

COURSE STRUCTURE

AND

SYLLABUS FOR

DIPLOMA PROGRAMME

IN

ANIMATION AND MULTIMEDIA TECHNOLOGY

1st year (Semester I)

(APPLICABLE FROM AY 2024-2025 ONWARDS)

CENTRAL INSTITUTE OF TECHNOLOGY KOKRAJHAR

AMT Diploma 1st Semester Course Structure & Syllabus
(In line with AICTE / NEP)

Semester – 1

Sl. No.	Course Code	Course Name	L	T	P	C
01.	DHS101	Communication in English	2	0	2	3
02.	DMD101	Foundation of Animation	2	0	0	2
03.	DMD102	Storytelling & Storyboarding	2	0	0	2
04.	DMD103	Digital Drawing and Painting	0	2	0	2
05.	DMD104	Fundamentals of Computer Applications	2	0	0	2
06.	DMD171	Foundation of Animation	0	0	2	1
07.	DMD172	Storytelling & Storyboarding	0	0	4	2
08.	DMD173	Digital Drawing and Painting	0	0	4	2
09.	DMD174	Fundamentals of Computer Applications	0	0	2	1
10.	DHS172	Sports and Yoga (Co-Curricular)	0	0	2	1
	Contact Hours: 26		8	2	16	18

Course Objectives:

1. To develop communication skills of the students i.e. listening, speaking, reading and writing skills.
2. To introduce the need for personality development- Focus will be on developing certain qualities which will aid students in handling personal and career challenges, interview skills, leadership skills etc.

Course Content

Unit-1 Communication: Theory and Practice

- Basics of communication: Introduction, meaning and definition, process of communication
- Types of communication: formal and informal, verbal, non-verbal and written barriers to effective communication.
- 7 Cs for effective communication (considerate, concrete, concise, clear, complete, correct, courteous).
- Art of Effective communication
 - o Choosing words
 - o Voice
 - o Modulation
 - o Clarity
 - o Time
 - o Simplification of words
- Technical Communication.

Unit-2 Soft Skills for Professional Excellence

- Introduction: Soft Skills and Hard Skills.
- Importance of soft skills.
- Life skills: Self-awareness and Self-analysis, adaptability, resilience, emotional intelligence and empathy etc.
- Applying soft skills across cultures.
- Case Studies.

Unit-3: Reading Comprehension

Comprehension, vocabulary enhancement and grammar exercises based on reading of texts.

Unit-4: Professional Writing

Letters: business and personnel,
Drafting e-mail, notices, minutes of a meeting, report writing
Filling-up different forms such as banks and on-line forms for placement etc.

Unit-5: Vocabulary and Grammar

Vocabulary of commonly used words

Glossary of administrative terms

One-word substitution, Idioms and phrases

Parts of speech, Prepositions of time and place, Subject Verb Agreement, Sentence types and Transformation of sentences, Active and passive voice, Tenses, Punctuation.

Unit 6, 7, 8 & 9 involves interactive practice sessions in Language Lab

Unit-6 Listening Skills

Listening Process and Practice: Introduction to recorded lectures, poems, interviews and speeches, listening tests.

Unit-7 Introduction to Phonetics

Sounds: consonant, vowel, diphthongs, etc. transcription of words (IPA), weak forms, syllable division, word stress, intonation, voice etc.

Unit-8 Speaking Skills

Standard and formal speech: Group discussion, oral presentations, public speaking, business presentations etc. Conversation practice and role playing, mock interviews.

Unit-9 Business Writing and Building vocabulary

Formal letter writing in different situations, Job application and cover letter, resume, curriculum vitae, bio data, email writing, report writing

Etymological study of words and construction of words, phrasal verbs, foreign phrases, idioms and phrases. Jargon/ Register related to organizational set up, word exercises and word games to enhance self-expression and vocabulary.

References:

1. J.D. O'Connor. Better English Pronunciation. Cambridge: Cambridge University Press, 1980.
2. Lindley Murray. An English Grammar: Comprehending Principles and Rules. London: Wilson and Sons, 1908.
3. Kulbhushan Kumar, Effective Communication Skills, Khanna Publishing House, New Delhi (Revised Edition 2018)
4. Margaret M. Maisson. Examine your English. Orient Longman: New Delhi, 1964.
5. M. Ashraf Rizvi. Effective Technical Communication. Mc-Graw Hill: Delhi, 2002.
6. John Nielson. Effective Communication Skills. Xlibris, 2008.
7. Oxford Dictionary
8. Roget's Thesaurus of English Words and Phrases
9. Collin's English Dictionary
10. Daniel Jones. The Pronunciation of English. Cambridge: Cambridge University Press, 1956.
11. James Hartman & et al. Ed. English Pronouncing Dictionary. Cambridge: Cambridge University Press, 2006.
12. Press, 2006.
13. J. Sethi & et al. A Practice Course in English Pronunciation. New Delhi: Prentice Hall, 2004.
14. Pfeiffer, William Sanborn and T.V.S Padmaja. Technical Communication: A Practical Approach. 6th ed. Delhi: Pearson, 2007.

Definition of Animation, Different Types of Animation, Introduction to Production Pipeline, Introduction to Pre-Production, Scripting, Storyboarding, Layout, Character Designing, Props Designing, Background Designing, Camera Angles, Frame Lengths, Voice recording, Introduction to 2D Animation. Introduction to Production, Introduction to 3D animation, Modeling, Texturing, Rigging, Animation. Lighting, Dynamics, VFX, Introduction to Post-Production, Compositing, Rendering, Tools of the trade. Scope of Animation, Various positions in the Animation Industry.

Rapid sketching, Drawings with the help of basic shapes, Animal study, Human anatomy, Shading techniques, Live model study, Head study, hand and feet, full figure study. Gesture drawing.

Posing for Animation, Shapes and forms, about 2d and 3d drawings, Caricaturing – fundamentals, Exaggeration, Attitude, Silhouettes, Boundary- breaking exercises and warm ups, gesture drawing, Line drawing and quick sketches, Drawing from observation, memory and imagination, Principles of animation.

Reference Books

1. “Beginner's Guide to Animation: Everything you Need to Know to get Started” by Mark Murphy; Watson-Guptill Publication, 2008.
2. “Producing Animation” – by Catherine Winder & Zahra Dowlatabadi; Focal Press, 2001.
3. “Drawn to Life: 20 Golden Years of Disney Master Classes: Volume 1” by Walt Stanchfield; CRC Press, 2023.
4. “The Animator's Survival Kit” by Richard E. Williams, Faber and Faber, 2009.

Introduction to Storytelling, importance of stories, story development process, idea and motivation, plot and premise, story structure, formats and genre, synopsis, outline and treatment, scene and sequence, screenplay elements and format, drafting and final script.

Introduction to storyboard, compositing and framing concept, foreground, middle ground and background, basics of cinematography, camera shots and angles, camera movement.

Thumbnails planning and layouts, character model sheet and action chart, expression chart, beat sheet and beat board, scene and shot breakdown, screen direction, flow of action, continuity, language of film, transition, montage, intercut, hook up, pitching and pacing, storyboard and sound design for animatics, voice track, final storyboard and animatics.

Reference Books:

1. "The Anatomy of Story: 22 Steps to Becoming a Master Storyteller" by John Truby, Faber & Faber Publications, 2007.
2. "Story: Substance, Structure, Style, and the Principles of Screenwriting" by Robert McKee, IT Books, 1997.
3. "The Hero with a Thousand Faces" by Joseph Campbell, Princeton University Press, 1992.
4. "Save the Cat! The Last Book on Screenwriting You'll Ever Need" by Blake Snyder, Michael Wiese Productions, 2005.
5. "Writing the Short Film" by Patricia Cooper and Ken Dancyger, Focal Press, 2004.
6. "Animation - The Art of Layout and Storyboarding" by Mark T Byrne, Mark T Byrne Production, 1999.
7. "Screenplay: The Foundations of Screenwriting" by Syd Field, Delta, 2005.

Introduction to Digital Art, Overview of Digital Art, History and Evolution of Digital Art, Tools and Software for Digital Drawing and Painting, Introduction to Adobe Photoshop, Krita or Gimp, Basic Hardware Requirements.

Basic Drawing Skills, Fundamentals of Drawing - Lines, Shapes, and Forms, Understanding Perspective, Light and Shadow, Composition Techniques, Introduction to Colour Theory.

Digital Drawing Techniques, Understanding Layers and Brushes, Digital Sketching, Line Art and Inking, Creating Textures and Patterns, Using References in Digital Art, Digital Painting Styles (Realism, Impressionism, Concept Art).

Character Design, Basics of Character Design, Anatomy for Artists, Facial Expressions and Emotions, Designing Characters for Different Mediums (Comics, Games, Animation).

Environmental Art, Landscape Drawing and Painting, Understanding and Creating Backgrounds, Use of Perspective in Environmental Art, Creating Mood and Atmosphere.

Concept Art and Illustration, Introduction to Concept Art, Creating Thumbnails and Rough Sketches, developing a Concept, Finalizing and Polishing Illustrations.

Reference Books:

1. "The Digital Art Book" by David Cousens, Search Press, 2019.
2. "Digital Painting Techniques" by 3dtotal.com, Routledge, 2009
3. "Beginner's Guide to Digital Painting: Characters" by Derek Stenning, 3DTotal Publishing, 2015.
4. "Beginner's Guide to Digital Painting in Photoshop" by 3DTotal Publishing, 3DTotal Publishing, 2020.
5. "ImagineFX: Fantasy Creatures" by ImagineFX, Future Publishing, 2014.
6. "Digital Drawing for Landscape Architecture" by Bradley Cantrell and Wes Michaels, Wiley, 2010.
7. "Anatomy for Sculptors: Understanding the Human Figure" by Uldis Zarins and Sandis Kondrats, Anatomy Next Inc., 2014.
8. "Color and Light: A Guide for the Realist Painter" by James Gurney, Andrews McMeel Publishing, 2010.

Computer Fundamentals -

Brief history – Babbage machine, Von Neumann. Architecture – Block diagrams, Role of Operating Systems, concept of language and language translators, editors. Memory – different types, functions, concept of I/O devices.

Number System-

Number system and codes: Decimal, binary, octal, hexadecimal number systems and conversion from one system to another, arithmetic operations using these numbers. Representation of a negative number in the different number systems. Complement and complement subtraction. Different codes: ASCII, 8421, Ex-3, 2421, gray, Alpha-numeric, BCD, seven segment codes etc. and code conversion.

Introduction to Operating System-

Concept of resource management, single user and multi user OS, Various popular OS (DOS, Windows, Unix/ Linux), elementary commands.

Introduction to Internet-

Fundamentals of networking – need of network topology, concept of LAN, WAN, MAN, network devices – NIC, hub, bridge, switch, repeaters, gateway, modem, transmission media. Internet services, concept of global net, different browsers, search engine.

MS – Office- Various products, their introduction and uses.

Reference Books:

1. "Computer Fundamentals: Architecture and Organization" by B. Ram, New Age International Publishers, 2020.
2. "Introduction to Computer Science" by ITL Education Solutions Limited, Pearson Education India, 2012.
3. "Computers: Understanding Technology" by Floyd Fuller and Brian Larson, Cengage Learning, 2020.
4. "Exploring Microsoft Office 2019 Introductory" by Mary Anne Poatsy, Eric Cameron, Cynthia Krebs, Jerri Williams, and Lisa Ruffolo, Pearson, 2019.
5. "Microsoft Word Step by Step (Office 2021 and Microsoft 365)" by Joan Lambert, Microsoft Press, 2023.
6. "Microsoft Excel 2019 Step by Step" by Curtis Frye, Microsoft Press, 2018.
7. "Computer Fundamentals and Applications" by Ashok Arora, Vikas Publications, 2018.
8. "Computer Fundamentals" by DP Nagpal, S. Chand Publication, 2010.

Course Code : DHS172

Course Title : Sports and Yoga

Number of Credits : 0 (L: 0, T: 0, P: 2, C:1)

Course Category : Humanities & Social Science Courses

Objectives:

- # Introduce Yoga therapy with its principles
- # To make aware of the therapeutic and preventive values of yoga;
- # To advocate health living and make society free from stress
- # Identify the needs and problems of the community and involve them in problem Solving process;

Course Content:

Module	Topics	Lecture	Tutorials	Practical	Credit
I	Fundamentals of Yoga:- Definition and meanings of the term “Yoga”. Philosophy of yoga/ Yoga Darshan Yoga in Bhagavad Gita Benefits of yoga Rules and regulations for practice of yoga.	2	0	0	0
II	History of Yoga:- Vedic Period Pre-classical vedic period Classical period Post-classical period Modern period	2	0	0	0
III	Types of Yoga:- According to Srimad Bhagavad Gita:- 1) Jnana yoga, 2) Karma yoga, 3) Dhyana yoga, 4) Bhakti yoga Ashtanga yoga/ 8 limbs of yoga by Maharishi Patanjali written as a yoga sutra in yoga darshan book 1) Yama:- (i) Ahimsa (ii) Satya (iii) Asteya (iv) Brahmacharya (v) Aparigraha 2) Niyama:- (i) Saucha (ii) Santosha (iii) Tapa (iv) Swadhaya (v) Ishawara–pranidhana 3) Asana 4) Pranayama 5) Pratyahara 6) Dharana 7) Dhyana 8) Samadhi	2	0	0	0

IV	Yoga & Health:- Concept of Adhi&Vyadhi Concept of Health and Disease in yoga Disease prevention and promotion of positive health through yoga Stress management through Yoga, Disease management yoga	0	0	2	0
V	Sukshma Vyayama/Sithilikarma Vyayama and Surya Namaskar, loosening exercise of each part of the body particularly of the joints, 12 steps surya namaskar, Yogic Kriyas. Neti/Dhauti/Trataka/Shankaprakshalana. Yogasanas-	0	0	2	0

BOOKS FOR REFERENCE:

Yogrishi Swami Ramdev: Yoga in synergy with Medical Science, Divya Prakashan, 2007

Swami Satyananda Saraswati:
Yoga and Cardio Vascular Management, Yoga Publication Trust, Munger, 2005.

Clennell, Bandhyengar, G.S.: The Woman's Yoga Book: Asana and Pranayama for All Phases of the Menstrual Cycle, Menstrual Disorders (The Experience of Illness) (Paperback - Dec 3, 1992).

Nagarathna R and Nagendra H R: Yoga for Arthritis, Back pain, Diabetes, Pregnancy, Breathing Practices, Swami Vivekananda Yoga Prakashana, Bangalore, 2000.

Robin Monoro, Nagarathna R and Nagendra, H.R.: Yoga for Common Ailments, Guia Publication, U.K., 1990

Yogic management of Common Diseases: Dr Swami Karmananda; Yoga Publication Trust, Munger, Bihar.

Dr. Manmath M Gharote, Dr. Vijay Kant: Therapeutic reference in Traditional Yoga texts.