online Resources, Linux man pages, Wikipedia.
- Mastering Linux Shell Scripting: A practical guide to Linux command-line, Bash scripting, and Shell programming, by Mokhtar Ebrahim, Andrew Mallett.
- E. Balagurusamy, Programming in ANSI C, 8/e., McGraw-Hill Education.
- Yashwant Kanetkar, Let us C, BPB Publication.

Unit-I: Introduction to Multimedia

Multimedia definition, Multimedia Application, Multimedia System, Characteristics of Multimedia Systems, Components of Multimedia, Multimedia Data. Static and Continuous media, Analog and Digital Signals, Analog to Digital and Digital to Analog Conversion, Data Compression, Compression Algorithms.

Unit-II: Elements of Multimedia

Text, Images, Graphics, Animation, Audio and Video.

Text: Typefaces, Fonts, Cases, Symbols and Icons, Buttons, Text Printing Orientation, HTML, ASCII, Unicode, Hypermedia and Hypertext.

Unit-III: Animation

2D and 3D Animation, Animation in Multimedia, Advantages and Disadvantages of Animation, Interactive Animation, Concept Development and Storyboarding, 2D and 3D Animation Tools, Animation File Formats.

Unit-IV: Images and Graphics

Definition, Colour Perception, Vector and Raster Graphics, Image Depth, Alpha Channel, Basic Colour Theory, Colour Wheel, Colour Characteristics, Dithering, Anti-Aliasing, Resolution, Colour Models, Image and Graphics File Formats, Basic Image Processing, Layers, Filters, Image Manipulation, Colour Printers, Digital Still Cameras.

Unit-V: Audio

Definition of Sound, Basics of Acoustics, Psychoacoustics, Limits of Sound Perception, Types of Audible Sounds, Characteristics of Musical Sound, MIDI, MIDI Files, Synthesis of MIDI Sounds, Digital Audio, Common Audio Editing Tools, Audio File Formats, Microphone, Amplifiers.

Unit-VI: Video

Definition, Video Frames, Frame Rate, Scan Line, Fields, Interlacing and Progressive Videos, Aspect Ratio, TV Broadcast Standards, Vertical and Horizontal Resolution, Types of Video Cameras, Component and Composite Video, Stereoscopic Video, Digitization Basics, Spatial Resolution, Bandwidth, Sampling, Nyquist Theorem, Video Formats. Video Editing Tools.

Unit-VII: Overview of Internet and Virtual Reality

Browsers, Internet Services- URL, Dial-ups, ISDN, E-mail, Chat, Cross-Platform Features, Audio & Video streaming, Internet applications – Audio & Video Conferencing, Internet Telephony, World Wide Web, Computer Networks, Virtual Reality.

Text Books:

- “Multimedia, Making IT Work” – by Tay Vaughan; 9th Edition, Osborne McGraw Hill, 2014.

Reference Book:

- “Multimedia Demystified” – by Jennifer Coleman, Dowling; McGraw Hill, 2012.

Course Title: 2D Animation Techniques
Course Code: DMD202 / DMD272

L-T-P-C: 2-0-6-5

Introduction to animation history, different mediums and pioneers, early optical illusions concept devices, full and limited style, the 12 principles of animation by Disney, traditional process, bouncing ball animation, adding squash and stretch, pendulum exercise, prop design and BG design. Tools and interface, tween animation, masking, text, bone tool, preset motion, character design, turnaround, line of action and posing, expression chart, character rigging and walk cycle animation. Progressive walk. Run and jump, making a short clip.

Reference Books

1. "The Illusion of Life" by Frank Thomas and Ollie Johnston, Disney Editions, 1995.
2. "Animator Survival Kit" by Richard William, Faber & Faber, 2021.
3. "Adobe Flash professional CS6 Classroom in a Book" by Adobe Creative Team, Adobe, 2012.

Introduction to Audio Editing, MIDI, Digital Audio, Firewire -Types of Wires and the peripherals, Voice-over recording, Filters, Codecs. Introduction to Digital Video and Video Editing, Principles of editing, Introduction to Video Editing Tool; Adobe Premier, Final Cut Pro. Linear and Non-linear Editing, on-line and off-line editing, In-Camera Editing, Timeline, Three Point Edit, Transitions, Video Formats and Broadcast systems, Continuity, Cut in, Cut away, Jump cut, time remap, Rule of 180 Degree, Rule of 30 Degree. Framing effective shots-Field of View, Headroom, Noserroom and Lead room, Types of Camera, Lens, Camera angles, shots, movements, Image Formats - sizes, Single and Multi-camera shoots.

Reference Books:

1. "Audio Production Worktext: Concept, Technique and Equipment, 10th Edition
By David E. Rose, Lynne S. Gross, Brain Bross, Focal Press, 2022.
2. Grammar of the Edit, 4th Edition, *By Roy Thompson, Christopher J. Bowen, Focal Press, 2017.*
3. Grammar of the Shot, 4th Edition, *By Roy Thompson, Christopher J. Bowen, Focal Press, 2017.*