



Since 1881

THE AMERICAN COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University)
Re-accredited (2nd Cycle) by NAAC with Grade “A” CGPA – 3.46 on a 4 - point scale

MADURAI - 625002

SSR Cycle – 3

Criterion I – Curricular Aspects

1.3 Curriculum Enrichment

1.3.2 Syllabus with Cos of Value Added Courses

Diploma in Aquaculture

Sem	Course No	Course Title	Hrs/wk	Cr.
I	General Education			
	ENC 1403	Conversational Skill	4	4
	CSD 1403	Fundamentals of Computers	4	4
	LSD 1403	Fundamentals of Life Coping Skills	4	4
	Skill Component			
	DAQ 1405	Basic of Aquaculture	4	4
	DAQ 1407	Fin fish and Shell Fish Culture	4	4
	DAQ 1903	Aquaculture Lab – I	10	10
	Job Training			
	DAQ 1409	Internship I	120/sem	4
		Total		34
II	General Education			
	ENC 1404	Reading and writing skills	4	4
	CSD 1404	Office Automation tools	4	4
	LCD 1404	Performance and Life Coping Skills	4	4
	Skill Component			
	DAQ 1406	Ornamental Fish Culture	4	4
	DAQ 1408	Shrimp Farming	4	4
	DAQ 1904	Aquaculture Lab – II	10	10
	Job Training			
	DAQ 1410	Internship II	120/sem	4
		Total		34

- Theory / Lab courses - 1 credit = 15 hours/Semester
- Internship – 1 credit = 30 hours/Semester

DAQ 2

ENC 1403

Conversational Skills

4Hrs/4 Cr.

The Course aims at helping students converse in English on the matters that matter to them in daily life. It provides the learners with ample opportunities and social contexts through conversations so that they can freely and fluently use informal English. It also exposes them to the apt vocabulary of such informal conversations.

Specific Learning Outcome

At the completion of this course the students shall be able to

- enhance their conversational fluency as well accuracy
- fine-tune their pronunciation and accent
- become familiar with and therefore effortlessly internalize the structures of English

Unit 1: Introducing oneself and introducing others

Unit 2: Conversation in contexts - Day-to-day matters like eating, emotions, fashion, health, friendship, money, housing, job, faith & hope, busy life, memory, shopping, time, Traffic, travelling, vacation, weather

Unit 3: Social expressions

Unit 4: Practice in formal conversation

Unit 5: Practice in informal conversation

Text Book:

Sekar, J.J. 2014 *Conversational Skills*. Madurai. Department of English, The American College.

CSD 1403

Fundamentals of Computers

4hrs/Wk – 4 credits

Specific Learning Outcome:

After completing this course students will be able to

- Understand the computer generations and components.
- Understand basic functionality of the computer.
- Understand the computer data representation.

Unit I: Introduction to computers Generations of computers –components of computer – hardware – software -classification of computers – advantages and limitations – applications of computer

Unit II: Components of the Computer CPU - I/O devices – Types and Features.

Unit III: Computer Memory Primary memory – secondary memory-auxiliary storage devices– cache memory CD – DVD –Pen drive – backup.

Unit IV: Data representation Data – Meaning - Information –Representation - files - Computer words.

Unit V: Number Systems in computer Decimal, Binary, Octal and Hexa Decimal - Representation–Conversions.

Textbook:

Alphonse X, ICRDCE publication, December 2011.

Reference:

Curtin, D. P. Foley, K.Kunalsen, Morin.C “Information Technology- The Breaking Wave”, TataMcGraw Hill, 2002.

LSD 1403 FUNDAMENTALS OF LIFE COPING SKILLS 4 hrs/Wk–4 Cr

This is a foundational course which elicits the necessity for every student to understand the areas of development in moulding their behavior, character and personality through various soft skill sets.

Specific Learning Outcome: At the end of this course the student will be able to,

- Understand the need for identifying and developing the skill
- Manage and adjust their characteristics of personality
- Understand the importance of learning communication skills and Self
- Appreciate the benefits of being assertive

Unit I: Introduction to Skills

Introduction to skills – Definition of Coping - Social Skills – Four levels: Foundation, Interactive, Affective, Cognitive – Understanding Body Language

Unit II: Personality Development

Definition of Personality – Characteristics of Personality – Ways to develop personality – Personality types – Four basic temperament

Unit III: Self Transformation

Self Identity – Self Concept – Self acceptance – Self discovery – Self Esteem: High & Low Self esteem – Johari Window

Unit IV: Communication Skills

Understanding communication – Types of communication – Styles of communication – Patterns of communication – Importance of communication – Effective & Efficient communication

Unit V: Assertive Skills

Assertive Behaviour – Benefits of being Assertive – Types of Assertion – Assertion rights – Developing assertive skill

DAQ 4

References:

1. Alphonse, X. 2011, "We shall overcome" A Text book on Life coping skills", ICRDCE Publication, Chennai
2. AIACHE Publication 2014, New Delhi, "Human Values Development

DAQ 1405

Basics of Aquaculture

4h/wk-4cr

This theory course deals with the basic and applied aspects of nutritive values of fish, different types of aquaculture practices in India with special reference to exotic and major carps. Various ornamental fishes, shrimps and mollusc are also included. The physico-chemical analysis of water and their impact on aquatic systems are given importance. Emphasis is given to live feed, dry feed and their formulation to enhance production.

Specific learning outcome at the end of the course students will be able to

- Understand the basic needs of proteins food.
- Explain the types of aquaculture practices.
- Differentiate different types of fishes and invertebrates.
- Describe the need for water quality management and nutrient requirement.
- Diagnose the aquatic pathogens and their control measures.

UNIT-I. Introduction

Food Security-protein crisis-PEM-nutritive value of fish and fishery products-need for aquaculture - culture Fisheries-selection of candidate species

UNIT-II. Types and practices of aquaculture

Types-Inland, brackish water, mariculture and metahaline aquaculture. Practices-culture in ponds, riverside, dams and lakes, temple and irrigation tanks and raceways-Integrated farming.

UNIT-III. Cultivable organisms

Indian major carps-exotic carps-air breathing fishes-cat fishes-ornamental fishes-shell fishes-crustaceans and molluscs.

UNIT-IV. Water quality and nutrition:

Ecosystem-lentic-lentic-brackish water-marine environment-water-physical, chemical and biological characteristics-fish nutrition-nutritional requirements-feed-formulation and preparation-supplementary feed.

UNIT-V Microbial infections and disease diagnosis and control measures

Microbial world and their structure characters- Bacteria, Viruses, fungi, algae-pathogenicity and virulence-source of infection- morphological, physiological and sociological diagnosis-microbiological water quality management- application of probiotics, drugs, chemicals and antibiotics.

Text book:

Gilbert, B. 1990: Aquaculture – Vol II. Horwood.

References:

1. Jingaran, V.G. 1991 Fish and Fisheries of India. Hindustan Publ. Corporation (India).
2. Pillay, T.V.R., 1990: Aquaculture, Principles and practices. Fishing News books Ltd. Mpeda publication.
3. Aline.w.- Fish diseases.

DAQ 1407**Fin fish and Shell fish culture****4h/wk-4cr**

This course is designed to introduce the various techniques involved in the construction of fish ponds and their management. The second section deals with the various techniques involved in fish seed production. The third section deals with seed collection, storing and rearing. The last unit is concerned with fresh water prawn culture and management.

Specific learning outcome- students will be able to

- Explain the designing and managing fish pond.
- Describe the procedure adopted for composite and integrated fish farming.
- Understand the techniques involved freshwater prawn culture.
- Design cages, pen for fish cultivation.

UNIT-I. Construction of fish farm

Site selection-fish pond structure – construction-types of fish ponds-pond community-control of aquatic weeds and predatory fishes.

UNIT-II. Fish farm management

Nursery, rearing and production ponds-Indian major carps, Chinese carps-induced breeding - jar hatchery- seed fish production-transport of breeders and seed fish.

UNIT-III. Composite fish culture, integrated fish farming and composite fish culture

Composite fish culture-Species-feeding-seed collection-feeding- pond rearing techniques-economics-pearl and edible oyster culture-mussel culture. Fish culture in rice fields-freshwater fish culture with pigs, chicks and ducks -waste by products used as in puts in fish farming- vegetables gardening and using vegetable waste as fish/ pig feed.

UNIT-IV. Culture of fresh water prawn

Characteristics and distribution-seed production, collection of seeds-management of production ponds-growth and production.

Unit -V. Cage, pen culture and crab culture

Rearing fish within fixed or floating net- construction of cage of bamboo, wood or metal for pond fish culture-Harvesting difficulties-designing pen with enclosures-Erection pen cages at fish pond/ reservoir bottom-pond crab *Scylla* Species culture with over hanging fencing-monoculture with intensive farming-Feeding commercial and fish wastes.

Text book:

Pillay T.V.R., (1990) Aquaculture: Principles and practices. Fishing news books. Cambridge university press, Cambridge.U.K.
Jhingran. V.G. and Talwar. S.K – Fisheries of India (161 1 & 2)

DAQ 6

Reference:

1. Michael B. and somsakSingholka 2002 FAO, Manual on freshwater Prawn farming. UNDP –FAO, Rome
2. Midlen and T.A.Redding (1998) Environmental Management for Aquaculture. Kluwer academic publishers, London.
3. New, M.B. 2000. Fresh water prawn farming.CRC Publications.
4. Welcomme.R.L. 2001: Inland Fisheries: Ecology and Management, Fishing news Books.
5. Santhanam .S.Fisheries science.

DAQ 1903

Aquaculture Lab – I

10h/wk-10cr

The laboratory component includes exercises for collection and identification of Fin fish and shell fish and their physiology. Maintenance of pond and culture techniques is studied. Specific learning outcome at the end of the course the students will be able to

- Identify the commercially important fishes.
 - Analyze the gut content, fecundity and GSI in fishes.
 - Examine the water quality parameters.
 - Perform hypophysation and learn induced breeding techniques.
1. Collection and identification of commercially important fresh water and marine fishes.
 2. Gut content analysis of fishes with different feeding habits
 3. Estimation of fecundity and gonad somatic index of commercially important fishes.
 4. Assessment of seed quality and feed ration calculation.
 5. Lime and fertilizer requirement calculations.
 6. Analysis of water: Turbidity, pH, Dissolved oxygen
 7. Primary productivity, estimation by Light and Dark bottle method.
 8. Preparation of pituitary extract.
 9. Visiting nearby aquaculture farms and dams

Reference:

T.V.R.Pillay (1990) Aquaculture: Principles and practices. Fishing news books. Cambridge University press, Cambridge. U.K.

ENC 1404**Reading and Writing Skills****4 Hrs./4 Cr.**

The Course aims at improving the learners' productive skills of English. It offers professional guidance on meaningful and aggressive reading experiences by familiarizing them with techniques and micro-skills of reading, comprehension abilities through literary and non-literary reading materials. It also strengthens their writing skills through the forms of writing that are useful to them academically and vocationally.

Specific Learning Outcome:

At the completion of this course the students shall be able to

- i. Get training in aggressive speed reading with different sub-skills
- ii. Improve their comprehension abilities
- iii. Learn the art and craft of paragraph and a five-paragraph essay writing

Unit 1: Reading at various speeds, skimming & scanning, inferring & interpreting, predicting

Unit 2: Reading practice

Unit 3: Writing leave letters, apology letters and permission letters

Unit 4: Paragraph writing

Unit 5: Five-paragraph essay writing

Text Book:

Sekar, JJ. 2014. *Reading and Writing Skills*. Madurai. Department of English, The American College.

CSD 1404**Office Automation Tools 4hrs/Wk – 4 credits****Specific Learning Outcome:**

After completing this course students will be able to

- edit and format text data and tables to make a Document.
- design worksheet and manipulate data and represent through graphs
- design a Slide show presentation and show in Multimedia form.

Unit I: Microsoft Word Working with text - Formatting paragraph -Numbered and Bulleted lists -Working with Tables

DAQ 8

Unit II: Mail Merging and Graphics - Spelling and Grammar Checking - Page format – Working with graphics

Unit III: Microsoft Excel Modifying a Worksheet -Formatting cells -Formula cells

Unit IV: Functions and Charts Formulae and Functions - Sorting and Filtering - Graphics – Charts.

Unit V: Power-Point Working with slides -Color Schemes – Graphics – Slide Effects – Master Slides – Presentations-Slide Shows–Animations.

Textbook:

MS-Office 2003 Manual by Microsoft

Reference

Curtin D.P, Kim Foley K, Kunalsen, Morin. C, "Information Technology- The Breaking Wave", TataMcGraw Hill 2002.

LSD 1404 PERFORMANCE AND LIFE COPING SKILLS 4 hrs/Wk – 4 Cr

This course aims at nurturing the students in their career development by way of inculcating a set of essential skills which will guide and shape them to grow as confident and successful individuals.

Specific Learning Outcome: At the end of this course the student will be able to,

- Understand goal setting and ways to manage their time
- Find out the ways to motivate themselves and others
- Appreciate the need for problem solving skill in everyone's life
- Understand stress and how to cope up with stress
- Realize the importance of dealing with emotions for positive mental health

Unit I: GOAL SETTING

Definition – Importance of Goals – SMART Goal & Time management – Types of Goals - Obstacles – Successful and Meaningful life

Unit II: MOTIVATION SKILL

Introduction to Motivation & Inspiration – Internal and External motivation – Methods of Motivation – Effects of de motivation

Unit III: PROBLEM SOLVING SKILL

Definition of problem – Reasons for problems – Stages of solving problems: Evaluation, Managing, Decision making, Resolving, Results

Unit IV: STRESS MANAGEMENT

Definition of Stress: Positive (Eustress), Negative (Distress) – Stressors: Internal, External
– Causes of Stress – Types of Stress – Ways to manage stress

Unit V: TIME MANAGEMENT

Need for time management – Poor Time management – Saboteur Time styles –
Techniques for managing time

References:

1. Alphonse, X. 2011, "We shall overcome" A Text book on Life coping skills",
ICRDCE Publication, Chennai

DAQ 1406**Ornamental fish culture****4h/wk-4cr**

This course is designed to impart views and essential methods regarding various aspects of ornamental fish culture with practical approach. It introduces the types of aquaria, aquarium fishes and aquarium plants, breeding techniques and their transportation. Finally various diseases attacking the fishes and control measures are dealt with.
Specific learning of outcome at the end of this course student will able to

- Explain the methodology to keep an aquarium
- Describe the characters of ornamental fishes and plants
- Enlist the various feed and their impact on growth
- Understand the methods of rearing marine ornamental fish and invertebrates
- Explain the diagnostic methods for ornamental fish diseases

UNIT-I: Aquarium**keeping**

History - kinds of aquaria - setting up of an aquarium - requirements for maintaining an aquarium - aquarium accessories - risk factors.

UNIT-II : Popular ornamental fishes

Life bearers, nest builders, mouth bearers, egg layers - life cycle and spawning - plants for aquarium -exotic and indigenous plants.

Unit – III: Marine ornamental fishes in aquarium

Marine ornamental fishes in aquarium – status and breeding – methods of collection and rearing of marine ornamental fishes - keeping marine invertebrate in aquarium

UNIT-IV: Food, feeding, breeding and transport methods

Importance live feed - induced maturation technique - Transport methods and preservation

UNIT-V: Diseases and Economics

Infections bacterial and viral diseases, parasitic any mycotic diseases. Diseases and non-infection diseases control and management - quarantine tanks - prophylaxis – vaccines, immune stimulants and probiotics - pet shops and fish dealers.

DAQ 10

Text book:

1. Carl, E. Bond. 1979. Biology of fishes, Saunders College publications.
2. Bijukumar. A – Rearing aquarium fishes

References:

1. Yadav, B.N 2006. Fish and fisheries 4th edition. Daya publishing House.
2. Stickney, R.R. 1979 Principles of Aquaculture. John Wiley & Sons, NY
3. Axelrod, H.R., 1967. Breeding aquarium fishes. TFH publications Inc. England.
4. Srivastava, C.B.L., 1985. Textbook of fishery science and Indian Fisheries. Kutub Mahal Publications, Allahabad.
5. Thabrow De, W.V. 1981. Popular aquarium plants. Thornbill Press. UK.
6. Madhusoodana kurup. Et al, ornamental fish – breeding, farming and trade.

DAQ 1408

Shrimp farming

4h/wk-4credits

This course aims at providing students with a comprehensive knowledge on important aspects of the shrimp farming techniques. Basic concepts in shrimp biology, their culture methods including water quality maintenance in ponds and feeding will be thought. Special emphasis is given for disease prevention and various control measures. The harvesting techniques and grading the catch is discussed in the later part. Finally organizations involved in export and government schemes are dealt.

Specific learning outcome at the end of session students will be able to

- Explain the stages of growth in shrimps
- Describe different breeding techniques
- Understand the need to improve water quality during culture
- Explain the feeding schedule and diseases diagnosis in shrimp culture

UNIT-I. Shrimp biology

Habit and habitat-life cycle of different Penaeids-culture based on economic and commercial considerations-developmental stages-culture based on types and designs of culture sites.

UNIT-II. Seed collection and Induced breeding

Wild collection and breeding-hatchery practices-Nurseries-eye stalk ablation-reproduction hormone induction-use of growth promoters and probiotics

UNIT-III. Culture methods

Monoculture-Polyculture-Grow out ponds-pre-treatment of inlet water-Water quality maintenance – water recycling – treatment of farm effluent and sediments.

UNIT-IV: Feeding diseases diagnosis and treatment.

Natural and supplementary feed-feeding ratio-feeding device and methods - factors affecting digestibility -nutrition deficiency diseases -infectious diseases and diagnosis-antibodies, drugs and chemicals and their mode of action-methods of treatment.

UNIT- V. Harvesting, preservation, mortality and Economics
Harvesting methods-precautions observed during harvesting-preservation techniques-sorting and grading the catch-seafood export promotion and organizations involved-role of co-operatives in shrimp export.

Text book:

1. Kurien, C.V and Sebastian.V.O. 1976 Prawns and prawn Fisheries of India. Hindustan Pub.Co.
2. Chakra borty. C & Sadhu A.k. 2000 – Biology hatchers and culture technology of tiger Prawn and giant freshwater Prawn, Daya publication house.

Reference:

1. Chen, T.P. 1976 Aquaculture practices in Taiwan. Fishing News (Books) Ltd., England.
2. Pillay, T.V.R. and Dill.M.A. 1979 Advances in Aquaculture. Fishing News (Books) Ltd., England.
3. Bose, A.N. Gosh.C.T,Yong and A.Mitra, 1991 Coastal Aquaculture Engineering. Oxford & IBH Publishing company Pvt.Ltd.

DAQ 1904

Aquaculture Lab – II

10h/wk 10credits

The laboratory component includes exercises for identification of various ornamental fishes and their breeding techniques. In Shrimp farming the large-scale cultivation techniques pond preparation work and its maintenance will be taught.

Specific learning outcome: at the end of the course students will able to

- Identify commercial ornamental fish and shrimp
 - Prepare feed with natural food ingredients
 - Analyze water quality parameters
 - Identify the diseases symptoms in shrimps
- 1) Collection and identification of commercially important ornamental fishes.
 - 2) Estimating the growth parameters
 - 3) Conditioning and packing of ornamental fishes
 - 4) Preparation of feed for ornamental fishes. Floating and sinking
 - 5) Identification of ornamental fish diseases and prophylactic measures.
 - 6) Collection and identification of commercially important shrimps.
 - 7) Types of fertilizers-pond preparation in shrimp culture.
 - 8) Analysis of Water quality parameters.
 - 9) Estimation of feed intake and growth monitoring.
 - 10) Study of disease causing microbes
 - 11) Estimation of bacterial population in water and shrimps.

Text book:

Srivastava, C.B.L., 1985.Textbook of fishery science and Indian Fisheries. KutubMahal Publications, Allahabad.

References:

1. Kurien, C.V and Sebastian.V.O. 1976 Prawns and Prawn Fisheries of India. Hindustan Pub. Co.
2. Boyd, C.E. 1982 Water quality Management for pond fish culture. Elsevier scientific Publishing Company.

AMERICAN COLLEGE – COMMUNITY COLLEGE

Advanced Diploma in Aquaculture

Sem	Course No	Course Title	Hrs/wk	Cr.
III	General Education			
	ENC 2403	Studies skills	4	4
	CSA 2403	Operating System	4	4
	LSA 2403	Coping with Psychological and Physical Issues	4	4
	Skill Component			
	AAQ 2405	Fish Seed Production	4	4
	AAQ 2407	Live Feed Production	4	4
	AAQ 2903	Aquaculture Lab – III	10	10
	Job Training			
	AAQ 2409	Internship III	120/sem	4
		Total		34
IV	General Education			
	ENC 2404	Career skills	4	4
	CSA 2404	Programming Techniques using C	4	4
	LSA 2404	Coping with Social and Environmental Issues	4	4
	Skill Component			
	AAQ 2406	Fish Feed Technology	4	4
	AAQ 2408	Post harvest technology	4	4
	AAQ 2904	Aquaculture Lab – IV	10	10
	Job Training			
	AAQ 2410	Internship IV	120/sem	4
		Total		34

- Theory / Lab courses - 1 credit = 15 hours/Semester
- Internship – 1 credit = 30 hours/Semester

AAQ 2

ENC 2403

Study Skills

4Hrs/4 Cr

The third sequential General English Course aims at empowering Advance Diploma students with study skills necessary to continue their chosen major disciplines. The course will help students to develop study skills and strategies for academic success.

Specific Learning Outcome:

At the end of the course, students shall be able to

- develop healthy study habits and improve homework habits
- fine tune their academic skills
- apply time management skills
- understand psychological traits
- use ICT skills

Unit 1 General

Definition & scope of study skills, study habits, strategies to improve study skills

Unit 2 Academic Skills

Effective reading strategies & essay writing, note taking & making, summarizing, paraphrasing, information transfer

Unit 3 Time Management

Motivation & success, barrier to time management

Unit 4 Psychological Traits

Concentration skills, memory, coping with test anxiety, critical thinking

Unit 5 ICT

ICT skills

Textbook

Sekar, J.J. 2015. Study Skills. Madurai: Department of English, The American College

CSA 2403

Operating Systems

4hrs/Wk. – 4 Cr

Specific Learning Outcome:

After completing this course students will be able to

- Understand the role of Operating system as an interface between user and computer.
- Understand the basic functionality of Operating system.
- Understand the operation of Mobile OS.

Unit I: Introduction to operating system BIOS – DOS – Windows - types of operating system – operating system services - desktop operating system

Unit II: Network operating System - Server operating system – mainframe operating system – embedded operating system.

Unit III: Windows - Features of Windows Operating system – Multiprogramming

Unit IV: Process / Memory Scheduling - Multitasking – Buffering – Spooling – Time sharing – Browser support.

Unit V: Introduction to Android Application of Android – Features of Android – Messaging -Voice based features- Multitasking-Screen Capture-Video Calling-Multiple Language support.

Text books:

1. Alphonse X, 2011 ICRDCE publication, December
2. Silberchatz, Galvin and Gagne, 1999. Operating system concepts, John Wiley and sons.

References:

1. Curtin D.P, Foley K, Kunalsen, Morin, C. 2002. Information Technology- The Breaking Wave, TataMcGraw Hill.
2. http://en.wikipedia.org/wiki/List_of_features_in_Android

LSA 2403

4 hrs/Wk – 4 Cr

COPING WITH PSYCHOLOGICAL AND PHYSICAL ISSUES

This **course** aims at making the students understand the need for learning psychological and physical issues which pose as a challenge in the transforming societies. Also, it directs them to take charge of their lives through various ways and cope up with such issues.

Specific Learning Outcome: At the end of this course the student will be able to,

- Understand the types of fear and shyness and the ways of overcoming them
- Manage emotions and stress
- Appreciate the types and styles of communications
- Understand the ways of coping with addiction and sexuality

Unit I: Coping with Fear and Shyness

Understanding Fear - Types of Fear – Overcoming Fear – Shyness – Types – Managing Shyness

Unit II: Coping with Emotions & Stress

Types of Emotions – Managing Emotions – Stress – Types & Need for understanding stress –Ways to manage stress

Unit III: Communication & Failure

Communication – Types & Styles – Ways to improve communication – Failure – Managing Failures

AAQ 4

Unit IV: Coping with Addictions

Drug addictions – Causes of addiction – Physical & Societal implications – Internet Addiction – Cyber crime - Types and causes – Managing addictions

Unit V: Coping with Sexuality

Sex and Gender – Understanding Gender discrimination – Coping with gender discrimination – Understanding Sexuality – Consequences of Premarital & extra martial sexual issues – Managing sexuality

References:

1. "We shall overcome - A Text book on Life coping skills", Indian Centre for Research and Development of Community Education (ICRDCE) Publication, Alphonse, X. 2011, Chennai
2. "Living with Honour", Macmillan Publishers India Ltd., Shiv Khera 2003
3. "Smart Guide to Relieving Stress", Wiley, Carole Bodger, 1999
4. "Managing Stress", National Press Publications, Kristine C. Brewer 1995

AAQ 2405

Fish Seed production

4h/wk-4cr

This course on fish seed production deals with various reproductive behaviors and breeding techniques. It also includes the hypophysation and using other ovulating agents in fish breeding. Various methods in transporting the seed fish and breeders are also discussed in detail.

Specific learning outcome at the end of the course students will be able to

- Explain the reproductive strategies in fishes
- Describe the artificial breeding techniques and problems
- Adopt themselves for proper transportation of live stock

UNIT-I. Reproductive biology of carps, air breathing fishes breeding season
Reproduction in carps-sexual dimorphism, maturation, spawning of fish-factors affecting reproduction of air breathing fishes - channa, clarius and anabas.

UNIT-II. Natural and Induced breeding

Survey of seed resources and requirements-carp and prawn wild seed resources in brackish water and major rivers-bundh breeding types, techniques and problems-fecundity and mortality.

UNIT-III. Induced breeding

Hypophysation of major carps and exotic carps-pituitary gland collection and preservation-other ovulating agents, their dosage for injections-precautions-water quality.

UNIT IV. Seed production and hatchery:

Criteria for site selection of hatchery and nursery-hatchery system design and operation-larval rearing stages, rearing technology-culture and use of different live feed in hatcheries.

UNIT-V. Transport of seed fish and Breeders

Transport methods in fish seed and brood fishes-causes of mortality during transport, open and closed system-use of anesthetics.

Text book:

Jhingaran, V.G.1991 Fish and Fisheries of India. Hindustan Publ. Corporation (India).

References:

1. John.E.Bardach John H.Ryther,William O.McLarney, 1972 Aquaculture-The Farming and Husbandry of Freshwater and Marine organisms. John Wiley& Sons, NY.
2. Pondey, A.C.1990 Air Breathing Fishes. Reliance Publishing House, New Delhi.
3. Chondar, C.L.1980 Hypophysation of Indian major carps, Satish Book Enterprise, Agra.
4. Thomas,P.C. .2003. Breeding and seed production of finfish and shell fish, Daya publishing house, New Delhi.
5. CMFRI Bulletin, 1987- national seminar on shell fish resources and farming.

AAQ 2407**Live feed production****4h/wk-4credits**

Live feed production is emerging areas where the live organisms are cultivated in mass to fulfill the feed requirements. Emphasis is given to the cultivation of Diatoms, Rotifers, Artemia and Daphnia. Various techniques involved in their cultivation are discussed in detail.

Specific learning outcome at the end of the session students will be able to

- Explain the importance of life feed in aquaculture
- Describe the culture techniques for diatoms, rotifer, Artemia and daphnia.
- Emphasis the need for green algae and spirulina as supplementary feed.

UNIT-I. Mass culture of Diatoms

Methods of culture, maintenance of pure culture of diatoms-different media used for culture-batch culture, continuous culture and mass culture.

UNIT-II. Culture of Rotifers

Methods of collection, maintenance and rearing of rotifers-mass culture-harvest, storage and feeding.

UNIT-III. Artemia culture

Different strains of Artemia-Artemia culture, cyst production, enrichment of Artemia cyst and larvae - encapsulation of Artemia cyst, hatching, storage and feeding.

UNIT-IV. Mass culture of Daphnia

Construction and preparation of culture tanks-field collection and isolation-inoculation and water quality maintenance-harvesting and sampling.

AAQ 6

UNIT-V. Culture of green algae and spirulina

Algae as natural food source- collection and isolation enrichment and establishing unialgal culture-parameters regulating algal growth – procurement of spirulina seed and standardization development of inoculum- culturing –separation and washing of biomass-drying of biomass.

Textbook:

Lavens,P. and Sorgeloss,P. 1996.Manual on production and use of live food for aquaculture. FAO. Fisheries Technical paper,361, FAO,Rome.

References:

1. Santhanam, R., Ramanathan, M.Vekataramanujam.1997: A Manual of Methods in Plankton. Fisheries College, TNVAS.University, Tuticorin.
2. CIFE Publin. 1993.Training manual on culture of live food organisms for aqua hatcheries. Central Institute of Fisheries education, Versova, Mumbai, India.
3. Muthu, M.S., 1983. Culture of Live feed organisms. Tech. paper 14. Summer Institute in Hatchery production of prawn seeds. CMFRI, Cochin.

AAQ 2903

Aquaculture Lab - III

10h/wk-10credits

The laboratory component includes exercises for identification of sexually matured fish and shrimp and their breeding techniques. In live feed production large scale cultivation of various organisms will be taught.

Specific learning outcome at the end of the session students will be able to

- Analyze the sexual maturity in fish sample
 - Collect wild seeds from natural habit
 - Prepare culture media for live feed culture
 - Gain experience through visiting nearby aqua forms
- 1) Biological analysis of fish samples for maturity stages and fecundity.
 - 2) Standardization of commercial ovulating agents.
 - 3) Designing and estimation of area of construction for freshwater fish seed production.
 - 4) Wild seed collection from natural sources.
 - 5) Visiting aquaculture farms and finfish hatcheries.
 - 6) Collection, identification and isolation of live food organisms.
 - 7) Preparation of culture media.
 - 8) Identifying different strains of artemia and its culture.
 - 9) Collection of rotifers and rearing.
 - 10) Construction and preparation of Daphnia culture tanks.
 - 11) Mass culture of Cladocerans, copepods and rotifers.
 - 12) Culture of earthworms and chironomid larvae.
 - 13) Visit to Manimuthar and Bhavani sagar During breeding season
 - 14) Visit to Fresh water prawn farm

Text book:

Jingaran, V.G. 1982 Fish and Fisheries of India. Hindustan Publ. Corporation (India).

Reference:

Lavens, P. and Sorgeloss, P. 1996. Manual on production and use of live food for aquaculture. FAO Fisheries Technical paper, 361, FAO, Rome.

ENC 2404**Career Skills****4 Hrs. / 4 Cr**

The fourth sequential General English Course aims at empowering Advance Diploma students with communication & cognitive skills and personality traits necessary to empower their career skills. The course will help students in developing career skills and strategies for successful profession.

Specific Learning Outcome:

At the end of the course students will be able to

- develop communication skills
- acquire the interview skills
- improve cognitive skills
- enhance thinking skills
- master personal traits

Unit 1 Communication Skills

Active Listening & speaking, written & oral communication

Unit 2 Interview Skills

Interview questions, job application, CV preparation, self-introduction,

Unit 3 Cognitive Skills

Self motivation, setting personal goals

Unit 4 Thinking Skills

Strategic thinking, organization

Unit 5 Personal Traits Skills

Personal development & empowerment, Self-esteem

Textbook

Sekar, J.J. 2015. Career Skills. Madurai: Department of English, The American College.

AAQ 8

CSA 2404

Programming Techniques using C

4hrs/Wk – 4 Credits

Specific Learning Outcome:

After completing this course students will be able to

- Understand the computer programming in problem solving.
- Understand basic programming techniques.
- write simple programs using numeric and non-numeric data.

Unit I: Overview of C Middle level language – compilers versus interpreter – the form of a C program – compiling a C program

Unit II: Primitive Data types Operators: Data types – type conversions – operators – formatted input/output functions.

Unit III: Control statements If, if-else, switch, for, while, do..while, break and continue.

Unit IV: Aggregate Data Types Arrays – strings – functions – call by values – call by reference – passing arrays as arguments – local, global static and external variables.

Unit IV: Structure and Union User defined data types – Structures - Union

Textbook:

Balagurusamy.E, Programming in ANSI 'C', 4th edition, Tata McGrawHill, 2007.

Reference:

Yashavant,K. Let Us C, 5th edition, BPB publications Nov 8 2011.

LSA 2404 COPING WITH SOCIAL AND ENVIRONMENTAL ISSUES
4hrs/Wk– 4 Cr

This course brings out various sociological and environmental issues that plague the everyday life of people in this fast-growing society. The students will be enlightened to identify the issues that they encounter around them and different ways to manage them efficiently for a better living.

Specific Learning Outcome: At the end of this course the student will be able to,

- Understand the importance of relationships and need for coping with them
- Manage their time, money and inherent skills for a successful living
- Find ways to protect their environment and preserve the precious resources
- Realize the impact of globalization in our society and adjust their living conditions

Unit I: Coping with Society

Family and Issues related to Marriage – Building relationships – Conflict management – Cultural alienation

Unit II: Coping with Human Resources

Time management – Money management – Skill management: Communication – Emotion – Social skills - Health management

Unit III: Environmental Issues

Environment Vs Ecology – Pollution: Air, Water, Soil, Sound – Deforestation – Exploitation of natural resources – Environmental protection

Unit IV: Coping with Globalization

Globalization – Trends in Education, Employment, Consumerism, Alienation of culture – Merits and Demerits of Globalization

Unit V: Coping with Technology

Technological developments – Technology in day today life - Social Media – Impacts of technology in modern society – Managing life with technology

References:

1. Alphonse, X. 2011, "We shall overcome" A Text book on Life coping skills", ICRDCE Publication, Chennai

AAQ 2406**Fish Feed Technology****4h/wk-4credits**

This theory course deals with the basic and applied aspects of feed production. Basic nutrient requirement of fish and their role in physiology. Various types of food preparation are discussed in detail. Commercial feed formulation and their energetic are discussed at the last section in the feeding methods and schedules, various techniques and tools are included.

Specific learning outcome at the end of the session students will be able to

- Analyze the nutritional requirement for normal fish growth
- Explain the composition commercial feed ingredient
- Calculate the feeding ration to obtain a good FCR

UNIT-I. Nutritional requirement

Protein, carbohydrate and lipid requirement—amino acid, fatty acid and non protein sources—vitamins and minerals—food additives, immunostimulants, growth promoters and preservatives.

UNIT-II. Feed ingredients

Animal, plant and microbial origin, SCP, silages—nutritional factors, compound feed, pellets, scrambles and micro encapsulated feed.

UNIT-III. Fish feed Formulation and preparation

Feed formulation methods and square methods—On farm feed manufacture – commercial feed formulation—Food storage.

UNIT-V. Nutritional physiology and pathology

Digestion and nutrient flow – factors affecting digestibility- anti nutritional factors and anti metabolites- microbial toxins- nutritional deficiency and symptoms.

UNIT-V. Fish Energetics

Feeding practices—feeding methods and scheduling—ration size, feed performance and economics.

Text book:

Guillame.J. Kaushik.S. Berqot.P. and Metallier.R. 2001. Nutrition and feeding of fish and crustaceans, Springer.

Reference:

1. Halver.J. and Hardy R.W. 2002. Fish nutrition. Academic press, London.
2. Lovell.R.T. 1998. Nutrition and feeding of fishes, Chapman & Hall, New York.
3. Houlihan,D., Boujard,T. and Jobling, M. 2001. Food intake in fish. Blackwell Science Ltd, London.
4. Aquaculture development and co-ordination programme fish feed technology ADCP/REP/ 80/11 FAO. ROME ADCP: 1980.

AAQ 2408

Post harvest technology

4h/wk-4credits

The objective of this course is to motivate the learner on the preparation of various aquaculture products. Further the students will be trained in making the value-added products like fish and prawn pickles and marinated products. In the last section other value-added products like sea weed agar and carrageenan are discussed in detail.

Specific learning outcome at the end of the session students will be able to

- Describe the various value-added products from fish
- Prepare various fishery products with their recipes
- Explain the procedure various fishery by products

UNIT-I. Value Addition in sea food

Different stages of value added products from fish and shell fish—advantages of value addition – Export value – supply and demand – marketing strategies.

UNIT-II. Fish mince-based products/coated fishery products

Fish mince and surimi production – different types of batter and breading — packaging and storing.

UNIT-III. Other Value-added products

Preparation of fish/prawn pickles, fish wafers, fish protein hydrolysate, fish curry and mussel products and marinated products.

UNIT-IV. Fishery by-products

Fish meal, protein concentrate, shark fin rays, fish maws, fish liver oil, squalene, pearl essence, gelatin, beche-de-mer, fish silage, sea weed products like agar, alginic acid and carrageenan.

UNIT-V. Infectious microbes and quality assurance of fish food products

Sources and types of microbes in fish and fishery products-factor affecting microbial action in food- spoilage of fresh, semi processed and processed fish and fishery products- amrinr, scombroia and ciguatera toxins assessment of quality changes in fresh and iced fish – HACCP guideline for sea food industry.

Text book:

Srivastava.C.B.L. 1988, A Text book of Fishery science and Indian Fisheries. Kitab Mahal publications

Reference:

John.E.Bardach John H.Ryther,William O.McLarney, 1972 Aquaculture—The Farming and Husbandry of Freshwater and Marine organisms. John Wiley& Sons, NY.

AAQ 2904**Aquaculture Lab - IV****10h/wk-10cr**

The laboratory component includes exercises for formulation and preparation of fish feed and feeding schedule. It will help to find the growth rate of fish and to prepare the value-added fishery products for commercial sales.

Specific learning outcome at the end of the session students will be able to

- Formulate and efficient fish feed
 - Indentify the brooders maturity
 - Prepare different fishery recipes
 - Gain knowledge by visiting nearby aqua farm and fish product outlets
- 1) Formulation and Preparation of a balanced Fish feed.
 - 2) Estimation of FCR from feeding trails and preparation of feeding table.
 - 3) Estimation of growth parameters from feeding trails.
 - 4) Feeding schedule preparation.
 - 5) Identification of brooders maturity.
 - 6) Determination of moisture content in fish and fish products.
 - 7) Preparation of fishery byproducts.
 - 8) Fish pickling techniques.
 - 9) Value added fish product preparation like fish curry, cutlets and fish fingers.
 - 10) Preparation of Surimi.
 - 11) Visiting nearby fish products commercial outlets.

Reference:

Srivastava. C.B.L. 1985 Text book of Fishery science and Indian Fisheries. Kitab Mahal publications.

Diploma in Medical Laboratory Technology

Sem	Course No	Course Title	Hrs/wk	Cr.
I	General Education			
	END 1403	Conversational Skills	4	4
	CSD 1403	Fundamentals of Computers	4	4
	LSD 1403	Fundamentals of Life Coping Skills	4	4
	Skill Component			
	DML 1409	Human Anatomy, Physiology & Clinical Pathology	4	4
	DML 1411	Fundamentals of Medical Laboratory Technology	4	4
	DML 1113	Lab – I	10	10
	Job Training			
	DML 1415	Internship I	120/sem	4
		Total		34
II	General Education			
	END 1404	Reading and Writing Skills	4	4
	CSD 1404	Office Automation Tools	4	4
	LSD 1404	Performance and Life Coping Skills	4	4
	Skill Component			
	DML 1410	Hematology & Blood Bank	4	4
	DML 1412	Clinical Biochemistry & Microbiology	4	4
	DML 1114	Lab – II	10	10
	Job Training			
	DML 1416	Internship II	120/sem	4
		Total		34

- Theory / Lab courses - 1 credit = 15 hours/Semester
- Internship – 1 credit = 30 hours/Semester

SEMESTER I
END 1403

Conversational Skills

4Hrs/4Cr

The course aims at helping students converse in English on the matters that matter to them in daily life. It provides the learners with ample opportunities and social contexts through conversations so that they can freely and fluently use informal English. It also exposes them to the apt vocabulary of such informal conversations.

Specific Learning Outcome:

At the completion of this course the students shall be able to

- enhance their conversational fluency as well accuracy
- fine-tune their pronunciation and accent
- become familiar with and therefore effortlessly internalize the structures of English

Unit 1: Introducing oneself and introducing others

Unit 2: Conversation in contexts: Day-to-day matters like eating, emotions, fashion, health, friendship, money, housing, job, faith & hope, busy life, memory, shopping, time, Traffic, travelling, vacation, weather

Unit 3: Social expressions

Unit 4: Practice in formal conversation

Unit 5: Practice in informal conversation

Textbook:

Sekar, J.J. (2014). *Conversational Skills*. Madurai. Department of English, The American College.

CSD 1403

Fundamentals of Computers

4hrs/Wk – 4 credits

Specific Learning Outcome:

After completing this course students will be able to

- Understand the computer generations and components.
- Understand basic functionality of the computer.
- Understand the computer data representation.

Unit I: Introduction to computers Generations of computers –components of computer – hardware – software -classification of computers – advantages and limitations – applications of computer

DML 4

Unit V: Assertive Skills: Assertive Behaviour – Benefits of being Assertive – Types of Assertion – Assertion rights – Developing assertive skill

References:

1. Alphonse X. (2011). *We shall overcome: A Text book on Life coping skills*. ICRDCE Publication, Chennai
2. *Human Values Development*. (2014). AIACHE Publication. New Delhi

DML 1409 Human Anatomy, Physiology and Clinical Pathology 4Hrs/4Cr

This course deals with the basic aspects of human anatomy and physiology of organ and systems like integumentary, digestive, respiratory, circulatory, nervous, endocrine, urinary and reproductive systems. This also deals with importance and methods of examining clinical specimens like urine, stool, sputum, semen and cavity fluids.

At the completion of this course student will be able to:

- understand the location, structure and functions of the organs present in the human body.
- acquire knowledge on pathological changes that can be noted in excretory waste products, expectorant, and various body fluids.
- appreciate the regulation of various hormones in the body.
- understand the principle and significance of urine, stool, sputum and semen analysis.

Unit I: Digestive, circulatory and respiratory systems: Digestive system – organs and digestion. Circulatory system- heart – circulation- Respiratory system – lungs – physiology of respiration.

Unit II: Urinary and reproductive systems: Urinary system - structure and function of kidney, nephron and urine formation. Reproduction – male and female reproductive organs – structure and functions.

Unit III: Endocrine glands and sensory organs: Endocrine glands, hormones and their regulation. Structure and function of eye, ear, nose, tongue and skin.

Unit IV: Clinical Pathology: Physical, Chemical and microscopic examination of urine, stool, sputum, semen and gastric juice.

Unit V: Cavity Fluid Analysis: Physical, chemical and microscopic examination of pleural, peritoneal, synovial, CSF and their clinical significances.

Textbook

1. David N, Jackie S, Butler L, & R Lewis. (2006). *Hole's Human Anatomy and Physiology*. Martin J Lange.
2. Talib VH. (2015). *A Hand Book of Medical Laboratory Technology*. 2nd Ed. CBS Publishers Pvt Ltd, New Delhi.

Reference

1. Graff KMV, and Fox SI. (1995). *Human Anatomy and Physiology*. WCB Publication, Toronto.
2. Davies A, Blakeley AGH and Kidd C. (2011), *Human Physiology*. Churchill Livingstone, Toronto.
3. Arora DR.(2010). *Medical Parasitology*. 3rd Ed. CBS Publishers Pvt Ltd, New-Delhi.
4. Cheesbrough M.(2007). *District Laboratory Practice in Tropical Countries*. Part 1&2. Cambridge University Press, United Kingdom.

DML 1411

Fundamentals of Medical Lab Technology

4Hrs/4Cr

This course is meant for developing knowledge and skills necessary to collect and handle the clinical samples, chemicals, instruments used in the laboratories. This course also deals with basic sample processing techniques, disposal of clinical waste and sterilization techniques.

At the completion of this course student will be able to

- train themselves in the field of laboratory diagnosis.
- familiarize in handling glassware, chemicals and instruments used in routine laboratory.
- understand sample collection and processing techniques with universal precaution.
- acquire information required to practice some important disinfecting techniques and disposal of bio-hazardous materials in the laboratories.

Unit I: Role of laboratory technologist and personal care: Role of Laboratory technician in health care - code of conduct, personal health care - universal precautions - medical examination and immunization against infectious diseases.

Unit II: Safety measures in the Laboratory: Laboratory hazards - preventive and corrective measures- use of protective clothing and personal hygiene- accident factors – safety signs and their information - safe working environment practices - First-aid and fire management. Decontamination of infectious material, disposal of laboratory wastes and safety signs.

Unit III: Working principle, handling of apparatus and instruments: Use and handling of glassware and small equipments - microscopes – centrifuges – rotator - vortex - incubators - dry blocks - water bath - hot air oven – autoclaves - photo colorimeters and spectrophotometer - digital balance - pH meter and semi auto analyzer.

Unit IV: Collection of clinical specimens: Blood Collection: Finger prick - venous blood collection: single and double syringe techniques – Vacutainer - aseptic blood collection for blood culture - anti coagulants and their uses and various containers used for blood collection. Urine collection methods - use of urine preservatives. Sputum collection: for AFB. Stool and semen sample. Collection, labeling, handling and storage.

Unit V: Recording and Processing of clinical samples: master and section registers maintenance – collection and recording, preparation and dispatch of reports - processing of EDTA blood – thin and thick blood smear - serum and plasma separation and centrifugation of urine samples. Wet smear for urine, stool, sputum and semen.

DML 6

Text Book

Cheesbrough M. (2007). *District Laboratory Practice in Tropical Countries*. Part 1&2. Cambridge University Press, United Kingdom.

References:

1. Godkar PB and Godkar DP. (2002). *A Text Book for Medical Lab Technology*, 2ndEd, Bhalami Publishing House, Mumbai.
2. Mukherjee KL. (2007). *Medical Laboratory Technology*. Vol.1. Tata McGraw hill, New-Delhi.
3. Talib VH. (2015). *A Hand Book of Medical Laboratory Technology*. 2nd Ed. CBS Publishers Pvt Ltd, New Delhi.
4. Fischbach. (2005). *Manual of Laboratory and Diagnostic Tests*. Lippincott Williams Wilkins, New York.

Job Role

- Receptionist at the Laboratory services in Hospitals
- Phlebotomist
- Serum Separating technician
- Lab technician
- Laboratory store keeper

DML 1113

Lab – I

10Hrs/10Cr

This course is designed to introduce and train certain basic skills required to collect and process, various sample and handle instruments and to perform simple test in hematology and clinical pathology.

At the completion of this course student will be able to

- practice laboratory safety, disinfection and disinfecting techniques.
- practice clinical sample collection techniques.
- understand the mechanism of laboratory instruments and handle them in the laboratory.
- process samples and perform simple tests

Part – 1

I. Safety in the Laboratory

- a. Using hand gloves, apron, masks and washing of hands.
- b. Universal precautions, preparation and use of disinfectants and discarding of biohazards.
- c. Handling of glassware, and small equipments and instruments.
- d. Sterilization techniques: chemical and autoclaving.

II. Sample Collection and storage

- a. Finger prick method, venous blood sample collection technique - vacutainer
- b. Blood samples: Use of anticoagulants and containers in collecting blood samples.
- c. Urine sample: Routine, early morning, twenty four hours sample and culture samples. Use of preservatives for analytes, 24 hrs Samples of biochemical tests and culture.
- d. Sputum: Random and early morning and culture sample.
- e. Stool Samples for microscopy and culture.
- f. Semen Collection - instruction to patient.

III. Sample Processing and identification of blood cells

- a. Processing of EDTA Blood - Handling of Shali pipette for making dilutions.
- b. Preparation of blood smear and staining techniques: - Leishman's staining.
- c. Fixing of thin blood film and Field A & B staining technique for Malarial parasites
- d. Identification of RBCs, WBCs and platelets.
- e. Serum Separation.
- f. Processing of urine.

Part -2**I. Laboratory Instruments: Working Principle, handling and maintenance**

- a. Microscopes – Monocular and binocular microscopes
- b. Centrifuges - Angle head & Swing types – Serofugeand Microhematocrit.
- c. Bacteriological Incubators. Hot air oven. Water bath.
- d. Autoclaves - Vertical & Horizontal types
- e. Photo colorimeters and Spectrophotometer.
- f. Semi-automated biochemistry analyzer.
- g. Analytical Balance, Electrical Balance and Vortex mixer.
- h. pH meter.
- i. Laminar Air Flow and Colony counter.

II. Handling of glassware and Preparation Reagents

- a. Preparation of % solutions(w/v and v/v): Normal Saline - 3% Sulphosalicylic acid solution – 10% Barium chloride solution – 10% potassium Hydroxide - 28% Zinc sulphate solution - 5% Sulphuric acid – 5% Hydrochloric acid and 25% Sulphuric acid.
- b. Preparation of Molar and Equivalent Solutions: 10M NaOH and 0.1N HCl.
- c. Preparation of Buffer solution: pH 6.8 for Lieshman's staining.

Part- 3

I. Urine Examination

- a. Physical examination of urine – using urinometer & pH Paper.
- b. Benedict qualitative test for reducing substances.
- c. Heat and acetic acid method, sulphosalicylic acid method for urine protein.
- d. Identification of Bence–Jones Protein and formaldehyde test.
- e. Strip Method: Urocolor -2 for urine Sugar(Glucose) and Protein.
- f. Urine acetone (Rothras Test)
- g. Urine bile pigments (Fouchet'sTest), Urobilinogen and bile salts (Hay's Test).
- h. Urine Microscopy – processing and smear making and focusing under 10x and 45x objectives.
- i. Identification of organized and unorganized sediments in the urine.
- j. Urine Pregnancy Test(UPT).

II. Stool Examination

- a. Stool Physical, chemical and microscopic examination.
- b. Stool occult blood.
- c. Stool reducing sugar and fats.

III.Sputum Examination

- a. Sputum – physical and microscopy (Direct, Gram and AFB)

IV.Semen Analysis.

Textbooks:

Cheesbrough M.(2007).*District Laboratory Practice in Tropical Countries*. Part 1&2. Cambridge University Press, United Kingdom.

References:

1. Talib VH. (2015). *A Hand Book of Medical Laboratory Technology*. 2nd Ed. CBS Publishers Pvt Ltd, New Delhi.
2. *Manual for Medical Laboratory Technology*. (2005). CMC Hospital Edition. Vellore
3. Cruickshank. (1975). *Medical Microbiology*. Vol II. ELBS, Churchill Livingstone Pub.
4. Ananthanarayanan and Panikkar J. (2005). *Text book of Medical Microbiology*. 4thEd. Orient Longman Ltd. Madras.

Job Role

Medical Laboratory Technician
Phlebotomist

DML 1415**Internship I****120Hrs/Sem-4Cr**

Job Training: A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts.

SEMESTER II
END 1404

Reading and Writing Skills**4 Hrs/4Cr**

The course aims at improving the learners' productive skills of English. It offers professional guidance on meaningful and aggressive reading experiences by familiarizing them with techniques and micro-skills of reading, comprehension abilities through literary and non-literary reading materials. It also strengthens their writing skills through the forms of writing that are useful to them academically and vocationally.

Specific Learning Outcome:

At the completion of this course the students shall be able to

- get training in aggressive speed reading with different sub-skills
- improve their comprehension abilities
- learn the art and craft of paragraph and a five-paragraph essay writing

Unit 1: Reading at various speeds, skimming & scanning, inferring & interpreting, predicting

Unit 2: Reading practice

Unit 3: Writing leave letters, apology letters and permission letters

Unit 4: Paragraph writing

Unit 5: Five-paragraph essay writing

Text Book:

Sekar, JJ. 2014. *Reading and Writing Skills*. Madurai. Department of English, The American College.

CSD 1404**Office Automation Tools****4hrs/Wk – 4 credits****Specific Learning Outcome:**

After completing this course students will be able to

- edit and format text data and tables to make a Document.
- design worksheet and manipulate data and represent through graphs
- design a Slide show presentation and show in Multimedia form.

Unit I: Microsoft Word Working with text - Formatting paragraph -Numbered and Bulleted lists -Working with Tables

Unit II: Mail Merging and Graphics - Spelling and Grammar Checking - Page format – Working with graphics

Unit III: Microsoft Excel Modifying a Worksheet -Formatting cells -Formula cells

Unit IV: Functions and Charts Formulae and Functions - Sorting and Filtering - Graphics – Charts.

Unit V: Power-Point Working with slides -Color Schemes – Graphics – Slide Effects – Master Slides – Presentations-Slide Shows–Animations.

Textbook:

MS-Office 2003 Manual by Microsoft

Reference

Curtin D.P, Kim Foley K, Kunalsen, Morin. C, "Information Technology- The Breaking Wave", TataMcGraw Hill 2002.

LSD1404

Performance and Life Coping Skills

4Hrs/4Cr

This course aims at nurturing the students in their career development by way of inculcating a set of essential skills which will guide and shape them to grow as confident and successful individuals.

Specific Learning Outcome:

At the end of this course the student will be able to

- Understand goal setting and ways to manage their time
- Find out the ways to motivate themselves and others
- Appreciate the need for problem solving skill in everyone's life
- Understand stress and how to cope up with stress
- Realize the importance of dealing with emotions for positive mental health

Unit I: Goal Setting: Definition – Importance of Goals – SMART Goal & Time management – Types of Goals - Obstacles – Successful and Meaningful life

Unit II: Motivation Skill: Introduction to Motivation & Inspiration – Internal and External motivation – Methods of Motivation – Effects of de motivation

Unit III: Problem Solving Skill: Definition of problem – Reasons for problems – Stages of solving problems: Evaluation, Managing, Decision making, Resolving, Results

Unit IV: Stress Management: Definition of Stress: Positive (Eustress), Negative (Destress) – Stressors: Internal, External – Causes of Stress – Types of Stress – Ways to manage stress

Unit V: Time Management: Need for time management – Poor Time management – Saboteur Time styles – Techniques for managing time

References:

Alphonse X. (2011). *We shall overcome: A Text book on Life coping skills*. ICRDCE Publication, Chennai

DML 1410

Haematology & Blood Bank

4Hrs/4Cr

This course deals with the technology involved in the routine examination of blood cells, blood parasites and coagulation factors in the diagnosis of clinical conditions. This also deals with the blood bank techniques required for safe blood transfusion.

Specific Learning Outcome:

At the completion of this course student will be able to:

- understand the basic routine tests in hematology and coagulation studies.
- correlate test values of related parameters in the laboratory diagnosis of clinical conditions.
- know the significance of quality control and preparing reports.
- acquire basic information required to carry out some blood bank practices in clinical laboratory set-up.

Unit I: Hematology: Composition and formation of blood, morphology and functions of blood cells - staining of blood smear - enumeration of Total and Differential leukocyte count - Estimation of Hemoglobin with Sahli's and Cyanmethemoglobin methods - Erythrocyte Sedimentation Rate (ESR) - Packed Cell Volume - Calculation of erythrocyte indices - Reticulocyte, platelet and Eosinophil counts - L.E Cell preparation - Anisocytes and Poikilocytes - Hypo and polychromasia - Red cell inclusions - Grading of blood film - Anaemias and Leukaemias. Morphology, life cycle and investigation of blood parasites.

Unit II: Blood Parasites and Coagulation Studies: Introduction to blood parasites - Life cycle and morphology of different stages of *Plasmodium spp*, *Lieshmaniadonovani* - *Wuchereriabancrofti*. **Coagulation Studies:** Hemostasis - phases - coagulation factors - mechanism of blood coagulation - Regulators of blood coagulation. Bleeding time(Ivy method) - clotting time(Lee and White method) - prothrombin time - activated partial thromboplastin time - thrombin time - clot retraction and clot lysis tests. Laboratory findings in various bleeding disorders.

Unit III: Blood bank techniques: Blood group system - ABO and Rh - antigen and antibody reaction: Agglutination and Hemolysis - Rouleaux formation and Prozone reaction -factors influencing the rate of antigen antibody reaction - formation of blood groups - ABO grouping - sub group of A and Bombay group - Rh(D) Typing slide and tube technique - Rh(Du) testing. Compatibility testing - characteristics of ABO and Rh antibodies - Antibody titre. Coomb'sCroos match.

Unit IV: Blood transfusion: Donor selection, screening and bleeding techniques. Transfusion reactions and its investigation. Storage, separation techniques and use of blood products. Blood donation record book - recording of results - blood donor card - documentation in blood bank activities - blood transfusion request form - Record maintenance.

Unit V: Hemolytic disease of the New Born and Hemoglobinopathies: Definition and pathology of HDN babies - Laboratory Diagnosis of HDN. Coomb's reaction - Direct Coomb's test - Indirect Coomb's test - Coomb's Cross Match technique for Exchange Blood Transfusion in HDN babies - Sickle cell anemia and Thalassemia, Hereditary Spherocytosis and Ovalocytosis -Osmatic fragility test and Hb electrophoresis.

DML 12

Textbook:

Sood R. (1996). *Laboratory Technology (Methods and interpretation)*. 4th Ed. J.P. Bros, New Delhi

References

1. Talib VH. (2015). *A Hand Book of Medical Laboratory Technology*. 2nd Ed. CBS Publishers Pvt Ltd, New Delhi.
2. Cheesbrough M. (2007). *District Laboratory Practice in Tropical Countries*. Part 1&2. Cambridge University Press, United Kingdom.
3. Godkar PB and Godkar DP. (2002). *A Text Book for Medical Lab Technology*. 2nd Ed, Bhalami Publishing House, Mumbai.
4. Mukherjee KL. (2007). *Medical Laboratory Technology*. Vol.1. Tata McGraw hill, New-Delhi.

Job Role

- Clinical Lab technician
- Serum separation technician
- Blood Bank technician and officer
- Hematology technician

DML 1412

Clinical Biochemistry & Microbiology

4Hrs/4Cr

This course is designed to acquire knowledge on normal and abnormal metabolic reactions in human body; the principles and procedures involved in laboratory diagnosis of various clinical conditions. This also deals with pathogenicity and identification of microbes in clinical samples.

Specific Learning Outcome:

At the completion of this course, student will be able to

- understand various biochemical changes that take place in metabolic and hormonal disorders.
- know the importance and methods of estimating analytes in blood, urine and cavity fluids.
- identify and understand the pathogenesis of various microbes in human.
- understand the mechanism of immunity to infection and method of detecting pathogens in clinical samples.

Unit I: Biochemistry: Introduction to biochemistry - contribution of biochemical studies on diagnosis - metabolism of carbohydrates, Lipids and bilirubin; Formation of urea, creatinine and uric acid; Laboratory diagnosis on lipid profile, renal, liver and thyroid function tests.

Unit II: Estimation of analytes and interpretation: End point methods: Serum glucose - glucose tolerance test - cholesterol - serum uric acid - total protein - serum albumin - serum total and direct bilirubins; Kinetic methods: Serum urea - creatinine - ALT - AST and ALP. Introduction to electrolytes - laboratory diagnosis and clinical conditions related to electrolyte imbalances.

Unit III: Clinical Bacteriology: Introduction to clinical bacteriology - classification of pathogenic and non-pathogenic bacteria. Bacteria in respiratory, blood, CSF, urinary, intestinal tracts and skin. Growth and colony morphology of bacteria on selective and differential media. Hanging drop, wet mount technique - Gram stain, AFB and Albert's staining techniques - Inoculation technique - Haemolysis - IMVic tests - Bile solubility test and Kirby Bauer antibiotic sensitivity test.

Unit IV: Clinical Mycology and Parasitology: Introduction to mycology - Morphological features of pathogenic fungi - KOH and LPCB and Grams morphology of clinically important fungi - collection of specimen and preparation of smear. Introduction to intestinal parasites - Protozoans: *Entamoeba histolytica* and *Entamoeba coli* - *Giardia lamblia* - *Ascaris lumbricoides*, *Trichuris trichura*, *Ancylostoma duodenale* and *Nicator americanus*, (*Strongyloides stercoralis*) - Trematodes (Ova of *Scistosomamansonali*, *S.japonicum cestodes*) - Cestodes (Adult worm and gravid segments of *Taenia solium*, *T.saginata*, *Diphyllobothrium latum* and *Hymanolepsis nana*) - Parasites found in urine and blood (*Trichomonas vaginalis*, Ova of *Schistosoma hematobium*).

Unit V: Immunology and Serology: Introduction to immunology - Type of immune responses to infection by microorganisms. Structure of immunoglobulin - Windows period - primary and secondary immune response types of viruses, mode of infection, pathogenesis and serological diagnosis of clinical conditions. Principle of Widal and VDRL (RPR) - HIV Tri Dot, HBsAg and HCV Rapid tests. Dengue IgM and IgG and Chikungunya IgM Rapid Tests - RA, ASO and CRP latex slide tests (semi quantitative).

Textbook:

- Ananthanarayanan and Panikkar J. (2005). Text book of Medical Microbiology. 4th Ed. Orient Longman Ltd. Madras.
 Talib VH. (2015). *A Hand Book of Medical Laboratory Technology*. 2nd Ed. CBS Publishers Pvt Ltd, New Delhi.

References:

1. Arora DR, & Arora B. (2005). *Medical parasitology*. CBS Publishers.
2. Ryan KJ, & Ray CG. (2014). *Sherris medical microbiology*. McGraw-Hill Education/Medical.
3. Cheesbrough M. (2007). *District Laboratory Practice in Tropical Countries*. Part 1&2. Cambridge University Press, United Kingdom.
4. Chatterjee MN, and R Shinde. (2005). *Textbook of Medical Biochemistry*, Jaypee Brothers, New Delhi.

Job Role

- Biochemical Analyst in hospitals, research institutes and pharmaceutical companies
- Microbiologist in hospitals, research institutes and pharmaceutical companies
- Technician in soil and water testing laboratories.

This lab course is designed to develop skills to perform routine clinical tests in Serology, Parasitology, Microbiology, hematology and Blood Bank and to run relevant quality control programs.

Specific Learning Outcome:

At the end of this course student will be able to

- perform and interpret routine laboratory tests in serology, microbiology, hematology, blood bank and biochemistry.
- calibrate instruments and equipments used in the laboratory.
- run quality control programs in hematology, biochemistry and microbiology and maintain accuracy and precision pre automated procedures.
- collect, compare, justify test value of individual patient and prepare reports to the physician.

Part - 1

I. Serology

- a. Widal Slide Test- semi-quantitative.
- b. VDRL (RPR) – Test & Syphicheckcard Test.
- c. HIV Tri Dot, HBsAg and HCV Rapid Tests
- d. Dengue IgM and IgG ,and Chikungunya IgM Rapid Tests
- e. RA, ASO and CRP Latex Slide Tests – semi-quantitative.
- f. Quantitative estimation of CRP, ASO and RA using semi auto-analyzer/ Nephelometry.

II. Parasitology and Microbiology

- a. Wet cover slip preparation with normal saline and Lugol's Iodine and identification of intestinal parasites.
- b. Preparation of smears from sputum, culture plates and swabs.
- c. Staining techniques: simple stain, KOH, Gram and Ziehl- Neelsen and AFB
- d. Urine AFB: Processing and staining and examining.
- e. Skin slit for Lepra bacilli and cold Staining and identification and grading of smear.
- f. Skin Scraping and KOH and LPCB staining.
- g. Gram stain morphology: *Candida albicans* and *Cryptococci neoformans*.
- h. Hanging Drop preparation.
- i. Inoculation techniques – Use and handling of culture plates, tubes, loops, needle and Swab.
- j. Preparation of Nutrient Agar, Blood Agar and MacConkey Agar media.
- k. Colony morphology of bacteria on Nutrient, Blood and MacConkey Agar plates.
- l. Performing and reading of Mannitol, TSI, Indol and Urease.

Part – 2

I. Routine Hematology and Blood Bank procedures

- a. Preparation of thin and thick smears, staining of blood smear with Leshman's stain and identification of blood cells.
- b. Fixing, staining of thin and thick smear with Field A&B stains for malarial parasites and identification of parasites.
- c. Differential WBC count with Leshman's stained smear.
- d. Estimation of Hemoglobin: Sahli's and Cyanmethemoglobin method.
- e. Total WBC count: Micro and bulk dilution techniques.
- f. Erythrocyte Sedimentation Rate (ESR) – Westergren method.
- g. Packed Cell Volume (PCV)-Wintrobe tubes and microhematocrit methods.
- h. Reticulocyte count.
- i. Identification of Malarial Parasites using Field stain A & B and MP Card test.
- j. Examination of night blood for microfilaria on wet cover slip preparation and Leshman's stain smear and MF card Test.
- k. Spotters: Thrombocytosis, Thrombocytopaenia, Platelet aggregation, Leukocytosis, Leukopaenia, Eosinophilia, Neutrophilia, Toxic changes and microfilaria.
- l. Anaemias and Leukaemias: Iron deficiency anaemia, Megaloblastic anaemia, HDN, AML, CML, ALL, CLL, Monocytic and promyelocytic leukaemia.
- m. Clot retraction and clot lysis
- n. Bleeding Time (Duke and Ivy methods).
- o. Clotting Time (Capillary tube and Lee – White methods).
- p. Prothrombin Time (Unioplastin Kit method).
- q. Blood Grouping and Typing – Front and Back typing.
- r. Antibody titre.
- s. Saline cross match.
- t. Albumin cross match.
- u. Direct Coomb's test.
- v. Indirect Coomb's test.

Part - 3

I. Biochemistry: End-point Methods

- a. Estimation of Serum Glucose and Glucose Tolerance Test.
- b. Estimation of Total Cholesterol.
- c. Estimation of Serum Uric acid.
- d. Estimation of Serum Total Protein and albumin
- e. Estimation of Serum Total Bilirubin and Direct Bilirubin.
- f. Estimation of HDL, LDL cholesterol and CPK-MB.

Kinetic methods

- a. Estimation of Serum Creatinine and Urea.
- b. Estimation of Liver enzymes: ALT, AST, ALP and serum amylase

Textbook:

Cheesbrough M.(2007). *District Laboratory Practice in Tropical Countries*. Part 1&2. Cambridge University Press, United Kingdom.

DML 16

References:

1. Talib VH. (2015). *A Hand Book of Medical Laboratory Technology*. 2nd Ed, CBS Publishers Pvt Ltd, New Delhi.
2. *Manual for Medical Laboratory Technology*. (2005). CMC Hospital Edition, Vellore
3. Ananthanarayanan and Panikkar J. (2005). *Text book of Medical Microbiology*. 4th Ed. Orient Longman Ltd. Madras.

Job Role

- Medical Laboratory Technician - Microbiology
- Hematologist | Biochemical Analyst

DML 1416

Internship II

120Hrs/Sem-4Cr

Job Training: A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts.

Advanced Diploma in Medical Laboratory Technology

Sem	Course No	Course Title	Hrs/wk	Cr.
III	General Education			
	ENA 2403	Study Skills	4	4
	CSA 2403	Operating System	4	4
	LSA 2403	Coping with Psychological and Physical Issues	4	4
	Skill Component			
	AML 2409	Immunohematology & Transfusion Medicine	4	4
	AML 2411	Biomedical techniques, Automation & Quality Control Program	4	4
	AML 2113	Lab – III	10	10
	Job Training			
	AML 2415	Internship III	120	4
		Total		34
IV	General Education			
	ENA 2404	Career Skills	4	4
	CSA 2404	Programming Techniques using C	4	4
	LSA 2404	Coping with Social and Environmental Issues	4	4
	Skill Component			
	AML 2410	Body Fluid Analysis	4	4
	AML 2412	Histopathology & Cytology	4	4
	AML 2114	Lab – IV	10	10
	Job Training			
	AML 2416	Internship IV	120/sem	4
		Total		34

- Theory / Lab courses - 1 credit = 15 hours/Semester
- Internship – 1 credit = 30 hours/Semester

AML 2

ENA 2403

Study Skills

4Hrs/4Cr

The third sequential General English course aims at empowering Advance Diploma students with study skills necessary to continue their chosen major disciplines. The course will help students to develop study skills and strategies for academic success.

Specific Learning Outcome:

At the end of the course, students shall be able to

- develop healthy study habits and improve homework habits
- fine tune their academic skills
- apply time management skills
- understand psychological traits
- use ICT skills

Unit-1 General: Definition & scope of study skills, study habits, strategies to improve study skills

Unit-2 Academic Skills: Effective reading strategies & essay writing, note taking & making, summarizing, paraphrasing, information transfer

Unit-3 Time Management: Motivation & success, barrier to time management

Unit-4 Psychological Traits: Concentration skills, memory, coping with test anxiety, critical thinking

Unit-5 ICT: ICT skills

Textbook

Sekar, J.J. (2015). *Study Skills*. Madurai: Department of English, The American College

CSA 2403

Operating Systems

4hrs/Wk. – 4 Credits

Specific Learning Outcome:

After completing this course students will able to

- Understand the role of Operating system as an interface between user and computer.
- Understand the basic functionality of Operating system.
- Understand the operation of Mobile OS.

Unit I: Introduction to operating system BIOS – DOS – Windows - types of operating system – operating system services - desktop operating system

Unit II: Network operating System - Server operating system – mainframe operating system – embedded operating system.

Unit III: Windows - Features of Windows Operating system – Multiprogramming

Unit IV: Process / Memory Scheduling - Multitasking – Buffering – Spooling – Time sharing – Browser support.

Unit V: Introduction to Android Application of Android – Features of Android – Messaging -Voice based features- Multitasking-Screen Capture-Video Calling-Multiple Language support.

Text books:

1. Alphonse X, 2011 ICRDCE publication, December
2. Silberchatz, Galvin and Gagne, 1999. Operating system concepts, John Wiley and sons.

References:

1. Curtin D.P, Foley K, Kunalsen, Morin, C. 2002. Information Technology- The Breaking Wave, TataMcGraw Hill.
2. http://en.wikipedia.org/wiki/List_of_features_in_Android

LSA 2403

Coping with Psychological and Physical Issues 4Hrs/4Cr

This course aims at making the students understand the need for learning psychological and physical issues which pose as a challenge in the transforming societies. Also, it directs them to take charge of their lives through various ways and cope up with such issues.

Specific Learning Outcome:

At the end of this course, the student will be able to

- understand the types of fear and shyness and the ways of overcoming them
- manage emotions and stress
- appreciate the types and styles of communications
- understand the ways of coping with addiction and sexuality

Unit I: Coping with Fear and Shyness: Understanding fear - types of fear – overcoming fear – shyness – types – managing shyness

Unit II: Coping with Emotions & Stress: Types of emotions – managing emotions – stress types & need for understanding stress –ways to manage stress

Unit III: Communication & Failure: Communication – types & styles – ways to improve communication – failure – managing failures

Unit IV: Coping with Addictions:Drug addictions – causes of addiction – physical & societal implications – internet addiction – cybercrime - types and causes – managing addictions

Unit V: Coping with Sexuality: Sex and Gender – understanding gender discrimination – coping with gender discrimination – understanding sexuality – consequences of premarital & extra-marital sexual issues – managing sexuality

AML 4

References:

1. Alphonse X. (2011). *We shall overcome - A Textbook on Life coping skills*. Indian Centre for Research and Development of Community Education (ICRDCE) Publication, Chennai
2. Khera S. (2003). *Living with Honour*. Macmillan Publishers India Ltd.
3. Bodger C. (1999). *Smart Guide to Relieving Stress*. Wiley Publications.
4. Brewer CK. (1995). *Managing Stress*. National Press Publications.

AML 2409

Immunohematology & Transfusion Medicine 4Hrs/4Cr

This course is designed to give basic knowledge on blood cell antigens and to develop skills on blood bank procedures. This also deals with investigation of hemolytic diseases of newborn and blood transfusion medicine.

Specific Learning Outcome:

At the end of this course, student will be able to

- understand the nature of blood cell antigen and antibody reactions
- appreciate grouping and typing of blood samples.
- acquire knowledge on compatibility testing for transfusion
- know the significance of HLA in transplantation

Unit I: ABO system: Historical context of A, B, AB, O groups, sub group of A. Kell, Duffy and Lewis system. Genetics and biochemical characteristics of blood groups - distribution of red cell antigen and antibody. Antigen-Antibody reaction -naturally occurring antibody and immune antibody reactions - front and back type - anti-H Lectin test - Lectin (A1) test.

Unit II: Rh (D) System:Historical context of D Antigen and its weak form (Du). Genetics and formation of Rh(D) antibodies. Rh (D) and Rh (Du) tests - characteristics of naturally occurring antibodies and antibodies - saline and Coomb's crossmatch. Allo-antibodies. Haemolytic diseases of new born, ABO and Rh incompatibility - Diagnosis of HDN. Crossmatch for neonatal - exchange transfusion. Direct and indirect Coomb's tests.

Unit III: Blood transfusion and complication: Clinical importance of blood transfusion, anticoagulants and storage. Donor selection and screening. Donor bleeding procedure and donor care -Transfusion reaction: Non Infectious Complication. Acute transfusion reaction and evaluation. Delayed consequences of transfusion. Infectious complication of Blood transfusion: Hepatitis, HIV, Human T-cell Lymphotropic Viruses and Cytomegalovirus.

Unit IV: Transfusion medicine: Haemapheresis/Plasmapheresis:Separation devices. Blood component collection - clinical consideration in transfusion practices: RBC, Platelet, Granulocyte transfusion. Transfusion of fresh, frozen and cryoprecipitates, plasma derivatives -neonatal and paediatric transfusion practices.

Unit V: The HLA System: Major histocompatibility complex. Role and detection of HLA in organ and bone marrow transplantation: Autologous and Allogenic transplantation.

Textbook

Sood R. (2006). *Laboratory Technology (Methods and interpretation)*. 4TH Ed. J.P. Bros, New Delhi

References

1. Talib VH. (2015). *A Hand Book of Medical Laboratory Technology*. 2nd Ed. CBS Publishers Pvt Ltd, New Delhi.
2. Cheesbrough M. (2007). *District Laboratory Practice in Tropical Countries*. Part 1&2. Cambridge University Press, United Kingdom.
3. Godkar PB and Godkar DP. (2002). *A Text Book for Medical Lab Technology*. 2nd Ed, Bhalami Publishing House, Mumbai.
4. Mukherjee KL. (2007). *Medical Laboratory Technology*. Vol.1. Tata McGraw hill, New-Delhi.
5. *Manual for Medical Laboratory Technology*. (2005). CMC Hospital Edition. Vellore

Job Role

- Blood Bank Technician
- Lab Technician
- Serum separation Technician
- Blood bank officer

AML 2406

**Biomedical Techniques, Automation 4Hrs/4Cr
And Quality Control Programme**

This course emphasizes on various types of advanced technology and instruments used in the clinical laboratory, their working principles, operation techniques, calibration and quality control. This is also designed to give some basic knowledge on instruments in clinician chambers.

Specific Learning Outcome:

At the end of this course student will be able to

- understand the importance in calibrating manual and automated laboratory instruments.
- acquire knowledge on modern techniques in the diagnosis for various metabolic disorders.
- appreciate the mechanism of semi and auto analyzers.

Unit I: Advanced technology in the diagnosis of infection: Chromatography techniques. Partition and Adsorption chromatography. Immuno assay: Enzyme linked immunosorbent assay (ELISA) – Chemiluminescence immune assay CLIA) - Auto analyzers based immunoassay – Microparticle Enzyme immune assay (MEIA) - Patented colorimetric detection technique in identification of bacteria - Radioimmunoassay (RIA).

Unit II: Advanced biochemical technique: Biosensors: Blood glucose and hemoglobinometer. Colorimeter and Spectrophotometer. Biochemical analyzers: Multiple and single channel continuous flow analyzers - discrete autoanalyzers - component steps in fully automated systems – Batch and stat discrete autoanalyzers – centrifugal fast analyzers. Flame emission photometry (FEP) and Ion Selective Electrodes (ISE).

Unit III: Automation in Hematology laboratory: Blood cell counter analyzer: Electrical impedance technology – Flow cytometry technology – Fluorescent flow cytometry technology. Coagulation Analyzers: Mechanical and Photo optical mode. ESR Analyzers: Infrared detection.

Unit IV: Quality management and Quality Control: Introduction – General approach to quality control - Total Quality Management – Internal Quality Control – Two Phases of IQC - Reference Materials and Calibrating Definitive Methods – Quality Control Program – Methods of QC in Clinical Chemistry laboratory – Methods of QC in Hematology Laboratory and Blood Bank – Methods of QC in Microbiology and Serology Laboratory – Reference Range - Preparation of Quality control Chart.

Unit V: ECG and Oximetry: Normal ECG - ECG abnormalities, ECG recorder - single channel, multichannel, Tread mill ECG, ECG monitor - Cardiac defibrillator - Pacemaker, Digital subtraction angiography - Oximetry: transmission, reflection and fingertip pulse oximetry. Echo cardiography - colour doppler - Heart lung machine - Infusion pump - Blood gas analyzer.

Text Book

Veerakumar L. (2015). *Bioinstrumentation*. MJP Publishers, Chennai.

References

1. Talib VH. (2015). *A Hand Book of Medical Laboratory Technology*. 2nd Ed. CBS Publishers Pvt Ltd, New Delhi.
2. Cheesbrough M. (2007). *District Laboratory Practice in Tropical Countries*. Part 1 & 2. Cambridge University Press, United Kingdom.
3. Fischbach. (2005). *Manual Of Lab and Diagnostic Tests*. Lippincott Williams Wilkins, New York.
4. Gradwohl RBH, Sonnenwirth AC, & L Jarett. (1980). *Gradwohl's Clinical Laboratory Methods and Diagnosis*. Mosby
5. *Manual for Medical Laboratory Technology*. (2005). CMC Hospital Edition. Vellore

Job Role

Medical Technologist – Immunology, Hematology and Biochemistry.
Technician – ECG Lab

This course is designed to develop skills in the laboratory diagnosis of clinical condition in the field of hematology, coagulation studies, blood bank, biochemistry, and microbiology. This also deals with quality control management and program in the laboratory.

Specific Learning Outcome:

At the end of this course student will be able to

- understand laboratory diagnosis of coagulation disorders.
- perform various cells counting technique for abnormal low and high count and peripheral smear study.
- examine peripheral smear and bone marrow for the diagnose of anaemias, leukaemias, hemoglobinopathies and parasites.
- carry out biochemical tests and blood bank procedures and quality control programs.

Part -1

I. Advanced Hematology and Coagulation Studies.

- a. Identification of immature WBCs and RBCs.
- b. Reticulocyte Count.
- c. Absolute Eosinophil Count.
- d. Platelet Count.
- e. Bleeding Time (Ivy Method) and Duke's Method.
- f. Clotting Time (Lee and White method) and Capillary tube method.
- g. Determination of Clot retraction and Lysis Time.
- h. Prothrombin Time.

Spotters:

- a. Leukocytosis, leukopaenia, eosinophilia, Lymphocytosis, monocytosis and basophilia
- b. Thrombocytosis, thrombocytopaenia and pancytopaenia.
- c. Anisocytosis, poikilocytosis, hypochromia and polychromasia
- d. Red Cell Inclusions: Basophilic stippling, Howell-jolly Bodies, Cabot Ring and Nucleated RBCs

II. Anaemias and Leukaemias (Spotters)

- a. Non-Hemolytic Anaemias:
 - i. Normochromic and Normocytic anaemia
 - ii. Iron Deficiency anaemia.
 - iii. MegloplasticAnaemia (Pernicious Anaemia)
 - iv. Aplastic Anaemia.
- b. Hemolytic anaemias:
 - i. Sickle Cell anaemia
 - ii. α and β thalassaemia.
- c. Hereditary Spherocytosis.
- d. HereditaryOvelocytosis.
- e. Haemolytic Disease of the New born (HDN-ABO and Rh).

III. Leukaemias - Spotters

- a. Aleukaemic and Sub Leukemic Leukaemia.
- b. Acute and Chronic Myeloid Leukaemia.
- c. Acute and Chronic Lymphatic Leukaemia.
- d. Promyelocytic Leukaemia and Monocytic Leukaemia.
- e. Peripheral Smear Study.
- f. L. E Cell preparation.
- g. L.D Bodies in Bone marrow.

Part - 2

I. Advanced Blood Bank Procedures.

- a. ABO Grouping : Front type and Back typing
- b. Rh(D) typing and Rh(Du) testing.
- c. Agglutination, hemolysis, rouleaux formation and prozone reaction.
- d. Saline Cross Matching.
- e. Antibody Titre.
- f. Direct Coomb's Test
- g. Indirect Coomb's Test
- h. Coomb's Cross matching
- i. Cross match for exchange blood transfusion.

II. Body Fluid Analysis

- a. C. S. F Analysis.
- b. Peritoneal and pleural analysis.
- c. Synovial Fluid analysis.
- d. Semen analysis.
- e. Sputum Analysis.
- f. Gastric Juice analysis.

Part - 3

I. Advanced Biochemistry and Microbiology

- a. Use and handling of semi-automated biochemistry analyzer.
- b. Calibration of Micro pipettes and analyzers.
- c. Quality Control program.

II. Estimation of analytes (End point methods)

- a. Estimation of Glucose.
- b. Total cholesterol.
- c. Serum Uric acid.
- d. Serum Total Protein and 24 hrs protein.
- e. Serum Albumin.
- f. Serum Bilirubin (Total and Direct).

III. Estimation of analytes (Kinetic Methods)

- a. Estimation of Serum and Urine Creatinine and creatinine clearance test.
- b. Estimation of Serum Urea.
- c. Estimation of Aspartate aminotransferase (AST or SGOT).
- d. Estimation of Alanine aminotransferase (ALT or SGPT).
- e. Estimation of Serum Alkaline phosphatase (ALP or ALK).
- f. Detection of Total and Copro Porphyrins in Urine.
- g. Rapid Screening test of Urine, Blood and Stool for Porphyrins.
- h. Detection of Porphobilinogen.

- i. Detection of Urobilinogen and Bilirubin in Urine.
- j. Detection of Stercobilin in Urine.

IV. Diagnostic Microbiology

- a. Preparation of Culture media: Nutrient Agar and MacConkey Agar, Salmonella – Shigella Agar, Blood Agar, Chocolate Agar, Muller Hinton Agar, Nutrient Broth.
- b. Preparation smears from CSF swab and cavity fluids
- c. Inoculation techniques.
- d. Gram's staining and colony morphology
- e. Preparation of Mannitol, TSI and biochemical test media: Indole, Methyl Red, Citrase, Urease, Nitrate, Voges
- f. Biochemical Identification of urine gram negative bacteria: *Escherichia coli*, *Klebsiella*, *Proteus*, *Pseudomonas* sp.
- g. Urine culture and colony count
- h. Sensitivity Testing for Urine gram negative rods.
- i. Identification of clinically important gram positive cocci in cavity fluids and pus.
- j. Catalase, Coagulase and Hemolysis test.
- k. Preparation of bile infusion broth.
- l. Optocin tests and oxidase test.
- m. CSF and blood culture.
- n. Pus and cavity fluid culture.
- o. Stool Culture.
- p. Sputum and throat swab interpretation.
- q. Mycology
 - i. KOH, LPCB, India Ink staining techniques and identification of fungi from skin, nails and hairs.
 - ii. Gram morphology of *Cryptococcus neoformans* and *Candida albicans*.
 - iii. Preparation of Fungal Media – Sabouraud Dextrose Agar
- r. Parasitology
 - i. Microscopy: Direct smear - Saline and Lugol's iodine preparation.
 - ii. Zinc Sulphate concentration technique for ovas and cysts.
 - iii. Preparation of Schaudinn's Fixatives and fixation fecal smear technique.
 - iv. Preparation of Iron - Hematoxylin stain and staining technique for stool.
 - v. Stool occult blood test (Kit).

Handbook:

1. Cheesbrough M. (2007). *District Laboratory Practice in Tropical Countries*. Part 1 & 2. Cambridge University Press, United Kingdom
2. Talib VH. (2015). *A Hand Book of Medical Laboratory Technology*. 2nd Ed. CBS Publishers Pvt Ltd, New Delhi.

References:

3. *Manual for Medical Laboratory Technology*. (2005). CMC Hospital Edition. Vellore
4. Ananthanarayanan and Panikkar J. (2005). *Text book of Medical Microbiology*. 4th Ed. Orient Longman Ltd. Madras.

AML 10

AML 2415

Internship III

120Hrs/Sem-4Cr

Job Training: A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts.

ENA 2404

Career Skills

4 Hrs/4Cr

The fourth sequential General English Course aims at empowering Advance Diploma students with communication & cognitive skills and personality traits necessary to empower their career skills. The course will help students in developing career skills and strategies for successful profession.

Specific Learning Outcome:

At the end of the course students will be able to

- develop communication skills
- acquire the interview skills
- improve cognitive skills
- enhance thinking skills
- master personal traits

Unit 1 Communication Skills: Active Listening & speaking, written & oral communication

Unit 2 Interview Skills: Interview questions, job application, CV preparation, self-introduction

Unit 3 Cognitive Skills: Self-motivation, setting personal goals

Unit 4 Thinking Skills: Strategic thinking, organization

Unit 5 Personal Traits Skills: Personal development & empowerment, Self-esteem

Textbook

Sekar, J.J. (2015). *Career Skills*. Madurai: Department of English, The American College.

Diploma in Food Processing and Preservation

Sem	Course No	Course Title	Hrs/wk	Cr.
I	General Education			
	END 1401	Conversational skills	4	4
	CSD 1401	Fundamentals of Computers	4	4
	LSD 1401	Fundamentals of Life Coping Skills	4	4
	Skill Component			
	DFP 1401	Basics of Food science and Technology	4	4
	DFP 1403	Processing and Preservation of Fruits& Vegetables	4	4
	DFP 1101	Lab – I	10	10
	Job Training			
	DFP 1405	Internship I	120/sem	4
		Total		34
II	General Education			
	END 1402	Reading and Writing skills	4	4
	CSD 1402	Office Automation tools	4	4
	LSD 1402	Performance and Life Coping Skills	4	4
	Skill Component			
	DFP 1402	Processing of Grains	4	4
	DFP 1404	Food Packaging	4	4
	DFP 1102	Lab – II	10	10
	Job Training			
	DFP 1406	Internship II	120/sem	4
		Total		34

- Theory / Lab courses - 1 credit = 15 hours/Semester
- Internship – 1 credit = 30 hours/Semester

Placed AS ASSISTANT JOB IN ANY FOOD PROCESSING SECTOR

DFP 1401 Basics of Food Science and Technology 4Hrs/Wk – 4Credits

To understand the basic aspects of food science and technology

Unit I: Introduction to Food Science: Introduction to food-food science- Food chemistry – fats, oil – Food Biochemistry – Proteins, enzymes, carbohydrates, vitamins, minerals and pigments.

Unit II: Food Microbiology and Fermentation History – Bacteria, Yeast, Fungi, Algae, physiology of microorganisms – chemical and biological factors influencing the destruction of microorganisms - Types of fermenters and fermented food products.

Unit III: Introduction to Food Technology: Units and conversions, Fluid flow – Viscosity, flow measurement, heat transfer – conduction, convection and radiation, mass transfer – diffusion, mass transfer rate.

Unit IV: Unit Operation in Food Processing Mixing, drying, evaporation, separation and grinding.

References:

1. Fellows, P., 2005, Food Processing Technology: Principles & Practices, CRC Press, Woodhead Publishing Ltd., England.
2. D.J. Rao, Introduction to food process engineering,
3. R. Paul Singh, Introduction to Food Engineering, Wiley publication
4. Potter, N.N., 2002, Food Science, CBS Publishers, ND.
5. Srilakshmi, B., 2001, Food Science, New Age International Pvt. Ltd., ND.
6. Mahendru, S.N., 2000, Food Additives, Tata McGraw Hills, ND.
7. Manay, N.S., 2001, Foods: Facts & Principles, Wiley Eastern Ltd., ND.

DFP 1403 Processing and Preservation of Fruits and Vegetables 4Hrs/Wk – 4Credits

To understand the post harvest management and processing technology of Fruits and Vegetables

Unit I: Introduction: Chemical composition, pre and post-harvest physiology, maturity changes, maturity indices for harvesting, storage disorders and spoilage. Ripening and control measures, Preparing fruits and vegetables for processing.

Unit II: Methods of processing of Fruits: Peeling, Dicing, Blanching, Drying/Dehydration, pulping, juice extraction, concentration.

Unit III: Canning of Fruits and Vegetables, basic requirements, process, machinery and operation.

Unit IV: Formulation and preparation of Fruit Juices - RTS, Squash, Syrups, Jams, jelly, osmo-dried products, pickles, tomato products (sauce), potato chips: principle, processing techniques, product quality standards and quality control measures.

References:

1. S. Ranganna, 1986 Handbook of Analysis and Quality Control for Fruit and Vegetable Products. Tata McGraw-Hill Education,
2. Srivastava, R.P. and Kumar, S., 1998, Fruit and Vegetable preservation: Principles and Practices, 2nd Ed, International Book Distributing Co, Lucknow.
3. Salunkhe, D. K. and Kadam, S.S., 1995, Handbook of vegetable Science and Technology, Production, Composition, Storage and Processing, Marcel Dekker, New York.
4. Dauthy, M.E., 1997, Fruit and Vegetable processing, International book Distributing Co. Lucknow, India.
5. Siddappa, L.G., and Tondon, G. L., 1986, Preservation of Fruit and Vegetables, Indian Council of Agricultural Research, New Delhi.

DFP 1101**LAB – I****10Hrs/Wk – 10 Credits**

1. To blanch a seasonal fruit or vegetable & assess quality of blanched products.
2. To study the effect of browning on raw fruits & vegetables.
3. Preparation of jams and jellies from different fruits
4. Extraction and preservation of Fruit Juices.
5. To prepare different types of pickles (sweet & sour).
6. Estimation of Ascorbic Acid content in different fruits.
7. Estimation of titratable acidity – demonstration only
8. Determine Brix: Acid ratio of fruits and vegetable products.
9. Testing of pectin in fruit juices and pulp.
10. Drying of fruits and vegetables by tray drying.
11. Preparation of tomato ketch-up, sauce and chutney.
12. Preparation of potato chips and finger chips.

Reference

1. S. Ranganna, 1986 Handbook of Analysis and Quality Control for Fruit and Vegetable Products. Tata McGraw-Hill Education,

DFP 1402**Processing of Grains****4Hrs/Wk – 4Credits**

To understand the post-harvest processing technologies of cereals, legumes and millets.

Unit I: Storage of Grains Storage of grains - Principles, conditions involved during storage, spoilage and its prevention, storage structures

Unit II: Primary processing of Grains Physicochemical properties of grains, Primary processing – drying and milling of grains

Unit III: Secondary and Tertiary Processing Development of secondary products from cereals and millets, nutritional composition and quality characteristics.

Unit IV: Byproduct Utilization Value addition to byproducts from wheat, rice, legumes and millets

References:

1. Chakraverty. 1995. Post harvest technology of cereal, pulses and oilseeds, III Edn. Oxford and IBH publishing co., Pvt. Ltd.,
2. Amalendu Chakraverty, Arun S. Mujumdar, Hosahalli S. Ramaswamy 2003 Handbook of Postharvest Technology: Cereals, Fruits, Vegetables, Tea, and Spices Marcel Dekker, Inc. New York • Basel
3. Shafiur Rahman. M. 2007. Hand book of food preservation. Second edition. Published by CRC Press, London.
4. Potter, N.N. 2003. Food Science, AVI publishing company, INC, West Port, Connecticut.
5. Desrosier, N.W and Desrosier, J.N. 1997. The Technology of Food Preservation. AVI Publishers, USA.

DFP 1404**Food Packaging****4Hrs/Wk – 4Credits**

To understand the food packaging technology of various food and the quality control of packing

Unit I: Introduction and types of Packaging Materials Packaging – Definitions, functions, importance, properties and selection of packaging materials – tin, glass, plastic, aluminum and papers, characterization of packaging materials – strength, elongation, permeability, migration and solubility

Unit II: Equipment and Packaging Techniques Equipments for food Packaging. Heat sealers, Vacuum/Gas, shrink, modified, controlled atmosphere, retort pouch and aseptic packaging.

Unit III: Fresh and Processed Food Packaging Active and intelligent packaging. Packaging of food grains and perishables - horticultural produces and animal foods. Packaging of processed foods-Canning.

Unit IV: Food Quality Changes and Labeling Deteriorative changes in food stuff and packaging methods - prevention. Physiochemical, microbial and organoleptic changes. Storage conditions for package fresh and processed foods. Shelf life of packaged foods – methods to extend shelf life. Sanitation of food Packaging area – packaging standards and regulations. Labeling – Bar Coding – Package waste and recycling. Eco friendly food packaging.

References:

1. Gordon, L., Robertson. 2006. Food Packaging – Principles and Practice, CRC Press.
2. Mahadeviah, M., and Gowramma, R.V. 1996. Packaging Technology Tata McGraw – Hill Publishing Company, New Delhi.
3. Croshy, N.T. 1981. Food packaging materials, Aspects, of analysis and migration of contaminants. Applied Science publisher Ltd., London.
4. Frank, A., Pain and Heather Y. Paine, 1983. Hand book of Food packaging, Leonard hill publications.
5. Raja Ahvenainen. 2003. Novel Food Packaging Techniques, Wood Head Publishing Company Ltd.
6. Shafiur Rahman, M. 2007. Hand book of food preservation. Second Edition. Published by CRC Press, London.
7. Stanley Sacharav and Roger, G. C. 1970. Food Packaging, A guide for the supplier processor and distributor, The AVI Publishing Company.

DFP 1102**LAB – II****10 Hrs/Wk – 10 Credits**

1. Determination of physical properties of grains
2. Determination of grain moisture content
3. Categorization of different grades of cereals (rice, wheat, maize) and millets (major and minor)
4. Parboiling of paddy, ageing of paddy.
5. Malting of millets
6. Cooking quality of grains
7. Visit to cereal and millet processing units
8. Strength - properties of packaging materials
9. Water vapour transmission rate calculation
10. Identification of packaging materials
11. Pre packaging of fruits and vegetables, food grains, minimally processed foods - Suitable packaging materials and techniques for packaging of snack foods, confectionery, beverages and microwavable foods
12. Physical, nutritional, microbiological and sensory qualities of foods in different packaging materials.

Reference

1. Chakraverty. 1995. Post harvest technology of cereal, pulses and oilseeds, III Edn. Oxford and IBH publishing co., Pvt. Ltd.,

Advanced Diploma in Food Processing and Preservation

Sem	Course No	Course Title	Hrs/wk	Cr.
III	General Education			
	ENA 2401	Study skills	4	4
	CSA 2401	Operating System	4	4
	LSA 2401	Coping with Psychological and Physical Issues	4	4
	Skill Component			
	AFP 2401	Baking and Confectioneries	4	4
	AFP 2403	Food analysis	4	4
	AFP 2101	Lab – III	10	10
	Job Training			
	AFP 2405	Internship III	120/sem	4
		Total		34
IV	General Education			
	ENA 2402	Career skills	4	4
	CSA 2402	Programming Techniques using C	4	4
	LSA 2402	Coping with Social and Environmental Issues	4	4
	Skill Component			
	AFP 2402	Processing and Preservation of Meat & Marine products	4	4
	AFP 2404	Food safety	4	4
	AFP 2102	Lab – IV	10	10
	Job Training			
	AFP 2406	Internship IV	120/sem	4
		Total		34

- Theory / Lab courses - 1 credit = 15 hours/Semester
- Internship – 1 credit = 30 hours/Semester

Placed as Quality analyst, lab assistant in dairy & poultry industry

AFP 2401**Dairy Processing****4 Hrs/Wk – 4Credits**

To understand the processing technology of Milk, and Milk products

Unit I: Introduction Chemical composition of milk, unit operations in dairy industry - Filtration, Clarification, Pasteurization, Homogenization and Sterilization

Unit II: Processing of Milk Types of processed milk: pasteurized, toned, flavored, fermented, powdered and infant formula milk.

Unit III: Milk Products Preparation methods and principles of paneer, cheddar cheese, curd, yoghurt, ice cream,

Unit IV: Packaging, Storage and Quality Evaluation Packaging and storage of milk and milk products, Quality evaluation. Food laws and standards of dairy products

References:

1. Sukumar, D, 1991, Outlines of Dairy Technology, Oxford Univ. Press, ND
2. Walstra, P., 2005, Dairy Technology, Oxford Univ. Press, ND. Milk & Milk Products, Tata McGraw Hill Publishers, USA.
3. Warner J.N., 1976, Principles of Dairy Processing, Wiley Science Publishers, USA.
4. Robinson, R.K., 1996, Modern Dairy Technology, Vol 1 & 2, Elsevier Applied Science Pub.
5. Herrington, B.L., 1948, Milk & Milk Processing, McGraw-Hill Book Company.
6. Lampert, L.H, 1970, Modern Dairy Products, Chemical Publishing Company.

AFP 2403**Food Analysis****4 Hrs/Wk – 4 Credits**

Unit I: Quality attributes of foods, size and shape, colour and gloss, texture – visual and objectively measurable attributes

Unit II: Aroma of foods – introductory ideas, formation and chemistry-Food additives

Unit III: Introductory ideas on taste formation and chemistry

Unit IV: Principles of advanced Instrumental technique: GC-MS, HPLC, NMR, RT-PCR.

References

1. Pearson, D, "The Chemical Analysis of Foods". Churchill Livingstone, New York 2002.
2. Sharma, B.K, "Instrumental Methods of Chemical Analysis". Goel Publishing House, New Delhi 2004.
3. Nielsen, S.S, "Introduction to the chemical analysis of foods". Jones and Bartlett Publishers, Boston, London 2004.
4. Mahindru, S.N, "Food additives. Characteristics, detection and estimation". Tata McGraw-Hill Publishing Company Limited, New Delhi 2000

AFP 2101**LAB III****10 Hrs/Wk– 10Credits**

1. Estimation of acidity in milk by Alizarin – Alcohol test.
2. Determination of specific gravity, SNF % and TS% in milk.
3. Estimation the milk fat by Gerber method.
4. Determination of Casein content in milk.
5. Evaluation of sterility of milk by Turbidity test.
6. Qualitative microbiological analysis of milk by MBRT.
7. Estimation of the purity of ghee by Baudouin test.
8. Preparation of curds, cream and buttermilk
9. Preparation of Ghee
10. Preparation of ice cream
11. Preparation of a chart of physico – chemical properties and microbiological standards of milk and milk products.

Reference:

1. Sukumar De – Outlines of Dairy Technology, Oxford University Press-New Delhi

AFP 2402 Processing and Preservation of Meat and Marine Products 4 Hrs/Wk – 4Credits

Unit I: Meat Processing -Nutritional quality of meat and poultry, structure of muscles-factor affecting quality of fresh meat. Postmortem changes – *Rigor mortis*. Meat products – Ham and Bacon, sausage, quality standards for meat products.

Unit II: Fish Processing: Types of fish-shell fish-post fishing change- post – mortem changes in fish, handling, storage and transportation of fish. Low temperature, chilling and freezing, Thermal processing, dehydration, curing and smoking, preservation using antibiotics, preservation by irradiation.

Unit III: Egg Processing: Structure and composition of egg, processing of eggs, storage and transportation of egg products. Status of egg industries in Tamilnadu.

Unit IV: Packaging and Quality – packaging of meat, poultry and fish products, quality factors during storage, additives used in meat and fish products, contaminants and naturally occurring poisons, byproducts and wastes of meat, fish, poultry.

References:

1. Richardson and Mead, 1999, Poultry meat science. CABI Publishing; First edition
2. Pearson A.M. and R.B.Young, 1989, Muscle and Meat biochemistry. Academic press Inc
3. Pearson and Dutson, 1994, Quality attributes and their measurement in meat poultry
4. Stadelman, W.J. and Cotterill, O.J., 2002, Egg Science and Technology, CBS Publishers, New Delhi.
5. Romans, J.R., Costello, W.J. Carlson, W.C., Greaser, M.L. and Jones, K.W., 2004, The Meat We Eat, Interstate Publishers, USA
6. Parkhurst, Poultry Meat and Egg Production.

AFP 2404**Food Safety****4 Hrs/Wk – 4 Credits**

Unit I: Food safety, food additives and food contaminants – their chemical, technological and toxicological aspects.

Unit II: Principles of food commodity storage Insect pests their biology and food preference, effect of pests on food commodities. Infestation detection and monitoring techniques in commodities and in storage premises

Unit III: Molds – types and role in commodity deterioration, Rodents and other vertebrate pests, behavior and control, Pesticide classification and chemistry, pesticide, formulations, pesticide appliances – sprayers, fogging and aerosol.

Unit IV: Insect growth regulators, biopesticides and grain protectants, Fumigants properties, application techniques, fumigation appliances, use of controlled atmosphere for insect control and food protection, control and preventive measures

References

1. Food safety and standards regulations, 2010. The Ministry of Health and Family Welfare, The Gazette of India : Extraordinary, Part- III, section
2. General requirements (Food Hygiene) of the Codex Alimentarius, Volume II. Food and Agriculture Organization of the United Nations.

AFP 2102**LAB IV****10 Hrs/Wk– 10Credits**

1. To process chicken and test quality
2. Determination of egg components
3. Preparation of egg products, boiled, fried, omlet.
4. To determine quality of egg by brine floatation technique
5. Determination of egg density
6. Visit to different meat processing industries
7. Awareness of common adulterants in food samples
8. Test to detect adulterants
9. Awareness of certified marks on food packages
10. Visit to toxicology lab and public health laboratory

Course Objectives:

This course aims in training the students about fundamental concepts in Corel Draw and its tools and techniques for designing the brochures and magazines.

Course Outcome

At the end of the Course, the students will able to:

- i. Apply the basic tools and menus in Corel draw for designing purposes
- ii. Analyze the colour sense and basic concepts of drawing like lines, shapes and curves in CorelDraw software
- iii. Compose own designing of brochures and magazines in the CorelDraw software
- iv. Apply the methods of Page Layout and modification of Background by using the software
- v. Plan a Design for various medium with the help of Software

UNIT I:

Introduction to Corel Draw: Toolbox – Status Bar – Drawing Figures – Lines – Ellipse – Circles – Rectangle – Square – Polygon – Types of Views: Normal – Preview – Frame – Draft – View – View Manager – Creating a view – Raster Images Vs Vector Graphics

UNIT II:

Colour modes: RGB – CMYK – Gray Scale – Designing: Drawing the lines – shapes – Curves – Inserting – Picture – Object – Using Grid lines – Working with Power Clips – Using Templates

UNIT III:

Page Layout: Changing the Page Size – Changing the Layout – Applying Style – Applying Bitmaps to the Background – Changing the Background – Adding a Page Frame – Moving between Frames

UNIT IV:

Mastering with the Text – Text tool artistic and Paragraph Text – Formatting Text – Embedding Object into text – Text to Curves

UNIT V:

Bitmaps: Working with Bitmaps – Converting Vector Graphics to Bitmaps – Designing for various medium: Publication – Digital Publication – Advertisement – Exporting for various media

REFERENCE:

1. Corel Draw X8: The Official Guide by Gary David Bouton.
2. Deke McClelland, 1993, Coreldraw! For Dummies, John Wiley & Sons Inc
3. CorelDraw, User Guide, 2018.

Course Objective:

This course aims to train the students about the fundamental concepts, Tools & Workspace in Photoshop software. It also teaches about Images/Photos manipulation in Photoshop software.

Course Outcome:

At the end of the course, the Students will be able to:

- i. Understand the basics and purpose of using the software for Designing purpose
- ii. Compose and blending the images and applying background for the images by using the software
- iii. Create an innovative cartoon character and applying 3D effects with aid of software
- iv. Classify the special effects and know about advanced technical aspects in the software
- v. Apply the various types of effects and creating Caricature by using the software

UNIT I:

Adobe Photoshop CS6: Introduction – Tool bar – Menu bar – Resolution – Resizing the image – Composition

UNIT II:

Compositing the images: Blending two and multiple images – Removing Background – changing the background – Blurring the image

UNIT III:

Digitization: Photo Retouching – Colour Correction – Image compression – Digital Painting – Creating a cartoon effect – Creating a 3D character

UNIT IV:

Special Effects: Creating special effects – Dispersion effect – Masking Technique – Image Manipulation – Caricature – Caricature Manipulation

UNIT V:

Image Manipulation: Visual Effect Photo Editing – Photo Manipulation effects – Creating a Poster – Banner – Flyer – Double Exposure Effect

REFERENCE:

1. Adobe Photoshop CC classroom in a book by Andrew Faulkner, 2017 Release First Edition.
2. Photoshop CC 2019 – Upto speed by R.M. Hyttinen.

Course Objective:

This course aims to bring the practical skills and competency in handling the tools and techniques in Print and Image Design through Lab Activities.

Course Outcome:

At the end of the course, the students will be able to:

- i. Create basic documentation in various sizes by using the designing software
- ii. Utilize the tools in the software to design the creative fonts and text using the software
- iii. Develop special effects, titling effects and creating tables with the aid of software
- iv. Remember about the formatting the document.
- v. Evaluate the advantages and benefits of convention and digital printing techniques

Print Media Familiarization Techniques

- Creating Documents in different sizes
- Word Processing and Short Cuts
- Borders and Text shading
- Inserting Images and Text Wrapping
- Text Design and Font sizes
- Titles and Effects
- Using Graphs and Charts
- Working with Tables
- Document Formatting
- Printing Techniques

Course Objective:

This course aims to bridge theoretical orientation of CorelDraw and photoshop application into practical exposure. It also gives high work experience in field of designing in a professional way.

Course Outcome:

At the end of the course, the students will be able to:

- i. Apply the basic usage of tools and techniques in CorelDraw
- ii. Compose new designs using CorelDraw independently
- iii. Modify the existing images and Designs independently
- iv. Design an innovative cartoon character in a creative method
- v. Apply the techniques of digitization professionally in the existing image with the aid of the software

The internship training moulds the students to higher level and grabs an opportunity to work in a professional environment. This environment hones the students' skill and makes a strong foundation in the practical and acts as a platform to create a job opportunity in the particular field.

As the students focuses in the field of Designing during the 1st semester, they have to undergo the training/ Internship in Designing companies. The students should undergo minimum of 120 hours internship in a company

At the end of the Semester, the students should submit the project regarding their experience in the company and attend a Viva Voce. The project will be evaluated by Internal and External Examiner for 100 Marks (75Marks (Internal) and 25 Marks (External)).

[RWS]

The Course aims at improving the learners' productive skills of English. It offers professional guidance on meaningful and aggressive reading experiences by familiarizing them with techniques and micro-skills of reading, comprehension abilities through literary and non-literary reading materials. It also strengthens their writing skills through the forms of writing that are useful to them academically and vocationally.

At the end of the course, students will be able to

- i. practise the reading of simple prose texts silently and fast,
- ii. produce their comprehension abilities,
- iii. write letter of requests, permission and apology,
- iv. write paragraphs with topic sentence and supportive sentences, and
- v. write five-paragraph essays on simple, contemporary themes.

Unit 1 : Reading and comprehension skills

Unit 2 : Reading at various speeds, skimming & scanning, inferring & interpreting, predicting, reorganizing material, comprehension skills

Unit 3 : Writing leave letters and apology letters

Unit 4 : Paragraph writing, five-paragraph essay writing,

Unit 5 : Types of essay and paragraph writing: descriptive, argumentation, narrative, and expository

Textbook

Sekar, John, J. 2014. Reading and Writing Skills. Madurai. Department of English, the American College.

Objective:

This course helps the student to create , format text and to merge mail using MS-Word. It also enables them to be familiar with Worksheet, Graphics and Charts. On completion of this course the student will be able to create documents , work with Worksheets and PowerPoint.

Specific Learning Outcome:

After completing this course students will be able to

- Demonstrate text data and tables to make a Document.
- Build Graphics and format text.
- Develop worksheet and format cells using formulae.
- Examine Sorting and Filtering techniques for text and numbers.
- Design a Slide show presentation and show in Multimedia form.

Unit I: Microsoft Word: Working with text - Formatting paragraph -Numbered and Bulleted lists-Working with Tables

Unit II: Mail Merging and Graphics - Spelling and Grammar Checking - Page format - Working with graphics

Unit III: Microsoft Excel :Modifying a Worksheet -Formatting cells -Formula cells

Unit IV: Functions and Charts: Formulae and Functions - Sorting and Filtering - Graphics Charts.

Unit V: Power-Point Working with slides -Color Schemes – Graphics – Slide Effects – Master Slides – Presentations-Slide Shows-Animations.

Textbook:

MS-Office 2003 Manual by Microsoft

Reference

Curtin D.P, Kim Foley K, Kunalsen, Morin. C, "Information Technology- The Breaking Wave", TataMcGraw Hill 2002.

PERFORMANCE AND LIFE COPING SKILLS

LSA 1404

4hrs/Wk – 4 Credits

Objectives: To prepare the students better individuals in the society through life coping skills. To make them understand the need for learning life skills which will guide them to face the challenges. Training them to learn stress management and time management skills in order to achieve their life goals.

Specific Learning Outcome: At the end of this course the student will be able,

- To plan and set goals for their life
- To assess the need for motivation for successful completion of tasks
- To reflect the problem solving skill in day today life
- To predict stressful situations and causes of stress in order to overcome them
- To identify need for dealing with emotions for positive mental health

Unit : I GOAL SETTING

Definition – Importance of Goals – SMART Goal & Time management – Types of Goals - Obstacles – Successful and Meaningful life

Unit : II MOTIVATION SKILL

Introduction to Motivation & Inspiration – Internal and External motivation – Methods of Motivation – Effects of de motivation

Unit : III PROBLEM SOLVING SKILL

Definition of problem – Reasons for problems – Stages of solving problems: Evaluation, Managing, Decision making, Resolving, Results

Unit IV : STRESS MANAGEMENT

Definition of Stress: Positive (Eustress), Negative (Destress) – Stressors: Internal, External – Causes of Stress – Types of Stress – Ways to manage stress

Unit V: TIME MANAGEMENT

Need for time management – Poor Time management – Saboteur Time styles – Techniques for managing time

Books for Reference:

1. Alphonse, X. 2011, “We shall overcome” A Text book on Life coping skills”, ICRDCE Publication, Chennai

Course Objective:

This Course aspire the students to acquire knowledge about the advanced techniques of Designing Graphics, Advertisement and Broucher with the aid of In Design Software.

Course Outcome:

At the end of the course, the Students will be able to:

- i. Understand the advance level of designing methods by using the In Design Software
- ii. Discuss the basic techniques and manipulating the documents using the Software
- iii. Create an innovative Characters, Graphics, Images and Text using In Design Software
- iv. Plan for a professional approach for Newspaper Design and Magazine Design for a company/Institution using software
- v. Assess a Broucher project using the In Design Software

UNIT I:

Identifying tools and components of the In Design Interface – Creating a new document – Adding Text and Graphics to a Document

UNIT II:

Master Pages – Rulers and Guides – Adding and Deleting Pages – Working with Master Pages – Tracking Kerning and Leading – Placing Text and Graphics on the Document Pages – Developing Paragraph – Character and Object Styles – Paragraph Styles and Character Styles – Adjusting the viewing quality of the Document

UNIT III:

Workflow for placing Graphics into In Design –Placing Graphics in Table – Wrapping text around a Graphic Colour and transparency – Critique and Hierarchy – Developing paragraph, Character and Object Styles – Editing Text Placing

UNIT IV:

Working with Column – Designing for various medium: Advertisement – Publication – Magazine Design – Newspaper Design – Publication Design

UNIT V:

Broucher Project – Output and Exporting – Packaging Files – Introduction to Interactive – Setting up an Online document – Animation Panel – Bookmark panel – Buttons Panel – Page transition Panel

REFERENCE:

1. Adobe In design CC Classroom in a book, Kelly kordes Anton, Tina Dejarld.
2. Indesign CC, Creative Classroom by Bone Peter.

Course Objective:

The Course aims to describe the advance designing methods to create objects, drawings and 3D effects with the aid of Image Design Software.

Course Outcome:

At the end of the course, the Students will be able to

- i. Label out the basic techniques, menus and tools of Illustrator software.
- ii. Relate the techniques of drawing tools and creating creative logo for a company with the aid of Software
- iii. Create a character by using various types of drawing techniques in the tool bar
- iv. Generate an innovative animations, Graphics and painting effects by using the Illustrator Software
- v. Summarize the Shading and Coloring methods available in the Illustrator Software

UNIT I:

Introduction: Adobe Illustrator CC – Working with Documents – Drawings and Transforming and Transforming Objects – Blending Technique – Using the effect and Blend Tool

UNIT II:

Line Art Designing – Icon Design – Design a logo using Golden Ratio – Art Brush Lettering

UNIT III:

Line Cut Effect – Alternative Drawing Technique – Masking – Inking and Colouring Comics

UNIT IV:

Drawing and Painting – Neon Effect – 3D Gradient Liquid – Technique for shape vector – Isometric

UNIT V:

Image Cropping – Shading and Colouring Vector – Logo Design – Orange 3D Logo Design – Using the Mesh Tool (Creating an apple) – Stroke Techniques

REFERENCE:

1. Adobe Illustrator CC Keyboard Shortcuts: Volume 39 by U.C – Abel books.
2. Adobe Illustrator CC Classroom in a book (2018 release) by Brian Wood.

Course Objective:

The course aims to obtain practical knowledge with the application of advancement in Print and Media technique through Lab work

Course Outcome:

At the end of the course, the Students will be able to:

- i. Elucidate the basic concept of drawing like lines, curves and designing shapes using software
- ii. Create images using colouring tools with the support of software
- iii. Demonstrate special effects using various images and text by using the software
- iv. Apply the techniques to create various image sizes and formatting images using the software

Remember about preparing various image sizes suitable for print media using software

Image Processing Techniques

- Lines, Shapes and Charts
- Working with Vector images and Bitmap Images
- Image (Graphic) resolution – pixel sizes
- Image shading and Colour Correction
- Image Effects
- Superimposing Images
- Adding text to images
- Working with ClipArt
- Image Resizing
- Image Formatting
- Preparing Images for Print

DMT 1408

INTERNSHIP – II

4 CREDITS / 120 hrs/SEM

Course Objective:

This course aims to bridge theoretical orientation of advanced designing software into practical exposure. It also gives high work experience in field of designing in a professional way.

Course Outcome:

At the end of the course, the students will be able to:

- i. Recall the basic tools and menus in InDesign and Illustrator software
- ii. Plan and compose designing patterns for various medium like print and electronic media

- iii. Design a new broucher and innovative handouts for a company/institution in a professional way
- iv. Create a Special Visual Effects (3D) by using illustrator software professionally.
- v. Construct an innovative images independently with existing images, creating logo for a company/ institution in a professional way

The internship training moulds the students to higher level and grabs an opportunity to work in a professional environment. This environment hones the students' skill and makes a strong foundation in the practical and acts as a platform to create a job opportunity in the particular field.

As the students focuses in the field of designing during 2nd semester, they have to undergo internship/training in Designing companies. The students should undergo minimum of 120 hours internship in a company

At the end of the Semester, the students should submit the project regarding their experience in the company and attend a Viva Voce. The project will be evaluated by Internal and External Examiner for 100 Marks (75Marks (Internal) and 25 Marks (External))

ENA 2401

Study Skills (S S)

4 Hrs/4 Cr

The third sequential General English Course aims at empowering second year undergraduate students with study skills necessary to continue their chosen major disciplines. The course assumes importance in the context of students lacking study skills and strategies for academic success.

At the end of the course, students will be able to

- i. practise healthy study habits and homework habits,
- ii. organise their academic skills,
- iii. apply time management skills,

iv explain psychological traits, and

v use ICT skills

Unit 1 General

Definition & scope of study skills, their needs, learning styles, study habits, homework habits, and strategies to improve study skills

Unit 2 Academic Skills

Effective, active listening, effective reading strategies & essay writing, note taking & making, summarizing, paraphrasing, information transfer, library skills, and dictionary skills

Unit 3 Time Management

Motivation & success, choosing study partners, creation of study space, barrier to time management, strategies to overcome barriers, punctuality & time management, time management during exam

Unit 4 Psychological Traits

Concentration skills, memory, remembering, stress management, coping with test anxiety, critical thinking

Unit 5 ICT

ICT skills, computer literacy skills at basic, intermediate and advanced levels

Textbook: Sekar, J.J. 2015. Study Skills. Madurai: Department of English. The American College

(CaSkills)

The fourth sequential General English Course aims at empowering second year undergraduate students with communication & cognitive skills and personality traits necessary to empower their career skills. The course assumes importance in the context of students lacking career skills and strategies for successful profession.

At the end of the course, students will be able to

- i speak and write in English,
- ii practise interview skills,

- iii. explain cognitive skills,
- iv. produce thinking skills, and
- v. understand personal traits

Unit 1 : Communication Skills

Active Listening & speaking, written & oral communication

Unit 2 :Interview Skills

Interview questions, job application, CV preparation, self-introduction, presentation skills, negotiation skills, conducting a meeting, agenda setting and recording minutes

Unit 3 :Cognitive Skills

Self- motivation, setting personal goals, problem solving, decision making and delegation skills

Unit 4 : Thinking Skills

Strategic thinking, organization, innovation, leadership skills

Unit 5 :Personal Traits Skills

Personal development & empowerment, confidence & rapport building, tact & diplomacy, emotional intelligence, self-esteem, humour and persuasion skills

Textbook

Sekar, J.J. 2015.Career Skills. Madurai: Department of English, The American College

Objectives:

This course will enable the student to have an overview on the components of the Operating systems. It will also provide knowledge on the different types of Operating System, Multiprogramming and Multitasking. They can understand the features and applications of Android.

Specific Learning Outcome:

After completing this course students will able to

- Recall the role of Operating system as an interface between user and computer.
- Summarize the basic functionality of Network Operating system.
- Illustrate the features of Windows Operating System.
- Categorize the functions of Multitasking and Time Sharing.
- Assess the operation of Voice based features and Video calling using Android.

Unit I: Introduction to Operating System BIOS – DOS – Windows - types of operating system – operating system services - desktop operating system

Unit II: Network Operating System - Server operating system – mainframe operating system – embedded operating system.

Unit III: Windows - Features of Windows Operating system – Multiprogramming

Unit IV: Process / Memory Scheduling - Multitasking – Buffering – Spooling – Time sharing – Browser support.

Unit V: Introduction to Android Application of Android – Features of Android – Messaging -Voice based features- Multitasking-Screen Capture-Video Calling-Multiple Language support.

Text books:

1. Alphonse X, 2011 ICRDCE publication, December
2. Silberchatz, Galvin and Gagne, 1999. Operating system concepts, John Wiley and sons.

References:

1. Curtin D.P, Foley K, Kunalsen, Morin, C. 2002. Information Technology- The Breaking Wave, TataMcGraw Hill.
2. http://en.wikipedia.org/wiki/List_of_features_in_Android

LSA 2403

4hrs/Wk – 4 Credits

Objectives: To enlighten the students about psychological and physical issues everyone goes through in their life and how to manage them for successful living. To acquaint them about the consequences of fear, shyness, emotions and stress in order to overcome them for maintaining better relationship with others and in their personal and professional life.

Specific Learning Outcome: At the end of this course the student will be able,

- To understand the types of fear and shyness and the ways of overcoming them
- To manage emotions and stress for better living
- To assess the types and apply the styles of communications in their daily walk of life
- To identify the ways of coping with social media and substance addictions
- To evaluate the distinction between Gender and Sexuality and their significance

Unit 1: Coping with Fear and Shyness

Understanding Fear - Types of Fear – Overcoming Fear – Shyness – Types – Managing Shyness

Unit II: Coping with Emotions & Stress

Types of Emotions – Managing Emotions – Stress – Types & Need for understanding stress – Ways to manage stress

Unit III: Communication & Failure

Communication – Types & Styles – Ways to improve communication – Failure – Managing Failures

Unit IV: Coping with Addictions

Drug addictions – Causes of addiction – Physical & Societal implications – Internet Addiction – Cyber crime - Types and causes – Managing addictions

Unit V: Coping with Sexuality

Sex and Gender – Understanding Gender discrimination – Coping with gender discrimination – Understanding Sexuality – Consequences of Premarital & Extra martial sexual issues – Managing sexuality

References:

1. "We shall overcome - A Text book on Life coping skills", Indian Centre for Research and Development of Community Education (ICRDCE) Publication, Alphonse, X. 2011, Chennai
2. "Living with Honour", Macmillan Publishers India Ltd., Shiv Khera 2003
3. "Smart Guide to Relieving Stress", Wiley, Carole Bodger, 1999
4. "Managing Stress", National Press Publications, Kristine C. Brewer 1995

Course Objective:

This course aims to introduce the students to designing for various purposes using the computer based application both 2D and 3D Animation.

Course Outcome

At the end of the course, the Students will be able to:

CO1: Infer AutoCAD Software basic working Patterns.

CO2: Sketch a 2D and 3D modeling with the aid of Software

CO3: Compose various models of 3D model kitchen, adding text methods using the 2D and 3D Animation Software

CO4: Instruct to draw various types of models by using the Auto CAD Software

CO5: Plan a modeling house and writing a command for the animation with the aid of AutoCAD software

UNIT I:

Getting started with Auto CAD (2D/3D) – Working with Commands – Hatch Command – Sweep Command – Line Command – Circle Command - Making a Door Dynamic Block in Auto CAD

UNIT II:

Making a simple floor in Auto CAD – 3D House – Modeling – Mechanical Modeling – 3D Pipe Parting – 2D/3D modeling basic shapes

UNIT III:

Raster Design – Vector & Text Recognition – Concentric Circle Method – Dimension lines – Multiline text techniques – Desk Table – 3D Modeling – Kitchen sink – shock absorber

UNIT IV:

Making a 2D Gear – Reduce AutoCAD Drawing – File Size – Creating 3D Gear – Rotate Motion – Helix (Spring) design in AutoCAD

UNIT V:

AutoCAD – 3D House Modeling – Converting 2D to 3D Building drawing – AutoCAD 3D modeling – Command – Type 3D modeling

REFERENCE:

1. Autocad 2018 Training Guide by LinkanSagar
2. Autocad 2019 for beginners by cadfolks.
3. 3D Architectural ModellingwithAutoCAD: 3D Modelling Essentials By Scott Onstott.

Course Objective:

This course aims at imparting the students about the fundamental knowledge on still photography and helps them to obtain acquaintance in Creative photograph

Course Outcomes

At the end of the course, the Students will be able to:

- i. Identify the basics and functions of SLR and DSLR Cameras.
- ii. Analyze the basic types of shots and Angles and apply the techniques for composition by using Rule of Third
- iii. Design a lighting techniques for indoor and outdoor production and usage of various lens in DSLR Camera
- iv. Understand the various types of photography in contemporary era
- v. Analyze the techniques of Digital photography and image manipulation by using Photoshop software.

UNIT I:

Camera – Introduction –Parts and Functions of a camera – Box Camera - TLR – Parallax Error –SLR – DSLR- Basics of camera: Aperture – Shutter speed – ISO – Depth of Field

UNIT II:

Composition: Rule of Third – Camera Shots: Extreme Long Shot (ELS) – Long Shot (LS) – Mid shot – Close up shot (CU) – Extreme Close up Shot (ECU) — Camera angles: High Angle – Mid Angle – Low Angle

UNIT III:

Lighting techniques: One point lighting – Two point lighting – Three point lighting – Types of lights in photography, Types of Lenses: Prime/Focus lens – Wide Angle lens – Normal lens – Tele lens – Special lenses and its usage – Filters – Types of Filters

UNIT IV:

Types of Photography: Portrait – Landscape – Wildlife – Fashion – Street Photography – Table Top/Product Photography - Photo Journalism.

UNIT V:

Digital photography and image Manipulation – Types of Memory Storage Devices - Memory – File Extension in Photoshop Software - Using Adobe Photoshop for editing and creating

REFERENCE:

- 1 Basic Techniques of photography – book 1 & 2 by: Shaefer, John P 1990 ISBN: 9780821225752, Little, Brown, 1992
- 2 Photography by Barbara London John Upton Jim Stone Ken Kobre Betsy. Prentice Hall 2010

Course Objective:

The Students learn to acquire practical knowledge of photography and apply the techniques gained in theory paper.

Course Outcome

At the end of the course, the Students will be able to:

- i. Describe about Camera Shots and Angles by Using DSLR Camera
- ii. Develop the knowledge for composition in the frame and lighting techniques in indoor and outdoor production.
- iii. Plan to take a photograph in Landscape and Portrait by using different types of Lens in DSLR Camera
- iv. Categorize various types of photography and capturing the nuances of Madurai as Street Photography using DSLR Camera

- v. Apply the methods of Digitization in photograph using the Photoshop Software.

Photography Techniques – Lab

- Basic Camera Shots
- Camera Angle
- High Exposure and Under Exposure
- Composition: Rule of Third, Head Room, Nose Room and Lead Room
- Three Point Lighting
- Landscape, Portrait and Wildlife Photography
- Madurai Street Photography
- Product Photography
- Photo Journalism
- Image Manipulation using Photographs

Course Objective:

This course gives practical knowledge to the students towards the application of photography techniques incorporating theoretical approach. It gives wide knowledge about various usages of lens, filters and types of photography.

Course Outcome:

At the end of the course, the students will be able to:

- i. Able to operate DSLR Camera individually.
- ii. Compose images professionally with photographic grammar in DSLR cameras.
- iii. Capture various types of images using lighting techniques in DSLR Camera.

- iv. Capture the nuances real life of people, emotions and their culture in the DSLR Camera.
- v. Apply the techniques of image manipulation in the existing photograph.

The internship training moulds the students to higher level and grabs an opportunity to work in a professional environment. This environment hones the students' skill and makes a strong foundation in practical and acts as a platform to create a job opportunity in particular field.

As the students focuses in the field of Photography during 3rd semester, they need to work as an internee in any Photo Studio. The students should undergo minimum of 120 hours internship in a Studio. They can gain experience in taking product photography, Wedding Photography etc.

At the end of the Semester, the students should submit the project regarding their experience in the company and attend a Viva Voce. The project will be evaluated by Internal and External Examiner for 100 Marks (75Marks (Internal) and 25 Marks (External))

(CaSkills)

The fourth sequential General English Course aims at empowering second year undergraduate students with communication & cognitive skills and personality traits necessary to empower their career skills. The course assumes importance in the context of students lacking career skills and strategies for successful profession.

At the end of the course, students will be able to

- i. speak and write in English,
- ii. practise interview skills,
- iii. explain cognitive skills,
- iv. produce thinking skills, and
- v. understand personal traits

Unit 1 : Communication Skills

Active Listening & speaking, written & oral communication

Unit 2 : Interview Skills

Interview questions, job application, CV preparation, self-introduction, presentation skills, negotiation skills, conducting a meeting, agenda setting and recording minutes

Unit 3 : Cognitive Skills

Self- motivation, setting personal goals, problem solving, decision making and delegation skills

Unit 4 : Thinking Skills

Strategic thinking, organization, innovation, leadership skills

Unit 5 : Personal Traits Skills

Personal development & empowerment, confidence & rapport building, tact & diplomacy, emotional intelligence, self-esteem, humour and persuasion skills

Textbook

Sekar, J.J. 2015. Career Skills. Madurai: Department of English, The American College.

Objective

This subject will enable the student to understand the concepts of C programming language and gain knowledge on algorithms, flowcharts and logical thinking. On successful completion of this course the student will have the programming ability in C Language, and develop software application using C.

Specific Learning Outcome:

At the end of the course the student will be able to:

- i. Recognize the Structure and Compilation of C Program.
- ii. Summarize the basic data types and Operators.
- iii. Demonstrate the concept of Control Statements in C.
- iv. Develop program using Array and functions to implement reusability.
- v. Create application software using Structure and Union.

Unit I

Overview of C: Middle level language – compilers versus interpreter – the form of a C program – compiling a C program

Unit II

Primitive Data types Operators: Data types – type conversions – operators – formatted input/output functions.

Unit III

Control statements: If, if-else, switch, for, while, do...while, break and continue.

Unit IV

Aggregate Data Types: Arrays – strings – functions – call by values – call by reference – passing arrays as arguments – local, global static and external variables.

Unit IV

Structure and Union: User defined data types – Structures - Union

Textbook:

Balagurusamy.E, Programming in ANSI 'C', 4th edition, Tata McGrawHill, 2007.

COPING WITH SOCIAL AND ENVIRONMENTAL ISSUES

LSA 2404

4 hrs/Wk —4 Credits

Objectives: To make the students comprehend the social and environmental issues they face in the society. To teach them the necessity for understanding the issues and how to manage them for a better society. To kindle their mind about their responsibility to become a useful citizen to protect the society and the environment where they live.

Specific Learning Outcome: At the end of this course the student will be able,

- To relate the significance of relationships and need for coping with them
- To demonstrate the skills of managing their time, money and health
- To apply their knowledge in protecting their environment and preserve the resources
- To assess the impact of globalization in our society and adjust their living conditions
- To identify healthy ways to cope up with emerging technologies which affect the life

Unit : I Coping with Society

Family and Issues related to Marriage – Building relationships – Conflict management
Cultural alienation

Unit : II Coping with Human Resources

Time management – Money management – Skill management: Problem Solving Skills -
Social skills - Health management

Unit : III Environmental Issues

Environment Vs Ecology – Pollution: Air, Water, Soil, Sound – Deforestation – Exploitation of natural resources – Environmental protection

Unit IV : Coping with Globalization

Globalization – Trends in Education, Employment, Consumerism – Merits and Demerits of Globalization

Unit V : Coping with Technology

Types of Technology – Technology in day today life - Social Media – Impacts of technology in modern society – Managing life with technology

Reference:

1. Alphonse, X. 2011, "We shall overcome" A Text book on Life coping skills",
ICRDCE Publication, Chennai

AMT 2402

Audio Production

4Hrs/Wk – 4Credits

Course Objective:

This Course aims to acquaint the students about Professional Sound Recording, Dubbing, Working principles of Microphone and creating a Special Sound Effects by using the Audio Editing software.

Course Outcome:

At the end of the course, The Students will be able to

- i. Identify the basic concepts and methods of sound
- ii. Correlate music production particularly single and multi-track recording by using the sound editing software
- iii. Plan for recording a sound and edit accordingly by using the software
- iv. Analyze about the various types of microphone and its usage in various sound recording in the Audio Suite
- v. Compute various Audio formats and apply Background score and SFX according to the Dialogues by using Audio Editing Software.

UNIT- I

Introduction to Sound Design: The Origin – Nature of Sound – Properties of Sound Waves – Amplitude – Frequency and Phase – Noise – Music Basics – Perception of Loudness, Pitch and Direction – Sound Wave Theory

UNIT II

Introduction to Sound and Music Production: Single Track and Multi Track Recording – Editing – Mixing and Mastering – Studio Design and Equipments – Acoustics

UNIT III

Introduction to DAW – Computer Configuration and Specification – Recording, Editing and Mixing – Working in various Operating Systems

UNIT IV

Introduction to Microphone – Effects and Signal Processors: Dynamic Processors; Compressors – Reverberation – Delay – Phases and Flanges – Analog to Digital convertors – Types and kinds of Microphone

UNIT V

Audio Formats – Basic Music Theory – MIDI – Virtual Instruments VST – Editing and Mastering – Dubbing – Background Score – SFX – Final Mastering and Audio Balance

REFERENCE:

1. AutoCAD: A Progressive Course for New Users (Software Guide) by John Lockley and LamineMahdjoubi
2. AutoCAD 2002: 3D Modeling - a Visual Approach by S. Wilson

The Course aims to highlights the students to create Logo, Story board creation, Character creation and cartooning using the software Flash.

Course Outcome

AT the end of the course, the Students will be able to:

- i. Determine the basic tools and menus in the Animation Software
- ii. Infer the methods of basic Animation methods to create a basic Animation process with the help of Software
- iii. Create an innovative animation short films, games, Advertisement and Story Board creation by using the tools and menus in the software
- iv. Design text and applying various types of effects by using the software
- v. Evaluate the script for creating a Webpage using the Software Flash and HTML Language

UNIT- I

Introduction to Animation – 12 Principles of Animation – Flash Tool Box – Tools for 2D Animation

UNIT II

Introduction to Adobe Animate CC – Frame by Frame Animation – Motion Tweening - Motion Tweening – Shape Tweening – Masking – Creating a Button – Motion Guide

UNIT III

2D Short Film – Creating 2D Games – 2D Product Advertisement – Story Board Creation - Smiley Creation – Logo Creation

UNIT IV

Camera Movement in Flash – Text Animation and its effects: Glowing Text – Simple Text – Text Logo Graving – Creating a rotating Earth Animation – Compose a sequence in Flash

UNIT V

Basics of HTML – Colourful Background – Creating website using HTML – HTML Editors – Web designing using Flash and HTML

REFERENCE:

1. Adobe Animate CC Classroom in a book 2018, release by pearson, Russel Chun.
2. Adobe Flash Professional CC, Classroom in a book. The official training workbook from Adobe Systems.
3. Macromedia Flash 8 Advanced for Windows and Macintosh: Visual Quick Pro. Russell Chun.
- 4.

Course Objective:

This Course aims to acquire skills about Sound methods and application in various branches of media like Radio, Film Dubbing and Television dubbing. It also gives the wide knowledge about the Studio Equipment and Studio acoustics

Course Outcome:

At the end of the course, the Students will be able to

- i. Infer the basic concepts of Sound
 - ii. Remember the technical concepts of Studio Equipment in the Audio Suite
 - iii. Identify the nuances of Microphone basics and its application in various production
 - iv. Plan the Sound techniques like dubbing, Recording and Rerecording
 - v. Analyze various techniques of Sound and producing final output by using the Audio Editing Software
-
- Analog and Digital Formats in Sound
 - Decibels, metering, Amplitude, Frequency

- Introduction to Digital Workstation
- Studio equipment and Studio Acoustics
- Microphone: Working Principles of Microphone
- Recording, Editing and Mixing
- Audio Recording for various media
- Working with VST – MIDI
- Mastering Standards
- Mastering and Audio balance, Final Output

Course Objective:

The students acquire practical knowledge in sound recording, dubbing, adding background special effects with the support of audio editing software.

Course Outcome

At the end of the course, the students will be able to:

- i. Comprehend a sound track
- ii. Produce Sound and music using studio Design and equipment
- iii. Create a new sound track using the methods of recording, editing and mixing in the DAW
- iv. Apply the techniques of microphone to record sound and music instrument.
- v. Produce a Master audio output professionally using audio editing software.

The internship training moulds the students to higher level and grabs an opportunity to work in a professional environment. This environment hones the students' skill and makes

a strong foundation in practical and acts as a platform to create a job opportunity in particular field.

As the students focuses in the field of Audio during 4th Semester, they have to undergo internship/training in any Sound Recording Centre. The students should undergo minimum of 120 hours internship. They can gain experience in taking Dubbing, Recording and adding Special sound effects in the Audio Editing Software.

At the end of the Semester, the students should submit the project regarding their experience in the company and attend a Viva Voce. The project will be evaluated by Internal and External Examiner for 100 Marks (75Marks (Internal) and 25 Marks (External))

Environmental Studies

EVS 3401

4hrs/Wk-4 Credits

This course is designed to develop environmental awareness to the students. It deals with the natural resources, ecosystems and the impact of human activity on them. This course also imparts the biodiversity and its conservation. It also sensitizes the students on the environmental issues and abatement of pollution and gives suggestion for sustenance.

UNIT – I Introduction to environmental studies

Concept and Scope – importance of sustainability and sustainable development. The Atmosphere, the Hydrosphere, the Lithosphere and the Biosphere . Concept of Renewable and Non-renewable resources

Department of English (UG)**Certificate Courses in English**

Sem	Code	Title	Hrs	Cr	Marks
I		Effective Communication	4	4	100
II		Spoken English	4	4	100
III		American English	4	4	100
IV		Business English	4	4	100
V		English for Study Abroad	4	4	100
VI		English for Employability	4	4	100

Certificate Courses in English

Rationale

The College has two streams of students: aided and self-financed. Due to certain systemic constraints, the academic programmes offered at the undergraduate and postgraduate levels do not accommodate certain skills-oriented contents of learning as part of the academic curriculum at a time when knowledge in each field expands exponentially and phenomenally. Besides, higher educational monitoring agencies like UGC and NAAC encourage and expect the colleges to offer certificate courses on the skills that are immediately relevant and useful to students both while pursuing their studies and after they have completed them. Students of the college find sufficient time to do certificate courses outside the regular hours of study due to shift system that has been in vogue since the late 1990s.

Effective Communication Skills

[ECS]

Competence in oral communication—listening and speaking—is a prerequisite to graduates' academic, professional, and personal success in life. Employers identify communication as one of the basic competencies that every graduate should have, asserting that the ability to communicate is valuable for obtaining employment and maintaining successful job performance.

Objectives

Students shall be able to

- i. become effective listeners and fluent speakers in English
- ii. understand the complementary nature of body language to your verbal communication
- iii. improve their problem-solving capacity
- iv. demonstrate the presentation skills, interview skills, and GD skills
- v. develop high order thinking skills

Unit 1: Non-Verbal Communication

Unit 2: Oral Communication Skills: Listening

Unit 3: Conversing

Unit 3: Problem Solving

Unit 4: Presentation Skills

Unit 5: Interview Skills

Unit 6: GD skills

Unit 7: HOT Skills

Reference

Bhatnagar, Nitin. 2011. *Effective Communication and Soft Skills*. Delhi: Pearson Education.

Sasikumar, V., Geetha Rajivan, & P. Kiranmai Dutt. 2010. *A Course in Listening & Speaking*. Delhi: CUP.

Dalje, C.Y. 2004. *The Quick & Easy Way to effective Speaking*. Delhi: Sulabh

Dignen, B. 2011. *Fifty Ways to Improve Your Presentation Skills in English: without too much effort*. Delhi: Orient Blackswan

Montemayor, L. 2013. *Emotional Communication: Non-Verbal Strategies*. Delhi: Createspace.

English for Employability

[EE]

Knowing English means getting better jobs, higher pay, more authority, easier growth, bigger opportunities, and happier life against limited opportunities, at one's own place, small job, and low pay if someone does not know English. English is globally seen as an economically empowering language that opens up the vistas of employment opportunities across the world.

Objectives

Students shall be able to

- i. write an impressive resume
- ii. prepare a cover letter
- iii. familiarize with written test skills
- iv. introduce themselves at interviews and use email etiquette
- v. acquire the team spirit

Unit 1: Resume Writing

Unit 2: Cover Letter

Unit 3: Written Test

Unit 4: Self Introduction

Unit 5: Interview

Unit 6: Group Discussion

Unit 7: Email etiquette

Reference

C. L. N. Prakash, et al. 2013. **English for Jobseekers: Language and the Soft Skills for the Aspiring**. New Delhi: Foundation.

Rao, M.S. 2011. **Soft Skills Enhancing Employability: Connecting Campus with Corporate**. Delhi: IK International.

Seely, John. 2013. **Oxford Guide to Effective Writing and Speaking**. London: OUP

Brown, Lola. 2006. **Specifications of Resume Writing Made Easy: A Practical Guide to Resume Preparation and Job Search**. Delhi: Pearson Education.

Karsh, Brad. 2009. **How to Say It on Your Resume: A Top Recruiting Director's Guide to Writing the Perfect Resume for Every Job**. Delhi: Penguin

Spoken English

[SE]

This Course is meant for English speaking beginners who need help to understand the basics of speaking English. To speak English fluently seems to be a dream of every college student in India. Fluent communication requires understanding of what is being spoken. Improving one's listening skill is therefore the only way to speak fluently. The Course aims at improving students' listening skills and then speaking skills both successively and simultaneously.

Objectives

Students shall be able to

- i. demonstrate the listening skills
- ii. demonstrate confidence when speaking
- iii. use the English language within a number of practical situations
- iv. show the skills of persuasion and debate
- v. understand and use idioms, slang, colloquial vocabulary

Unit 1: Listening

- Use key words to construct the schema of discourse
- Infer the role of the participants in a situation
- Infer the topic of a discourse
- Infer the outcome of an event

Unit 2: Listening

- Infer the cause and effect of an event
- Infer unstated details of a situation
- Infer the sequence of a series of events
- Infer comparisons
- Distinguish between facts and opinions

Unit 3: Speaking

- Reproduce sounds.
- Know and use practical vocabulary
- Use spoken idioms
- Respond in sentences
- Use appropriate speech acts

Unit 4: Speaking

- To agree or disagree
- To identify people and places
- To express preferences
- To express opinions
- To ask for and give suggestions
- To report on what people are asking and saying.
- To summarize a conversation

Unit 5: Conversational Skills

- Handling objections and resistance
- Mini-speeches
- Thinking carefully, creatively, and ahead
- Interpersonal and social skills
- Questioning techniques

Reference

- Gangal, J.K. 2012. *A Practical Course in Spoken English*. Delhi: PHI Learning.
- Khanna, V. 2013. *Spoken English* New Delhi: International Book House.
- Balan, J. 2010. *Spoken English*. Delhi: McGraw Hill Education (India)
- Dignall, C. 2014. *Negotiation Skills in 7 Simple Steps*. Delhi: Collins.

American English (AE)

The aim of this course is to create awareness and equip students in American English (AE) for their employability and success in their professional and personal life.

Objectives

At the end of the course students shall be able to

- i. acquire AE phonetic skills
- ii. hone AE grammar
- iii. learn AE vocabulary
- iv. attain AE conversational skills
- v. understand the peculiarities of AE usage

Unit 1: AE Phonetics and Phonology

AE Pronunciation Skills and AE Accent

Unit 2: AE Grammar

Basic AE Grammar, AE Syntax, Differences in AE and British English (BE), Differences between AE and BE syntax

Unit 3: AE Vocabulary

AE Lexicon, Idioms, Common AE Word List, Differences between AE and BE Lexicon,

Unit 4: AE Conversation

Everyday AE, AE Usage, Standard AE Usage, AE Dialects, Common AE Dialect,

Unit 5: AE Usage

AE Speech Acts, AE in Real Life Situations, AE for Occupational Purpose, AE in Universities and Colleges

Independent Reading

Reading: The Gift of Magi and Other Stories, O. Henry

Textbook: to be prepared by the Department Faculty who will act as course writers and reviewers

Business English

This course aims at enabling students to improve their communication skills in English for business purposes. Students will be trained to become more confident, accurate and fluent in business communication.

Objectives

Students shall

- i. learn to write letters, faxes, memos and reports
- ii. listen and comprehend broadcasts and discussions on business topics
- iii. have speaking exercises involving functional expressions which will help develop fluency
- iv. read and understand texts on various business topics
- v. learn various jargon and business specific terms to enrich their vocabulary.

Unit 1: Writing- drafting sales letters, business reports, faxes and memos.

Unit 2: Listening - significance of listening, barriers to effective listening, note-taking, audio recordings for listening exercises.

Unit 3: Speaking - telephone conversations, responding to queries, sales negotiation, public speaking, group discussions and presentations.

Unit 4: Reading - reading comprehension passages, business texts

Unit 5: Vocabulary- technical terms and expressions

References

Jones, Leo & Alexander, Richard. *New International Business English*. UK: Cambridge University Press, 2000.

Cambridge BEC Preliminary. Cambridge: CUP, 2005.

Cambridge BEC Vantage. Cambridge: CUP, 2005.

Cambridge BEC Advanced. Cambridge: CUP, 2005.

English for Study Abroad [ESA]

The certificate course provides tools and guides to help students prepare for the international tests such as TOEFL/IELTS, and improve their English language skills. It offers training through intensive and structured modules and comprehensive study material to excel in the tests. It also provides practice tests that assist students to get a real-time experience.

At the end of the course students shall be able to

- Understand the different modules of TOEFL and IELTS
- Measure their ability to use the English language
- Understand the use of English at the university/college level
- Combine LSRW to perform academic tasks
- seek admissions to English-language learning program abroad

UNIT I: INTRODUCTION

Next Generation TOEFL iBT, International English Language Testing System, learn about listening, reading, writing, and speaking skills.

UNIT II: READING

This unit measures students' ability to understand non-specialised texts. Students read long passages with tasks, texts range from descriptive and factual to the discursive and analytical. It also includes non-verbal materials such as diagrams, graphs or illustrations.

UNIT III: LISTENING

This unit measures aptitude for understanding English as it is spoken in North America with everyday vocabulary, expressions and grammar. Students listen to lectures, classroom discussions and conversations, and then answer questions. It also measures aptitude for understanding English as it is spoken in England with everyday vocabulary, expressions and grammar. Students listen to monologues and conversations, then answer questions.

UNIT IV: SPEAKING

This unit helps them express an opinion on a familiar topic; speak based on reading and listening tasks. It also trains them to face face-to-face interview, short questions, speaking at length about a familiar topic and a structured discussion.

UNIT V: WRITING

This unit measures ability to write a text in English on a specific subject. Students will be able to generate, organize and support ideas using common written English in an essay format. They write essay responses based on reading and listening tasks; support an opinion in writing. It also focuses on helping them summarize, describe or explain a table, graph, chart or diagram.

References

- Hewings, Martin. (1999). *Advanced English Grammar: A Self study References and Practice Book for Advanced South Asian Students with Answers*. New Delhi: Foundation Books.
- Lewis, Norma. (1978). *How to Read Better and Faster*. New Delhi: Binny Publishing House.
- Sharpe, Pamela (2013). *J. Barren's TOEFL iBT*. New Delhi: Galgottia.
- Swan, Michael. (2000). *Practical English Usage*. International student's Edition. Oxford: OUP.
- Turton, Nigel D. (1997). *ABC of Common Errors: for Learners of English*. Delhi: Macmillan.
- Wood, Frederick. (1987) *Current English Usage*. London. Macmillan.
- Zandvoort. (1976). R. W. *A Handbook of English Grammar*. London: Longman.
- IELTS website: <http://www.ielts.org/>
- TOEFL website: <https://www.ets.org/toefl>
 -<http://www.toeflgoanywhere.org/>

Internal & External Evaluation Patterns for Certificate Courses

Effective Communication Skills

Written: 50%

Oral : 50%

English for Employability

Written: 70%

Oral : 30%

Spoken English

Oral : 100%

English for Study Abroad

Written: 50%

Oral: 50%

Eligibility

Both UG & PG students

Timing

Morning : SF Students

Afternoon : Aided Students

Duration

Four hours per week from Monday through Thursday

Credits

Four Credits

Spoken English [SE]

This Course is meant for English speaking beginners who need help to understand the basics of speaking English. To speak English fluently seems to be a dream of every college student in India. Fluent communication requires understanding of what is being spoken. Improving one's listening skill is therefore the only way to speak fluently. The Course aims at improving students' listening skills and then speaking skills both successively and simultaneously.

Objectives

Students shall be able to

- i. demonstrate the listening skills
- ii. demonstrate confidence when speaking
- iii. use the English language within a number of practical situations
- iv. show the skills of persuasion and debate
- v. understand and use idioms, slang, colloquial vocabulary

Unit 1: Listening

- Use key words to construct the schema of discourse
- Infer the role of the participants in a situation
- Infer the topic of a discourse
- Infer the outcome of an event

Unit 2: Listening

- Infer the cause and effect of an event
- Infer unstated details of a situation
- Infer the sequence of a series of events
- Infer comparisons
- Distinguish between facts and opinions

Unit 3: Speaking

- Reproduce sounds.
- Know and use practical vocabulary
- Use spoken idioms
- Respond in sentences
- Use appropriate speech acts

Unit 4: Speaking

- To agree or disagree
- To identify people and places
- To express preferences
- To express opinions
- To ask for and give suggestions
- To report on what people are asking and saying.
- To summarize a conversation

Unit 5: Conversational Skills

- Handling objections and resistance
- Mini-speeches
- Thinking carefully, creatively, and ahead
- Interpersonal and social skills
- Questioning techniques

Reference

- Gangal, J.K. 2012. *A Practical Course in Spoken English*. Delhi: PHI Learning.
- Khanna, V. 2013. *Spoken English* New Delhi: International Book House.
- Balan, J. 2010. *Spoken English*. Delhi: McGraw Hill Education (India)
- Dignall, C. 2014. *Negotiation Skills in 7 Simple Steps*. Delhi: Collins.

English for Employability

[EE]

Knowing English means getting better jobs, higher pay, more authority, easier growth, bigger opportunities, and happier life against limited opportunities, at one's own place, small job, and low pay if someone does not know English. English is globally seen as an economically empowering language that opens up the vistas of employment opportunities across the world.

Objectives

Students shall be able to

- i. write an impressive resume
- ii. prepare a cover letter
- iii. familiarize with written test skills
- iv. introduce themselves at interviews and use email etiquette
- v. acquire the team spirit

Unit 1: Resume Writing

Unit 2: Cover Letter

Unit 3: Written Test

Unit 4: Self Introduction

Unit 5: Interview

Unit 6: Group Discussion

Unit 7: Email etiquette

Reference

C. L. N. Prakash, et al. 2013. **English for Jobseekers: Language and the Soft Skills for the Aspiring.** New Delhi: Foundation.

Rao, M.S. 2011. **Soft Skills Enhancing Employability: Connecting Campus with Corporate.** Delhi: IK International.

Seely, John. 2013. **Oxford Guide to Effective Writing and Speaking.** London: OUP

Brown, Lola. 2006. **Specifications of Resume Writing Made Easy: A Practical Guide to Resume Preparation and Job Search.** Delhi: Pearson Education.

Karsh, Brad. 2009. **How to Say It on Your Resume: A Top Recruiting Director's Guide to Writing the Perfect Resume for Every Job.** Delhi: Penguin

Certificate Courses in English

Rationale

The College has two streams of students: aided and self-financed. Due to certain systemic constraints, the academic programmes offered at the undergraduate and postgraduate levels do not accommodate certain skills-oriented contents of learning as part of the academic curriculum at a time when knowledge in each field expands exponentially and phenomenally. Besides, higher educational monitoring agencies like UGC and NAAC encourage and expect the colleges to offer certificate courses on the skills that are immediately relevant and useful to students both while pursuing their studies and after they have completed them. Students of the college find sufficient time to do certificate courses outside the regular hours of study due to shift system that has been in vogue since the late 1990s.

Effective Communication Skills

(EC3)

Competence in oral communication—listening and speaking—is a prerequisite to graduates' academic, professional, and personal success in life. Employers identify communication as one of the basic competencies that every graduate should have, asserting that the ability to communicate is valuable for obtaining employment and maintaining successful job performance.

Objectives

Students shall be able to

- i. become effective listeners and fluent speakers in English
- ii. understand the complementary nature of body language to your verbal communication
- iii. improve their problem-solving capacity
- iv. demonstrate the presentation skills, interview skills, and GD skills
- v. develop high order thinking skills

Unit 1: Non-Verbal Communication

Unit 2: Oral Communication Skills: Listening

Unit 3: Conversing

Unit 3: Problem Solving

Unit 4: Presentation Skills

Unit 5: Interview Skills

Unit 6: GD skills

Unit 7: HOT Skills

Reference

Bhatnagar, Nitin. 2011. *Effective Communication and Soft Skills*. Delhi: Pearson Education.

Sasikumar, V., Geetha Rajivan, & P. Kiranmai Dutt. 2010. *A Course in Listening & Speaking*. Delhi: CUP.

Dalye, C.Y. 2004. *The Quick & Easy Way to effective Speaking*. Delhi: Sulabh

Dignen, B. 2011. *Fifty Ways to Improve Your Presentation Skills in English: without too much effort*. Delhi: Orient Blackswan

Montemayor, L. 2013. *Emotional Communication: Non-Verbal Strategies*. Delhi: Createspace.

American English (AE)

The aim of this course is to create awareness and equip students in American English (AE) for their employability and success in their professional and personal life.

Objectives

At the end of the course students shall be able to

- i. acquire AE phonetic skills
- ii. hone AE grammar
- iii. learn AE vocabulary
- iv. attain AE conversational skills
- v. understand the peculiarities of AE usage

Unit 1: AE Phonetics and Phonology

AE Pronunciation Skills and AE Accent

Unit 2: AE Grammar

Basic AE Grammar, AE Syntax, Differences in AE and British English (BE), Differences between AE and BE syntax

Unit 3: AE Vocabulary

AE Lexicon, Idioms, Common AE Word List, Differences between AE and BE Lexicon,

Unit 4: AE Conversation

Everyday AE, AE Usage, Standard AE Usage, AE Dialects, Common AE Dialect,

Unit 5: AE Usage

AE Speech Acts, AE in Real Life Situations, AE for Occupational Purpose, AE in Universities and Colleges

Independent Reading

Reading: The Gift of Magi and Other Stories, O. Henry

Textbook: to be prepared by the Department Faculty who will act as course writers and reviewers

Business English

This course aims at enabling students to improve their communication skills in English for business purposes. Students will be trained to become more confident, accurate and fluent in business communication.

Objectives

Students shall

- i. learn to write letters, faxes, memos and reports
- ii. listen and comprehend broadcasts and discussions on business topics
- iii. have speaking exercises involving functional expressions which will help develop fluency
- iv. read and understand texts on various business topics
- v. learn various jargon and business specific terms to enrich their vocabulary.

Unit 1: Writing- drafting sales letters, business reports, faxes and memos.

Unit 2: Listening - significance of listening, barriers to effective listening, note-taking, audio recordings for listening exercises.

Unit 3: Speaking - telephone conversations, responding to queries, sales negotiation, public speaking, group discussions and presentations.

Unit 4: Reading – reading comprehension passages, business texts

Unit 5: Vocabulary- technical terms and expressions

References

Jones, Leo & Alexander, Richard. **New International Business English**. UK: Cambridge University Press, 2000.

Cambridge BEC Preliminary. Cambridge: CUP, 2005.

Cambridge BEC Vantage. Cambridge: CUP, 2005.

Cambridge BEC Advanced. Cambridge: CUP, 2005.

English for Study Abroad [ESA]

The certificate course provides tools and guides to help students prepare for the international tests such as TOEFL/IELTS, and improve their English language skills. It offers training through intensive and structured modules and comprehensive study material to excel in the tests. It also provides practice tests that assist students to get a real-time experience.

At the end of the course students shall be able to

- Understand the different modules of TOEFL and IELTS
- Measure their ability to use the English language
- Understand the use of English at the university/college level
- Combine LSRW to perform academic tasks
- seek admissions to English-language learning program abroad

UNIT I: INTRODUCTION

Next Generation TOEFL iBT, International English Language Testing System, learn about listening, reading, writing, and speaking skills.

UNIT II: READING

This unit measures students' ability to understand non-specialised texts. Students read long passages with tasks, texts range from descriptive and factual to the discursive and analytical. It also includes non-verbal materials such as diagrams, graphs or illustrations.

UNIT III: LISTENING

This unit measures aptitude for understanding English as it is spoken in North America with everyday vocabulary, expressions and grammar. Students listen to lectures, classroom discussions and conversations, and then answer questions. It also measures aptitude for understanding English as it is spoken in England with everyday vocabulary, expressions and grammar. Students listen to monologues and conversations, then answer questions.

UNIT IV: SPEAKING

This unit helps them express an opinion on a familiar topic; speak based on reading and listening tasks. It also trains them to face face-to-face interview, short questions, speaking at length about a familiar topic and a structured discussion.

UNIT V: WRITING

This unit measures ability to write a text in English on a specific subject. Students will be able to generate, organize and support ideas using common written English in an essay format. They write essay responses based on reading and listening tasks; support an opinion in writing. It also focuses on helping them summarize, describe or explain a table, graph, chart or diagram.

References

- Hewings, Martin. (1999). **Advanced English Grammar: A Self study References and Practice Book for Advanced South Asian Students with Answers**. New Delhi: Foundation Books.
- Lewis, Norma. (1978). **How to Read Better and Faster**. New Delhi: Binny Publishing House.
- Sharpe, Pamela (2013). **J. Barren's TOEFL iBT**. New Delhi: Galgottia.
- Swan, Michael. (2000). **Practical English Usage**. International student's Edition. Oxford: OUP.
- Turton, Nigel D. (1997). **ABC of Common Errors: for Learners of English**. Delhi: Macmillan.
- Wood, Frederick. (1987) **Current English Usage**. London. Macmillan.
- Zandvoort. (1976). R. W. **A Handbook of English Grammar**. London: Longman.
- IELTS website: <http://www.ielts.org/>
- TOEFL website: <https://www.ets.org/toefl>
- <http://www.toeflgoanywhere.org/>

Internal & External Evaluation Patterns for Certificate Courses

Effective Communication Skills

Written: 50%

Oral : 50%

English for Employability

Written: 70%

Oral : 30%

Spoken English

Oral : 100%

English for Study Abroad

Written: 50%

Oral: 50%

Eligibility

Both UG & PG students

Timing

Morning : SF Students

Afternoon : Aided Students

Duration

Four hours per week from Monday through Thursday

Credits

Four Credits

DEPARTMENT OF FRENCH
THE AMERICAN COLLEGE, MADURAI
STUDY PLAN

For
Certificate Course in French.

Duration: 6 months. (90hours)

This course is for beginners interested in learning French. It is open to anyone who has completed 10+2 or its equivalent.

Rationale:

In today's global scenario of rapid mobility and migration, knowing a foreign language would be an asset. Learning foreign language like French would enhance one's opportunity to face the competitive job market. It would also be a gateway to undertake higher studies in a francophone university.

Objective:

The course aims at developing the four basic skills in French: speaking, listening, reading and writing.

Syllabus structure:

The syllabus is communicative and interactive. It integrates modern communicative technology. It follows the 'action method' falling in line with the recommendations established by the Common European Framework of Reference for Languages (CEFR).

The syllabus comprises of grammar and vocabulary needed for a day-to-day conversation. There is also an equal civilisation component to initiate the student into French culture, since understanding another culture is an integral part of a language learning process.

The syllabus aims at sensitizing the students to:

1. A Communicative competence in French language.
2. Cultural awareness

Text book:

GIRARDET, J., PECHEUR, J. Echo A1, CLE International, Paris, 2010

Dictionaries:

Bi-lingual: The Concise Oxford-Hachette French Dictionary, (French-English, English-French), Oxford-New York, Oxford University Press. (latest edition)

Mono-lingual French Dictionary: Le Petit Robert, Paris, Dictionnaire Le Robert. (latest edition)

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|-------------------------------------|---|
| Unit 1: Apprendre ensemble : | Vous comprenez? – Au travail! – On se détend ? – Racontez-moi |
| Unit 2: Suivre en français : | Bon voyage – Bon appétit ? – Quelle journée ! |
| Unit 3: Etablir des contacts - I : | Souvenez-vous – On s'appelle? |
| Unit 4: Etablir des contacts - II : | Un bon conseil – Parlez-moi de vous ! |

Certificate Course in Hindi

The American college offers a three month certificate programme in Hindi for beginners. It is open to all those who are interested in learning Hindi.

Rationale: Hindi is one of the languages that is considered as the national and official language of India. Learning Hindi is essential in India for communication because most of the Indian states are Hindi speaking. Knowledge of Hindi is highly useful as it broadens one's employment potential. It is also a doorway to undertake higher studies in any of the Indian universities.

Objective:

This course aims at developing the four basic skills in Hindi: speaking, listening, reading and writing and familiarizing the student with the basic knowledge of Hindi phonetics and grammar rules.

Syllabus structure:

The syllabus is communicative and interactive. It includes practice of Hindi script, Phonology, Numbers, Basic vocabulary required for using in day-to-day conversation and fundamentals of grammar. The focus is on pronunciation and developing communicative competence through dialogues.

Duration : 60 Hours

Eligibility : 10+2 School Education or Equivalent.

The Programme consists of 4 Modules of 20 Hours class room learning each respectively.

Syllabus

Module-1 (Introduction)

Writing & Reading – Word Building – Case Ending - Making Sentences – Framing Questions.

Module-2 (Grammar)

Noun – Pronoun – Adjective – Verb – Adverb – Tense.

Module-3 (conversation)

Doctor and patient - Passenger and Conductor - Customer and Shop keeper – Mother and son - In the Hotel - In the road - In the Hospital - In the Airport - In the office – Between Passenger and Riskhawal – In Bank.

Module-4 (Language skill)

Self Introduction - Error Spotting – Picture Description – Develop the Story.

Reference Books:

- Hindi Rachana Bharati Part-2- Dr. Keshawmoorthy – Navabharath Prakashan, Chennai, 2004.
- Subodh Hindi Rachan-2, Dakshin Bharat Hindi Prachar Saba, Chennai, 2013.

Department of Visual Communication

The American College, Madurai

Diploma courses

Course No	Course Title	Hrs/wk	Credits
DIPLOMA IN PHOTOGRAPHY			
DVP 1501	Basics of Photography	6	5
DVP1503	Techniques in Photography	6	5
DVP1505	Contemporary trends in Photography	6	5
	Total	18/wk	15
DIPLOMA IN VIDEO EDITING			
DVE1501	Basics of Non linear Editing	6	5
DVE 1503	Effects and Transitions in Video Editing	6	5
DVE 1505	Post production stages	6	5
	Total	18/wk	15
DIPLOMA IN SOUND RECORDING			
DSR1501	Introduction to Sound and Music	6	5
DSR 1503	Digital Audio Workstations	6	5
DSR1505	Audio Recording and Mastering	6	5
	Total	18/wk	15
DIPLOMA IN GRAPHICS & ANIMATION			
DGA 1501	Introduction to Drawing	6	5
DGA 1503	2D Animation	6	5
DGA 1505	3D Modeling	6	5
	Total	18/wk	15

DIPLOMA IN PHOTOGRAPHY

Course Duration : 6 months

Course Eligibility : Pass in Higher Secondary Examination

Total no of contact hours : 270 Hrs

Course Objective

To enable the learners to be acquainted with basics in photography and helps the students to develop the photography skills in digital era.

Sl. No	COURSE CODE	Paper Name
1	DVP 1501	Basics of Photography
2	DVP 1503	Techniques in Photography
3	DVP 1505	Contemporary trends in Photography

Learning Outcome:

Diploma in Photography is a course designed to teach and train the participants to become professional photographers. The course comprises theory and practical sessions to orient the students towards creativity involved in photography. The sessions are devised not only to provide knowledge, understanding and skills but also to provide experience and expertise in photography.

At the end of the course, students shall be able to

- i. Know the basics of photography.
- ii. Understand the different types of photography and appreciate the usage of lighting and
- iii. Develop image editing skills.

At the end of the course, the trained participants shall find placement in industry or work as freelancers.

Software : Adobe Photoshop

DVP1501

BASICS OF PHOTOGRAPHY

6 Hrs/week – 5 Credits

Course Objective:

- To enable the learners to be acquainted with basics in photography shots, camera angles and types of lens.
- To enable the learners to understand the concepts of colours in photography.

Unit I

Basics of camera – Components of camera - Camera Vs Eye – Basic types of Shots

Unit II

Types of camera – Lens – Types of lens – Prime lens – Normal Lens – Wide angle lens – Telephoto lens - Fish eye lens – Micro lens – Macro lens

Unit III

Image – Pixels – Resolution - Aperture - Shutter speed – ISO – Depth of Field – Camera controls – White balance

Unit IV

Composition: Rule of third – Headroom – Nose room – Lead room - CCD – CMOS - Handling DSLR Camera and its techniques

Unit V

Color in photography – RGB Color – CMYK Color – Focal length - Depth of focus

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

- Ashok Dilwali (2013), '*All About Photography*', National Book Trust, NewDelhi,

Reference Books

- Chris Gatcurn (2013), "*The Beginner's of Photography guide*", DK; 2nd Edition, South Chind Printing Company
- Rajkumar. C.J, (2014), "*Pixel*", Discovery Book Palace
- Bryan Peterson (2010), "*Understanding Exposure*",

DVP 1503**TECHNIQUES IN PHOTOGRAPHY****6hrs/week – 5 credits****Course Objectives:**

- To enable the learners to understand the significance of technical aspects in photography
- To enable the learners to know about the types of filters and types of photography

Unit I

Lighting - Three point lighting - Types of lighting: Indoor lighting - Outdoor lighting – Advantages of lighting

Unit-II

Exposure – Under exposure – Over exposure - Sources to control the exposure

Unit-III

Filters – Usage of filters in camera – Advantages of filters - Types of filters – Polarizing filters – UV Filters – ND Filters

Unit IV

High speed photography - Motion Blur – Monochromatic Color photography – Smoke Art photography – Macro photography

Unit V

Long Exposure Photography – Multiple exposures – Manual focus

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

1. Ashok Dilwali, All About Photography, National Book Trust, NewDelhi, 2013

Reference Books

- Chris Gatcum (2013), *"The Beginner's of Photography guide"*, DK; 2nd Edition, South Chind Printing Company
- Rajkumar. C.J, (2014), *"Pixel"*, Discovery Book Palace
- Bryan Peterson (2010), *"Understanding Exposure"*,

DVP 1505 CONTEMPORARY TRENDS IN PHOTOGRAPHY

6hrs/week – 5 credits

Course Objectives

- To enable the learners to understand the types of photography in contemporary era
- To enable the students to know about the role of photography in various media

Unit I

Portrait - Event photography -Table Top photography - AD photography – Candid photography – Night light photography – Street photography

Unit II

Photography in various fields – Product photography - Landscape photography - Wild life photography – Sports photography

Unit III

Photo Journalism – Basics, Goals and applications of photo journalism – Photo journalism as a profession

Unit IV

Digital photography - Image Technique – Photo Manipulation

Unit V

Usage of Adobe Photoshop for editing the photographs

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

- Ashok Dilwali (2013), "*All About Photography*", National Book Trust, NewDelhi,

Reference Books

- Chris Gatcurn (2013), "*The Beginner's of Photography guide*", DK; 2nd Edition, South Chind Printing Company
- Rajkumar. C.J, (2014), "*Pixel*", Discovery Book Palace
- Bryan Peterson (2010), "*Understanding Exposure*".

DIPLOMA IN VIDEO EDITING

Course Duration : 6months

Course Eligibility : Pass in Higher Secondary Examination

Total no of contact hours : 270 Hrs

Course Objective

To enable the learners to be acquainted with basics, developments and applications of Video Editing in digital age.

S. No	COURSE CODE	Paper Name
1	DVE 1501	Basics of Non linear Editing
2	DVE 1503	Effects and Transitions
3	DVE 1505	Post production stages

Learning Outcome:

Diploma in Video Editing is a course designed to teach and train the students for becoming trained technicians and also professionals in the field of Video Editing. The course comprises theory and practical sessions and these sessions shall provide not only Knowledge, understanding and skills but also exposure, experience and expertise in Video Editing.

At the end of the course, students shall be able to

- i. Know and understand the usage of editing in film making
- ii. Appreciate the visual grammar and visual aesthetics
- iii. Develop skills to edit both fiction and nonfiction by using the state-of-the-art facilities

At the end of the course, the trained students shall have the opportunities to work as freelancers and team workers in industries.

Soft ware: Final Cut Pro, Adobe Premiere

DVE 1501

BASICS OF NON LINEAR EDITING

6hrs/week – 5 credits

Course Objective

- To understand about the basics of editing and its techniques.
- To know about the importance and application of editing software and storyboard.

Unit I

Fundamentals of NLE, capturing, mastering, import and export footages, EDL

Unit II

Shots, sequence, Framing, montage - Timeline, Footages, Techniques of software

Unit III

Rough cut, Final cut, Color correction, Match cut, Insert time, Space and Time

Unit IV

Intermediate shot sequences, storyboarding and script writing

Unit V

Adobe After effects: Introduction and its basics

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

- Robert M. Goodman & Patrick Mc Grath (2003), "*Editing Digital Video: The complete Creative and technical guide*":1st edition, Mc Graw Hill,

Reference Books

- Aaron Goold, (2017), "*The Video Editing Handbook*"
- Michael Wohl, (2001), "*Editing Techniques with Final Cut Pro*"
- Gael Chandler (2006), "*Cut by Cut: Editing your Film or Video*", Michael Wiese Productions,

DVE 1503

EFFECTS AND TRANSITIONS

6hrs/week – 5 credits

Course Objectives

- To understand the techniques of editing and postproduction stages
- To know about the conventional and contemporary techniques in editing

Unit I

Principles of editing techniques, time code, timeline, Rhythmic editing

Unit II

Editing in software, basic effects and transitions, VFX, SFX

Unit III

Editing- Online editing, Offline editing, real time, Dubbing

Unit IV

Timeline for video and audio tracks- Edit tracks in the time line – Create consequences and nested sequences

Unit V

Add transitions – Use the color correction tools – Sync clips from multiple cameras – Add shapes, texts and logos

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

- Robert M. Goodman & Patrick Mc Grath (2003), "*Editing Digital Video: The complete Creative and technical guide*": 1st edition, Mc Graw Hill,

Reference Books

- Aaron Goold, (2017), "*The Video Editing Handbook*"
- Michael Wohl, (2001), "*Editing Techniques with Final Cut Pro*"
- Gael Chandler (2006), "*Cut by Cut: Editing your Film or Video*", Michael Wiese Productions,

DVE 1505

POST PRODUCTION STAGES

6hrs/week – 5 credits

Course Objectives

- To understand about the post production techniques
- To know about the formats of editing

Unit I

Post production, color correction techniques & Effects

Unit II

Compression and editing - synchronization, output techniques, stabilization

Unit III

Output formats to media, Video file Output formats, HD output formats

Unit IV

Insert and Assemble editing - Limitation of analogue signal – Time code and editing – Record run – Free run

Unit V

Continuity Editing - Cut aways and cut-in – Perennial Techniques – Screen direction - Matching visual design

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

- Robert M. Goodman & Patrick Mc Grath (2003), "*Editing Digital Video: The complete Creative and technical guide*":1st edition, Mc Graw Hill,

Reference Books

- Aaron Goold, (2017), "*The Video Editing Handbook*"
- Michael Wohl, (2001), "*Editing Techniques with Final Cut Pro*"
- Gael Chandler (2006), "*Cut by Cut: Editing your Film or Video*", Michael Wiese Productions,

DIPLOMA IN SOUND RECORDING

Course Duration: 6 months

Course Eligibility: Pass in Higher Secondary Examination

Total no of contact hours : 270 Hrs

Course Objective

To enable the learners to be acquainted with basics, developments and applications of Sound Recording in digital age.

Sl. No	COURSE CODE	Paper Name
1	DSR 1501	Introduction to Sound and Music
2	DSR 1503	Digital Audio Workstations
3	DSR 1505	Audio Recording and Mastering

Learning Outcome:

Diploma in Sound Recording is a course designed to teach and train the students for becoming trained technicians and also professionals in the field of Sound Recording. The course comprises theory and practical sessions and these sessions shall provide not only knowledge, understanding and skills but also exposure, experience and expertise in Sound Recording.

At the end of the course, students shall be able to

- i. Know the musical styles and musical genres
- ii. Understand the live recording and studio recording.
- iii. Develop skills to compose music and dubbing using sound effects

At the end of the course, the trained students shall find placement in radio, television and film industry.

Software: Cubase

DSR 1501 INTRODUCTION TO SOUND & MUSIC**6hrs/week – 5 credits****Course Objectives**

- To know about the basic of sound techniques
- To understand about the formats of music and its genres

Unit I

Nature of Sound – Properties of Sound Waves – Amplitude – Frequency and Phase - Noise

Unit II

Music basics - Perception of loudness, pitch and direction – Sound and Texture

Unit III

Music and its elements – Pitch – Melody – Harmony – Scale – Rhythm – Dynamics - Musical Form - Voices

Unit IV

Musical styles and Genres – Contemporary Styles – Pop – Rock – Jazz – Hip Hop - Mash up

Unit V

Introduction to music production: Recording - Editing - mixing and mastering - Studio equipments - Acoustics.

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

- Francis Rumsey and Tim Mc Cormick (2009), '*Sound and Recording : An Introduction*', 5th edition, Focal Press UK,

Reference Books:

- Francis Rumsey & Tim Mc Cormic (2013), "*Sound and Recording*" (6th Edition), Focal Press
- John Borwick (2001), "*Sound Recording Practice*", 4th Edition, Oxford University Press
- David Miles Huber & Robert E Runstein, (2014) "*Modern Recording Techniques*", Focal Press,

DSR 1503 DIGITAL AUDIO WORKSTATIONS**6hrs/week – 5 credits****Course Objectives**

- To know about the nuances of sound techniques
- To understand about the operating systems and types of microphone in sound recording

Unit I

Introduction to DAW – Computer configuration and specification – Recording, Editing, and mixing

Unit II

Introduction to microphones – Types of microphones: Large Diaphragm Condenser Mics – Small Diaphragm Condenser Mics – Dynamic Mics – Ribbon Mics – USB Mics – Boundary Mics

Unit III

Working in various operating systems - Effects and Signal Processors: Dynamic Processors, compressors

Unit IV

Reverberation - Delay – Phases and flingers - Analog to digital converters.

Unit V

Sound recording - Cylindrical phonograph – Gram phone – Magnetic tape – Stereo - Digital Recording

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

- Francis Runsey and Tim Mc Cormick (2009), "*Sound and Recording : An Introduction*", 5th edition, Focal Press UK,

Reference Books:

- Francis Rumsey & Tim Mc Cormic (2013), "*Sound and Recording*" (6th Edition), Focal Press
- John Borwick (2001), "*Sound Recording Practice*", 4th Edition, Oxford University Press
- David Miles Huber & Robert E Runstein, (2014) "*Modern Recording Techniques*", Focal Press,

DSR 1505 AUDIO RECORDING AND MASTERING

6hrs/week – 5 credits

Course Objective

- To understand the techniques of audio formats and instruments used in sound recording
- To know about the techniques of postproduction in sound recording.

Unit I

Audio Formats: Uncompressed audio format – Lossless Compressed audio format – Lossy Compressed audio format

Unit II

Basic music theory - MIDI – MIDI input – MIDI sequencer - Virtual instruments VST

Unit III

Editing Preproduction: Sound design and planning - Production: Location sound recording

Unit IV

Equipments and specifications - Daily logs - Post production: dubbing – background score

Unit V

SFX – Final mastering and audio balance – Sound design for various visual genres

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

- Francis Runsey and Tim Mc Cormick (2009), "*Sound and Recording : An Introduction*", 5th edition, Focal Press UK,

Reference Books:

- Francis Rumsey & Tim Mc Cormic (2013), "*Sound and Recording*" (6th Edition), Focal Press
- John Borwick (2001), "*Sound Recording Practice*", 4th Edition, Oxford University Press
- David Miles Huber & Robert E Runstein, (2014) "*Modern Recording Techniques*", Focal Press,

DIPLOMA IN GRAPHICS & ANIMATION

Course Duration : 6months

Course Eligibility : Pass in Higher Secondary Examination

Total no of contact hours : 270 Hrs

Course Objective

To enable the learners to be acquainted with basics, developments and applications of animation in digital age.

Sl. No	Course Code	Course Title
1	DGA 1501	Introduction to Drawing
2	DGA 1503	2D Animation
3	DGA 1505	3D Modeling

Learning Outcome:

Diploma in Graphics and Animation is a course designed to teach and train the students for becoming trained technicians and also professionals in the field of Graphics and Animation. The course comprises theory and practical sessions and these sessions shall provide not only Knowledge, understanding and skills but also exposure, experience and expertise in Graphics and Animation.

At the end of the course, students shall be able to

- i. Know the fundamentals of graphics and animation
- ii. Understand the various tools of modeling
- iii. Get hands on training in 3D Modeling, Rigging an Animation

At the end of the course, the trained participants shall find placements in various areas including Television, film, advertisements and production houses for Animation

Software: Maya, 3D Max, Flash

DGA 1501

INTRODUCTION TO DRAWING

6hrs/week – 5 credits

Course Objectives:

- To understand the learners to know about the basics of drawing and its elements
- To understand about the types of drawing in contemporary trends

Unit I

Drawing basics - Dot, line, shape, form, texture

Unit II

Perspectives: One point, Two point, Three point

Unit III

Colors: Primary, Secondary, Tertiary, Warm, Cool – Color wheel

Unit IV

Water color – Oil color - Acrylic Color – Mixed media - Creative Composition

Unit V

Drawing tools in flash – Brushes in flash – Grouping and ungrouping – symbols and transform menu-
Tracing bitmaps.

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

- Gioanni Civardi, (2010), "*Drawing: A Complete Guide (Art of Drawing)*", Search Press Limited,

Reference Books:

- Rod Stephens (2000), "*Visual Basic Graphics Programming (2nd Edition)*", Benchmark Production,
- Liz Blazer (2015), "*Animated Storytelling: Simple Steps for creating animation and Motion Graphics*",
- Christian Vasile (2017) "*Learning the basic elements and principles of Graphic Design*"

DGA 1503

2-D ANIMATION**6hrs/week –5 credits****Course Objectives**

- To enable the students to know about the various software in 2D animation
- To understand the properties and elements of 2D animation

Unit I

Introduction to 2-D animation: Introduction to Adobe flash - Frame-by-frame animation - Motion tweening - Shape tweening

Unit II

Creating mask – Static Mask and Text mask - Motion Guide - Creating a Button- Button Action Script- Storyboard creation.

Unit III

Editing layer properties - Text more in flash – Breaking apart a text in flash – adding sound file to flash projects

Unit IV

Applying a filter effect on Graphics – Optimizing Flash Movie – Publishing Flash movies - Creating a flash project – basics of flash publishing.

Unit V

Basic HTML scripting – About the web colors – Web banner creation – Converting movie file to FLV

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

- Gioanni Civardi, (2010), '*Drawing: A Complete Guide (Art of Drawing)*', Search Press Limited,

Reference Books:

- Rod Stephens (2000), '*Visual Basic Graphics Programming (2nd Edition)*', Benchmark Production,
- Liz Blazer (2015), '*Animated Storytelling: Simple Steps for creating animation and Motion Graphics*',
- Christian Vasile (2017) '*Learning the basic elements and principles of Graphic Design*'

DGA 1505

3-D MODELING**6hrs/week – 5 credits****Course Objectives**

- To know about the basics in 3D animation
- To understand about the lighting and texturing techniques in 3D animation

Unit I

Modeling – Introduction to MAYA – Tools for modeling – Create basic modeling - Poly Modeling

Unit II

Shading - Introduction to Hyper shade - Maya nodes – 2D & 3D Textures for UV mapping

Unit III

Lighting and Texturing – Introduction to Maya lights - Working with the flash library – Working with video in flash - adding video to a flash document – Working with flash filters.

Unit IV

Introduction to Monterey - Caustics - Illumination – final gathering

Unit V

Rigging - Introduction for rigging - Skeleton - Creating two leg skeleton - Skimming - Introduction to Walk cycle – Camera rendering

Evaluation Pattern:

II Internal continuous Assessment will be conducted during the course period for 60 Marks (30+30), External Examinations will be conducted for 60 Marks at the end of the course. Practical exam will be conducted for 40marks

Text Book

- Gioanni Civardi, (2010), '*Drawing: A Complete Guide (Art of Drawing)*', Search Press Limited,

Reference Books:

- Rod Stephens (2000), '*Visual Basic Graphics Programming (2nd Edition)*', Benchmark Production,
- Liz Blazer (2015), '*Animated Storytelling: Simple Steps for creating animation and Motion Graphics*',
- Christian Vasile (2017) '*Learning the basic elements and principles of Graphic Design*'