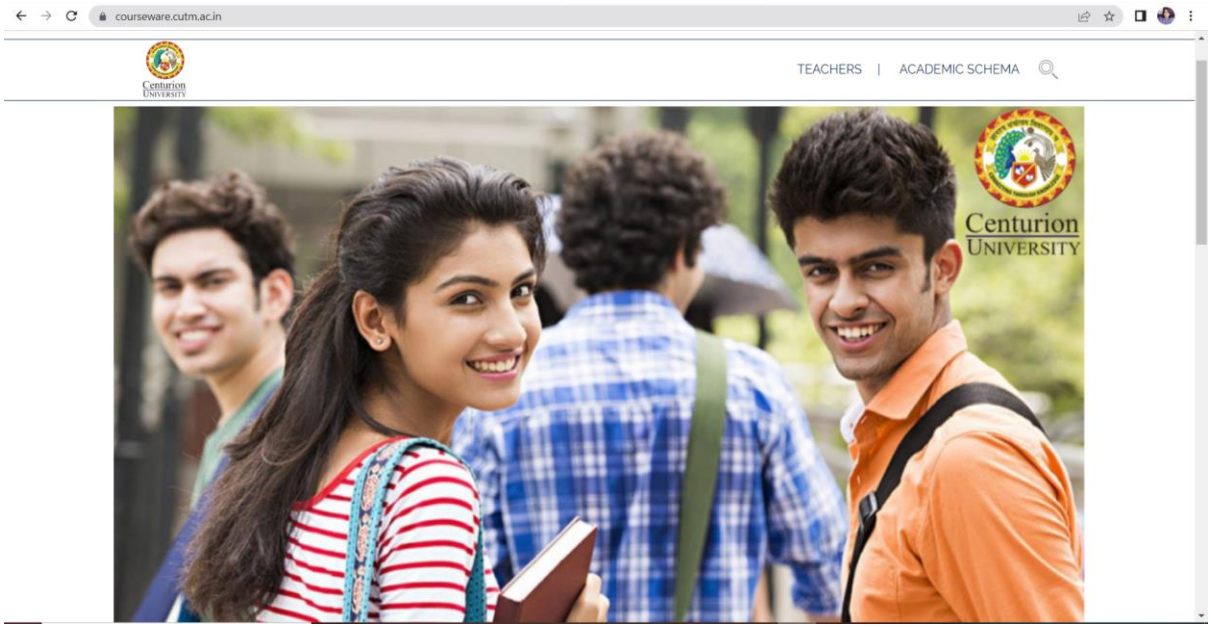
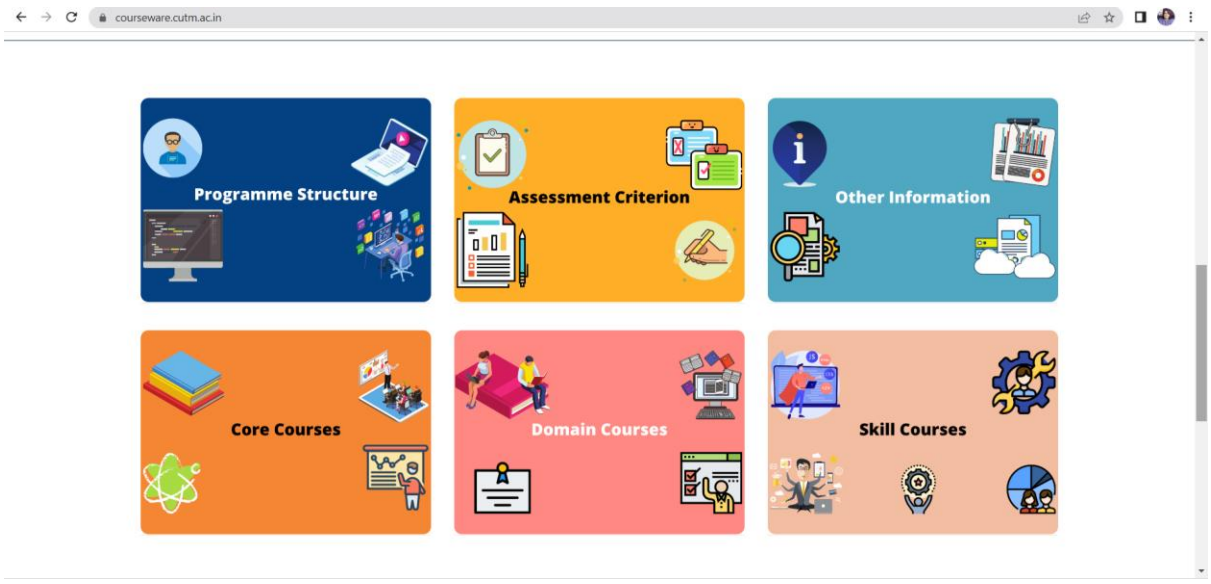
INSTITUTIONAL LMS
(CENTURION COURSEWARE)
https://courseware.cutm.ac.in/

COURSE OBJECTIVES

The document states the objectives of all courses developed by the faculty of the university on Centurion Courseware, Institutional Learning Management System.





Dr. Anita Patra

Registrar, CUTM

1.Course Title: Differential Equations and Linear Algebra

Faculty: Ms. Saubhagyalaxmi Singh

Course Objective:

• Introduce students to how to solve linear Differential Equations with different methods.
• To solve the system of linear equations appearing in the problems of electrical engineering, mechanical engineering etc.
• To use Eigen values and Eigen vectors in Control theory, vibration analysis, electric circuits, advanced dynamics problems.
• Introduce students how to solve first order and second order differential equations

2. Course Title : Laplace & Fourier Transforms

Faculty : MR.Balaji Padhy

Course Objective:

• To describe the ideas of Fourier and Laplace Transforms and indicate their applications in the fields such as application of PDE, Digital Signal Processing, Image Processing, Theory of wave equations, Differential Equations and many others.
• To use Fourier series for solving boundary value problems appearing in scientific & engineering problems

3. Course Title: Complex Analysis & Numerical Methods

Faculty : Mr. Sasi Bhusan Padhi

Course Objective:

- To understand about Complex variables and complex functions.
- To acquire the skill of evaluating contour integrals using Cauchy's integral formula and Cauchy's integral theorem.

- To understand the limitations of analytical methods and the need for numerical methods and the ability to apply these numerical methods to obtain the approximate solutions to engineering and mathematical problems.

4. Course Title: Discrete Mathematics

Faculty : Dr P HariKrishna

Course Objective: To understand mathematical reasoning in order to read, comprehend and construct Mathematical arguments as well as to solve problems, occurred in the development of programming languages.
To work with discrete structures such as graphs to study the structure of the world wide web, to model a computer network and to find the shortest path between two places in a transportation network.

5. Course Title: Probability & Statistics

Faculty : Dr.Banitamani Mallik

Course Objective:

• To translate real-world problems into probability models.
• To motivate students in an intrinsic interest in statistical thinking.
• T o apply probability and statistics in engineering and science like disease modeling, climate prediction and computer networks etc.

6. Course Title: Calculus

Faculty : Dr. Goutam Kumar Mahato

Course Objective:

To study how things change. It provides a framework for modeling systems in which there is change, and a way to deduce the predictions of such models.

To construct a relatively simple quantitative models of change, and to deduce their consequences.

7. Course Title: Mechanics for Engineers

Faculty : Mr. Gouri Kumar Sahu

Course Objective:

To provide the students with a clear and thorough understanding on fundamentals of mechanics as applied to solve real-world problems

8. Course Title : Optics and Optical Fibres

Faculty : Mr. Subhraraj Panda

CourseObjective:
To train the students for Optics and the applications of laser, and optical fiber in the field of engineering and technology.

To learn and practice the techniques used by an optical phenomenon so that these can be applied to actual field studies.

9. Course Title: Applied Analytical Chemistry

Faculty : Dr.M.L.N. ACHARYULU

Course Objective:

- Explain fundamental principles for environmental analytical methods (titration, electrochemistry, instrumentation and basic parameters of water, soil, fuel, etc
- Point out suitable analytical techniques for analyzing a specific compounds in an environmental matrix

10. Course Title: Applied Engineering Materials

Faculty: Dr Dojalisa Sahu

Course Objective

To give an introduction to materials, ceramics, polymers, and electronic materials in the context of a molecular level understanding and their application in various field

11. Course Title : Environmental Science

Faculty : S P Nanda

Course Objective

- To understand the concept of multi-disciplinary nature of Environmental Science where different aspects are dealt with a holistic approach.
  • Students will develop a sense of community responsibility by becoming aware of environmental issues in the larger social context.
  • One must be environmentally educated.

12. Course Title : Optimisation Techniques

Faculty : Dr. Parle Kalyan Chakravarthy

Course Objective:

To Create an Engineering design methodology using a mathematical formulation of a design problem to support selection of the optimal design among alternatives

13. Course Title : Engineering Economics and Costing

Faculty : Dr. Madhumita Das and Pramod Patjoshi

Course Objective:

- Facilitate students to understand the basics of Economics and its application in the field of engineering
- Enable students to understand the concepts of the time value of money and techniques for evaluation of engineering project
- Equip students with the skills required to understand cost statements/records of the product and its effect on decision making

14. Course Title : Project Management

Faculty :Dr. Prasanta Kumar Mohanty

Course Objectives

- The successful development and implementation of all project's procedures.
- Learn project management methodology to initiate and manage projects efficiently and effectively
- Acquire key project management skills and strategies for Productive guidance, efficient communication and supervision of the project's team
- The achievement of the project's main goal within the given constraints

15) Course Title : Gender, Human Rights and Ethics

Faculty : Dr. Supriya Pattanayak & Dr. Smita Mishra Panda

Course Objectives

This course is about gender, human rights and ethics in which the student will be sensitized and exposed to related issues in the context of business and organisations in India. The specific objectives are:

- To develop an understanding of gender, human rights and ethics in an unequal society like India
- Sensitisation of how gender, human rights and ethics are significant in organisations.
- Integrating concerns related to gender, human rights and ethics in organisations.

16)Course Title :Climate Change, Sustainability and Organisation

Faculty: Dr. Supriya Pattanayak & Dr. Smita Mishra Panda

Course Objectives

- To develop an understanding about climate change in general, responses and debates
- To create awareness about the impact of climate change on organisations in performance, growth and sustainability
- To facilitate in developing reference points to factor in aspects of climate change in organizational planning and development
- To develop an understanding of sustainable development, SDGs and their relevance for sustainability of organisations
- To comprehend the application of the Integrated Reporting Framework for Sustainability in business.

17)Course Title : Job Readiness

Faculty : Prajna Pani (IELTS & Verbal) & team (Quantitative Aptitude & Logical Reasoning)

Course Objectives :
Develop additional skills (verbal, logical, quantitative and reasoning) required to enhance employability as well as the entrepreneurial ability of the students

18)Course Title : Industrial IOT and Automation

Faculty :Dr. Abhinna Chandra BiswalCourse Objectives:

By 2025, there will be 50 billion devices connected to the Internet. How will the students capitalize on this tremendous opportunity?

- Students will learn the new evolution in hardware, software, and data.
- While the promise of the Industrial Internet of Things (IIoT) brings many new business prospects, it also presents significant challenges ranging from technology architectural choices to security concerns.
- Students acquire upcoming Industrial IoT: Roadmap to the Connected World Course offers important insights on overcoming the challenges and thrive in this exciting space.

19) Course Title: Data Analysis and Visualisation using Python

Faculty :Dr. Anita Patra

Course Objectives

- How to tell a story from data
- How to marshal the data for storyline
- The ability to develop visualisation to tell the story
- The focus is on analysis of data using visualisation as a tool

20) Course Title : Machine Learning using Python

Faculty :Mr. Manoj Kumar Behera/ Dr. Sujata Chakravarty

Course Objectives

- Understand the meaning, purpose, scope, stages, applications, and effects of ML.
- Explore important packages of python, such as numpy, scipy, OpenCV and scikit-learn.

21)Course Title: Robotic automation with ROS and C++

Faculty :Mr.Gautam Modak

Course Objectives

- To upgrade knowledge levels of robotic application in modern industries
- Project based training

22) Course Title : Design Thinking

Faculty : Dr. Subhendu Kumar Mishra

Course Objectives
The course aims to

- Orient the participants on the basics of the design thinking process
- Familiarize participants with the elements and application of Design thinking

23)Course Title : System Integration with DYMOLA

Faculty : Dr.Sudhansu Kumar Samal

Course Objectives

- To provide powerful multi-disciplinary systems engineering through compatible model libraries for a large number of engineering domains.
- To design high-fidelity modeling of complex integrated systems.
- To design intuitive modeling i.e. advanced, formally defined object-oriented modeling language.
- To enable users to easily build their own components or adapt existing ones to match their unique needs.
- To increase the ability to integrate with complex 3D geometry for integrated simulation.
- To increase powerful model management, calibration & optimization capabilities.

24)Course Title : Dr.Sudhansu Kumar Samal

Faculty :Smart Engineering Project (G2M)

Course Objectives

- The main objective of this course is that students from various branches can learn different tools and collaborate together to build a smart live project.
- To make the centurion's think beyond engineering.
- To provide the platform to express the imagination to reality.
- To acculturat*e the* diversity in engineering.
- To make the centurions industry ready.

25)Course Title: Mr. K V Kalyan Chakravarthy

Faculty : IT Infrastructure Management

Course Objectives

- To learn how to install DOS and NON-DOS OS
- Assembling and dissembling computer and laptop

- To configure network

26)Course Title : Cloud Practitioners

Faculty : Mr. Raj Kumar Mohanta/K V Kalyan

Course Objectives

- Understanding fundamentals of Cloud and its basic infrastructure
- Learn about account management, billing and pricing
- Acquire knowledge on security model and compliance concepts
- Learn how to use different core services of Cloud

27)Course Title : Wireless Networks

Faculty : K V Kalyan Chakravarthy

Course Objectives

- Describe the features and functions of WLAN components.
- Skills needed to install, configure, and troubleshoot WLAN hardware peripherals and protocols.
- Understand the Wi-Fi communications process and security standards.

28)Course Title : Information Security

Faculty : K V Kalyan Chakravarthy

Course Objectives

- The objective of this course is to focus on the models, tools, and techniques for enforcement of security.
- Students will learn security from multiple perspectives.

29) Course Title : OOPs with C ++ Programming

Faculty :Mr. Rakesh Kumar Ray(2nd batch)

Course Objectives

- To understand how C++ improves C with object-oriented features
- To learn how to design C++ classes for code reuse
- To learn how inheritance and virtual functions implement dynamic binding with polymorphism

- To learn how to use exception handling in C++ programs

30)Course Title: Data Structures using C++

Faculty: Mr. K.Santoshachandra Rao

Course Objectives

- Be familiar with techniques of algorithm analysis and Recursive method
- Be familiar with implementation of linked data structures such as linked lists and binary trees
- Be familiar with several sub-quadratic sorting algorithms including quick sort, merge sort and heap sort
- Be familiar with some graph algorithms such as shortest path and minimum spanning tree

31. Course Title : Advanced Web Programming

Faculty: Dr. Debendra Maharana

Course objectives :

- Understand client server architecture and able to use the skills for web project development
- Create job opportunities as a web developer..

32.Course Title: Java Technologies

Faculty: Mr. Sashi Bhusan Maharana

Course objectives:

- Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.

- Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.
- Be aware of the important topics and principles of software development
- Have the ability to write a computer program to solve specified problems
- Have the ability to write a computer program to solve specified problems
- Be able to use the Java SDK environment to create, debug and run simple Java programs

33.Course Title: Operating System Concepts

Faculty: Mr. Suvendu Kumar Nayak

Course objectives:

- To understand the services provided by and the design of an operating system.
- To understand the structure and organization of the file system.
- To understand what a process is and how processes are synchronized and scheduled.
- To understand different approaches to process management, management and resource management
- To understand the data structures and algorithms used to implement an OS.

34.Course Title: Database Creation and Maintenance

Faculty: Ms. Sasmita Kumari Nayak

Course Objectives

- Foundation knowledge in database concepts, technology and practice to groom students into well-informed database application developers.
- Make the students understand the principles behind relational database management systems, including the database environment, the relational model, relational languages, develop simple SQL queries using MySQL Workbench.
- Strong practice in SQL programming through a variety of database problems.

35.Course Title: Database Cluster Administration and Security

Faculty: Mr. G.Narasimha Rao

Course Objectives

- To teach students about managing access rules and configurations for computing clusters for internal and external clients.
- To provide knowledge on manage cluster deployment.
- To provide hands-on experience of monitor capacity, performance and database security.

36. Course Title: Data Warehousing and Data Mining

: Faculty:Dr. Sujata Chakravarty

Course Objectives

- To identify the scope and essentiality of Data Warehousing and Mining.
- To analyze data, choose relevant models and algorithms for respective applications.
- To study spatial and web data mining.
- To develop research interest towards advances in data mining.

37. Course Title: Android App Development

Faculty: Mr.Rashmi Ranjan

Course Objectives

- Introduction to the Android platform for Mobile Application Development.
- Understand Native Android Application, Android SDK features, Android Virtual Device (AVD), SDK manager, The Android Application Lifecycle.
- Understand Application Priority and Process state.
- Fundamental Android UI Design, Introduction Views, Creating Activity with UI to lunch the Activity.
- Explicitly Starting new Activities, Implicit Intent, and Runtime Binding
- Saving simple Application Data, creating and Saving Preferences, Retrieving Shared Preference.
- Introduction the Preference Activity and Preference Framework.
- Introduction Android Database, Introduction SQLite, and Content value working with SQLite Databases.

38.Course Title: Formal Language and Automata Theory

Faculty: Mr. A Avinash

Course Objectives

- This course covers the theoretical computer science areas of formallanguages and automata, computability and complexity. Topics covered include: regular and context-free languages; finite automata and pushdown automata; Turing machines; computability - halting problem, solvable and unsolvable problems.
- Study of the “lexical analyzer” of a typical compiler, that is, the compiler component that breaks the input text into logical units, such as identifiers, keywords, and punctuation; Software for scanning large bodies of text, such as collections of Web pages, to find occurrences of words, phrases, or other patterns.

39. Course Title: Embedded System Design Using ARM Cortex

Faculty: Ms. Swarna Prabha Jena

Course Objectives

- To allow students in Embedded System sectors to learn programming / Interfacing peripherals to ARM Cortex based Microcontroller

40. Course Title: **VLSI Design**

Faculty: Dr. Chandra Sekhar Dash and Satyanarayan Padhy

Course Objectives

- To Provide Understanding of Design and Analysis of Digital Circuits and Systems.
- To Enable the Students to Write Efficient Hardware Designs and Perform High Level HDL Simulations.
- To Enable the Students to Build an FPGA Embedded Solution using Xilinx / Altera FPGAs.

41.Course Title: Electromagnetic Interference and Compatibility

Faculty: Dr. P A Sunny Dayal

Course Objectives

- To familiarize with the fundamentals that are essential for electronics industry in the field of EMI / EMC
- To understand EMI sources and its measurements
- To understand the various techniques for electromagnetic compatibility.
- Acquire broad knowledge of various EM radiation measurement techniques.
- Model a given electromagnetic environment/system so as to comply with the standards.

42. Course Title: Electromagnetic Field Theory and Transmission Line

Faculty: Dr P A Sunny Dayal

Course Objectives

- To introduce the fundamental theory and concepts of electromagnetic waves and transmission lines
- To impart knowledge on the concepts of electrostatics, electric potential, energy density and their applications.
- To impart knowledge on the concepts of magnetostatics, magnetic flux density, scalar and vector potential and its applications.
- To impart knowledge on the concepts of Faraday‘s law, induced emf and Maxwell‘s equations.
- Model and design the transmission lines at high frequencies.
- To apply Smith chart use for solution of transmission line problems and impedance matching.

43. Course Title: Network Analysis

Faculty: Mr. Nanda Kishore Ray

Course Objectives

- To learn techniques of solving circuits involving different active and passive elements.
- To analyze the behavior of the circuit’s response in time domain.
- To analyze the behavior of the circuit’s response in frequency domain.
- To synthesize an electrical network from a given impedance/admittance function.

44. Course Title: Digital Communication Systems

Faculty: Mr.Harish Chandra Mohanta

Course Objectives

- To impart the fundamentals of modern digital communication system design.
- To evaluate the performance of digital signaling schemes on realistic communication channels.

- Know the techniques of digital communication, information theory, and error control coding.

45. Course Title: Analog Communication Systems

Faculty: Harish Chandra Mohanta and Prabhat Kumar Patnaik

Course Objectives

- Impart the basic concepts of analog modulation schemes.
- Describe different types of noise and predict its effect on various analog communication systems.
- Know the techniques of analog communication and noise analysis in analog communication.

46. Course Title: Electronic Devices and Systems

Faculty: Dr Murali Malijeddi

Course Objectives

- The course is designed to be a broad introduction to electronic systems for students from diverse engineering disciplines. Completing the course will provide the necessary foundation to understand the role, capabilities and constraints of electronics in contemporary engineering systems.
- This course develops a basic understanding of the fundamentals and principles of analog and digital circuits and electronic devices. This understanding is a critical step towards being able to design new electronic circuits or use them appropriately as part of a larger engineering system.

47. Course Title: Principles of Wireless Communications

Faculty: Prabhat Kumar Patnaik and Dr. M. Vamshi Krishna

Course Objectives

- To study the characteristic of wireless channel
- To understand the design of a cellular system
- To study the various digital signaling techniques and multipath mitigation techniques
- To understand the concepts of multiple antenna techniques

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48. Course Title: Digital Signal & Image Processing

Faculty: Dr Prasanthi Rathnala/ Debaraj Rana

Course Objectives

- To teach students time domain,frequency domain,discrete time signals, properties and digital filter design techniques
- To provide knowledge on basic concepts of image and its processing techniques
- To provide knowledge on Enhancement, Restoration, Segmentation techniques
- To provide hand on experience of signal & image processing techniques using MATLAB

49. Course Title: Antennas Analysis & Design

Faculty: Dr M Vamshi Krishna

Course Objectives

- . To understand the theory and fundamentals of antenna design.
  . This course helps the students to learn key aspects of practical antenna design.
  . A broad range of antennas such as dipole, loop, microstrip patch, horn, smart etc are studied during the course.

50. Course Title: Wireless Communication for IIOT

Faculty: Prabhat Kumar Patnaik and M.Vamshi Krishna

Course Objectives

- To understand the physical aspects of Wireless Communication for IIoT Applications
  .

51. Course Title: Energy Production & Transmission

Faculty: Mr.K.Madhava Rao

Course Objectives

•To understand power generation and economics
•To design the transmission line parameters
•To understand the mechanical design of transmission lines

52. Course Title: Substation Switch gear & Protection

Faculty: Mr.K.Madhava Rao

Course Objectives

•To understand the different components of substation
•To understand the protection of different equipment in power system

53. Course Title: System Modeling and Control

Faculty: Amit Kumar Sahoo

Course Objectives

- To teach how to convert a physical systems consist of mechanical and electrical system into a mathematical model.
- Analysis of a live system in time domain and frequency domain and application of controllers to get the desired response.

54. Course Title: Electrical Machines Operation and Control

Faculty: Mr.Debasis Sahu

Course Objectives

- To introduce the students about principles of electromagnetism applied to alternating machines.
- To familiarise the students about the fundamental laws that governs the operation of machines and to extend its application to synchronous generator and motors.
- To introduce the students about the constraints associated with starting of Induction motors.
- Develop selection skill to identify the type of generators or motors required for particular application.

55. Course Title: Industrial Power Electronics

Faculty: Dr. Sanjay Kumar

Course Objectives

- They must meet industrial requirement for power electronic engineers.
- They must be gaining adequate practical knowledge on power semiconductor devices, converters and their control techniques.
- They should know the typical applications to motor drives.

56. Course Title: Digital Measurement and Instrumentation

Faculty: Smita Jana

Course Objectives

- The main objective of this course is to explain the operation, performance and application of Digital Measuring Instruments to the students.

57. Course Title: Basic Electrical Engineering

Faculty: Surya Narayan Sahu

Course Objectives

- In this course, student will come to know about the Basics of Electrical Engineering, Currents and Voltages across various Electrical elements.
- Their behavior in both Alternating Current and Direct Current circuits.
- Analysis of 1-phase and 3-phase AC wave forms.

58. Course Title: Programming in Java

Faculty: Sanjib Kumar Naik

Course Objectives

- Learn problem solving using object-oriented concepts
- Implement object oriented programming using Java
- Analyze several alternative solutions to determine the best approach

59. Course Title: Database Management Systems

Faculty: Dr. Sangram Keshari Swain

Course Objectives

- To understand the different issues involved in the design and implementation of a database system.
- To study the physical and logical database designs, database Modeling,relational,hierarchical, and network models
- To understand and use data manipulation language to query, update, and manage a database
- To develop an understanding of essential Peoperties of DBMS concepts such as: database security,integrity, concurrency

- To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS.

60. Course Title: Geometric Modelling

Faculty: M VIGNESH

Course Objectives

- • To introduce the students to basic theory and concepts of Auto Cad, Revit and the classical methods for the analysis of building drawings.
  • On completion of this course the students will be able to know the process of making sketches, dimensions, 3D Modeling and rendering.

61. Course Title: Structural Detailing and Drawing

Faculty: Sunita sahoo

Course Objectives

- • To introduce the students to basic theory and concepts of Structural Drawing, STAAD Pro and the classical methods for the analysis of building drawings.
  • On completion of this course the students will be able to know the process of making sketches, types of projections, designing of beam, columns and shear walls.

62. Course Title: Theories of Failure Analysis using FEA

Faculty: Mr. Ch.Sudheer /Dr.R.C.Mohanty

Course Objectives

- • To educate the students on basic theories behind mechanics of solids.
  • To educate the students on Finite Element Analysis concept applicable to Practical conditions.
  • To educate the students on Failure Criterion which will be useful for designing Practical problems.
  • To educate the students on using 3D Experience Tools for analysis of various mechanical structures and load transmitting elements.

63. Course Title: Quantity Estimation and Costing

Faculty: Vignesh M

Course Objectives

- To make familiar with calculation of quantities for different item of works &provide knowledge about estimation of buildings through Estimator-2.0 software.
- On completion of this course the students will be able to know the process of making animation of buildings, Sketch up of building plan and building models.

64. Course Title: Construction Materials

Faculty: Sagarika Panda

Course Objectives

- To introduce students to various materials commonly used in civil engineering construction and their properties.

65. Course Title: Electrical, Plumbing and Wood Works

Faculty: Vishal Kumar Singh

Course Objectives

- To understand the installation for electrical systems in a building.
  To study carpentry work in the building, installation of doors, windows, etc.
  To understand and demonstrate installation of plumbing systems in the building.

66. Course Title: Concrete Technology

Faculty: Sagarika Panda

Course Objectives

- To study properties of cement, sand and aggregate.
- To determine the correct proportion of cement, sand and aggregate ratio for the concrete.
- To perform tests for cement, sand and aggregate
- To perform tests for concrete.
- To supervise and monitor concrete casing and casting for building construction.

67. Course Title: Surveying Technique

Faculty: Dr.Prafulla Ku.Panda

Course Objectives

•To study the temporary adjustment of survey instruments by standard methods ,levelling and cross sectioning survey and setting out works

•To do various field works with the help of Total station

•To Carry out topographic survey

68. Course Title: Geospatial Survey

Faculty: Dr.Prafulla Ku.Panda

Course Objectives

- To teach the basic concept of Geospatial Technology and to do various field works with the help of digital surveying instruments.
- To provide basics of digital surveying and mapping of earth surface using GPS, DGPS, GPR

69. Course Title: Construction Material Testing

Faculty: Sagarika Panda

Course Objectives

• To teach the student about different property of concrete and its use in different work.

70. Course Title: Road Engineering

Faculty: Sagarika Panda

Course Objectives

To introduce transportation engineering principles with emphasis on designing principal element of highways along with the safe and efficient operation of highways.

71) Course Title: Hydrology & Irrigation

Faculty: Kamal Kumar Barik

- Course Objectives:
- To study the basic principles and movement of ground water and properties of ground water flow.

- To study the watershed characters and applications.♣ To study the ground water resources mapping and surface water resources mapping.
- To study the hydrological disaster and role of earth observation technology.

72) Course Title: Geotechnical Engineering

Faculty: Sunita Sahu

Course Objectives :

•Perform Grain size distribution, Proctor tests.
•Perform Unconfined compression, Triaxial tests.
•Perform California Bearing Ratio, Vane Shear tests.
• Perform Sand replacement, Core cutter, Permeability tests.

73) Course Title: Design of Structures

Faculty: Mr. Ch.Sudheer

Course Objectives:

- To teach the basic theoretical aspects and contemporary issues in the design and fabrication of reinforced concrete members
  • To teach the basic fundamental behavior of different section, bolts, members of steel structure used in construction.
  • To analyze and Design of Concrete Structures and Pre-Engineered Building(PEB) by using Software ETA

74) Course Title: Disaster Preparedness & Planning Management

Faculty: Jaya Krishna Krishna Behera

Course Objectives :

- To provide students an exposure to disasters, their significance, types & Comprehensive understanding on the concurrence of Disasters and its management.
- To ensure that students begin to understand the relationship between vulnerability, disasters, disaster prevention, risk reduction and the basic understanding of the research methodology for risk reduction measures.

- Equipped with knowledge, concepts, and principles, skills pertaining to Planning, Organizing, Decision-making and Problem solving methods for Disaster Management.

75) Course Title: Computer Aided Drafting

Faculty: Dr. G. Arun Manohar

Course Objectives

Students will learn how to

- create simple parts, assemblies and drawings.
- use different feature-based tools to build, review and modify a model.
- create and analyze assemblies and how to produce a drawing with different views.
- dimension the drawing and annotate the views.

76) Course Title: Product Design and Development

Faculty: Dr. G. Arun Manohar

Course Objectives :

Understand modern product development processes.

- Understand and explain the concept of Industrial design and robust design concepts.
- Understand the concept of Design for manufacture and assembly.
- Understand the legal factors, social issues, engineering ethics related to product design

77) Course Title: Reverse Engineering and Rapid Prototype

Faculty: Dr. G. Arun Manohar

Course Objectives :

- Understand concept of reverse engineering
- Understand principles of imaging, cross-sectional scanning, digital data, computational graphics
- Understand legality of reverse engineering concept

78) Course Title: Product Life Cycle Management

Faculty: Dr. G. Arun Manohar

Course Objectives:

- Use ENOVIA Engineering BOM Management
- Create parts and specifications
- Create Change Orders

79) Course Title: Manufacturing Process-process planning and Heat Treatment

Faculty: Dr. P S Rao, Dillip Mohanta

Course Objectives :

- To Understand the Importance of Materials, Manufacturing Processes, Process Planning & Design in Product Manufacturing

80) Course Title: Material in product design and development

Faculty: G.Sridevi

Course Objectives:

This course will help student to use structural scenario, thermal scenario and to do Structural analysis and Thermal analysis of various problems.

81) Course Title: Computer Aided Engineering

Faculty: Mukundjee pandey , Sujit Mishra

Course Objectives :

This course will help student to use structural scenario, thermal scenario and to do Structural analysis and Thermal analysis of various problems.

82) Course Title: Quality Assurance

Faculty: Dr. P S Rao, Santosh Patro

Course Objectives :

•To introduce the concept of SQC
• To understand Design of Experiments concept and ANOVA test
• To learn about the different plots in quality control

83) Course Title: Applied Ergonomics

Faculty: Dr. G. Arun Manohar

CourseObjectives : :
Use the Human Erogonomics software to create an accurate simulation of a human entity and its work environment to ensure a natural operation

84) Course Title: Computer Aided Manufacturing

Faculty: G.Sridevi

Course Objectives :

Create 2-D geometry and 3-D models using various Commands in Master CAM software.

- Create part programs for CNC machining, Contour Concept of cutter compensation using G codes and M codes.
- Create tool path and program for 2-D Lathe operations

85) Course Title: CNC Programming & CNC Machining

Faculty: SUDEEP KUMAR SINGH

Course Objectives

- Evaluate manufacturing assignment based on critical thinking and problem solving skills. Become a good communicator and effective team member.

- Practice writing complex “G” code programs for CNC turning centers that meet the part specification
- Interpret and demonstrate complex “G” code programs for CNC milling centers that meet the part specification
- Prepare “G: code programs to perform secondary operations including tapping, countersinking, counter boring, and threading.

- Describe and illustrate common problems with tooling and fixtures in CNC programming and machining.

86) Course Title: Design of Tools, Jigs and Fixtures

Faculty: Dr. P S Rao, Santosh Patro

Course Objectives :

- To learn basic concepts, functions and design principles of Jigs, Fixtures and Dies • To know the importance of work piece location & clamping

87) Course Title: Advance Metrology

Faculty: Dr. A.M Mohanty

Course Objectives :

To make students familiar with measuring systems and standard of measurements.Learns about basic measurement devices

- Understanding Basic Measurement Systems in real time engineering applications
- Enables students to work in Quality Control and assurance industries

88) Course Title: Thermodynamics

Faculty: Binayak Sahoo

Course Objectives :

• To know the laws of thermodynamics and conditions for energy transformation
• To get familiarity with different thermodynamic properties of pure substances
• To acquire knowledge of the temperature scales
• To get familiarity with various laws of thermodynamics
• To get familiarity with the various properties of steam

89) Course Title: Fluid Mechanics with FVM

Faculty: Debashree Debadatta Behera

Course Objectives :

- To learn To learn fundamentals of computational methods like FVM for solving linear and non-linear partial differential equations related to fluid dynamics
  • To emphasizes the basic underlying fluid mechanical principles governing energy transfer in a fluid flow systems with their performances in different field of engineering applications.

90) Course Title: Hydraulic Machinery

Faculty: Debashree Debadatta Behera

Course Objectives :

- To emphasizes Principle of operation of hydraulic machines and their system design
  • To familiarize their huge applications in different industries

91) Course Title: Theory of Machines

Faculty: prajna paramita Debata/psv ramana rao

Course Objectives :

- To make the student conversant with commonly used mechanisms in various machines
  • To develop skills for drawing velocity and acceleration diagram for linkages, cams, gears and other mechanisms
  • To address the underlying concepts, methods and application of different machines.
  • To understand the concepts of speed control mechanisms
  • To understand the concepts of Vibration

92) Course Title: Heat Transfer with FDM/FVM

Faculty: Mukundjee pandey

Course Objectives :

- To provide a good exposure for the students to various phenomena associated with fluid flow and different modes of heat & mass transfer

93) Course Title: Optimisation Techniques

Faculty: Parle Kalyan Chakravarthy

- Course Objectives :

- Ability to apply the theory of optimization methods and algorithms to develop and for solving various types of optimization problems
- Ability to go in research by applying optimization techniques in problems of Engineering and Technology
- Ability to solve the mathematical results and numerical techniques of optimization theory to concrete Engineering problems by using computer software

94) Course Title: Introduction to Aerospace Engineering

Faculty: Dr. Sangram Samal

- Course Objectives :
- Student will study this course to gather knowledge about the atmospheric condition with change in altitude, different component and its functions of aircraft, basic working principles of flight and different types of engine

95) Course Title: Rotary-wing Flight Dynamics

Faculty: Dr. Sangram Samal

Course Objectives :

- Student will study this course to get the knowledge about different types of helicopter, and working principles of the helicopter flight
- At end of this course student able to design a quad copter and able to fly

96) Course Title: Aerodynamic

Faculty: Dr. Sangram Samal

Course Objectives :

1. To make the student understand the 2-D flow ideal and real flow.
2. To make the student understand the concept of viscous flow.
3. To make the student understand the deferent types of drag.
4. To make the student understand the compressible effect over wing.

97) Course Title: Flight Mechanics

Faculty: Dr. Sangram Samal

Course Objectives :

- To understand the performance of aircraft.
- To make the student understand stability of aircraft.
- To make the student understand basic knowledge of aircraft design.

98) Course Title: Aircraft Structure

Faculty: Mukundjee pandey

Course Objectives

99) Course Title: Aerospace structural Analysis

Faculty: Dr. Sangram Samal

Course Objectives :

- To provide the students an understanding on Aerospace Structures and Materials
- To study the shear stresses in wing, fuselage, wing spar, attachments
- To study velocity and load diagram for different condition

100) Course Title: Jet Propulsion

Faculty: Dr. Sangram Samal

Course Objectives :

- To provide concepts of engine components of jet propelled engines which are operated in atmosphere

101. Course Title : Rotary-wing Flight Dynamics

Faculty : Dr. Sangram Samal

Course objectives:

- Student will study this course to get the knowledge about different types of helicopters, and working principles of the helicopter flight
- At end of this course student able to design a quad copter and able to fly

102. Course Title : Aerodynamic

Faculty : Dr. Sangram Samal

1. Course objectives:
2. To make the student understand the 2-D flow ideal and real flow.
3. To make the student understand the concept of viscous flow.
4. To make the student understand the deferent types of drag.
5. To make the student understand the compressible effect over wing.

103. Course Title : Flight Mechanics

Faculty : Dr. Sangram Samal

Course objectives

- To understand the performance of aircraft.
- To make the student understand stability of aircraft.
- To make the student understand basic knowledge of aircraft design.

104. Course Title : Aircraft Structure

Faculty : Dr. Sangram Samal

Course objectives:

- To understand the performance of aircraft.
- To make the student understand stability of aircraft.
- To make the student understand basic knowledge of aircraft design.

105. Course Title : Aerospace structural Analysis

Faculty : Dr. Sangram Samal

Course objectives:

1. To provide the students an understanding on Aerospace Structures and Materials
2. To study the shear stresses in wing, fuselage, wing spar, attachments
3. To study velocity and load diagram for different condition

106. Course Title : Jet Propulsion

Faculty : Dr. Sangram Samal

Course objectives:

- Understand the internal flow and external characteristics near the inlets. Starting problems and different modes of operation in supersonic inlets.
- Know the types and working principles of axial compressors and centrifugal compressors its velocity diagrams, blade design and performance characteristics of compressors.
- Understand the types and working methods in combustion chambers. The flame stabilization and flame techniques.
- Understand the flow through nozzle, choking, losses in nozzle, variable area nozzle and thrust vectoring.

107. Course Title : Advanced Propulsion

Faculty : Dr. Sangram Samal

Course objectives:

- To explore Ramjet, Scram jets and supersonic combustion working principles.
- To impart practical knowledge of solid and liquid propellants.
- To determine practically thrust developed by rocket propellants.

108. Course Title : Experimental Aerodynamics

Faculty : Dr. Sangram Samal

Course objectives:

- To provide knowledge about different types of wind tunnel and limitations
- Knowledge about experimental instruments.
- To describe flow visualization techniques and to highlight in depth discussion of analog methods.

109. Course Title : Space Dynamics

Faculty : Dr. Sangram Samal

Course objectives:

- To understand the performance of aircraft.
- To make the student understand stability of aircraft.
- To make the student understand basic knowledge of aircraft design.

110. Course Title : Introduction to Avionics

Faculty : Dr. Sangram Samal

Course objectives:

- introduce the basics of avionics and its need for civil and military aircraft
- To gain more knowledge on various avionics subsystems

111. Course Title : Geology for Mining Engineer

Faculty : Arun Kumar Sahoo

Course objectives:

- To understand the performance of aircraft.
- To make the student understand stability of aircraft.
- To make the student understand basic knowledge of aircraft design.

112. Course Title : Rock Mechanics

Faculty : Arun Kumar Sahoo

Course objectives:

- Develop an understanding of the engineering properties of rocks, geological and engineering rock classifications
- Understand rock failure theories
- Learn about in-situ stresses in rock
- Know about the fundamental concepts and principles of rock mechanics.

113. Course Title : Mine Environmental and Hazards

Faculty : RAMMOHAN PERUMALLA

Course objectives:

Mine environmental conditions in detail and able to gain knowledge to deal in uncertain conditions like Fire damp conditions, emission of methane and gas outbursts.
Able to gain knowledge of Spontaneous Combustion, detection, and preventive measures.
Gain knowledge on causes of Mine Inundation, statutory provisions.
Know Mine respirable dust generation, dispersable, measurement, and assessment.
Gain knowledge on Rescue and Recovery Operations in terms of preventing loss of life and safe recovery of mine to normal operation.

114. Course Title : Surface Mining

Faculty : Arun Kumar Sahoo

Course objectives:

- Provide a detailed description of the proposed surface mining method and related equipment and support infrastructure;
- Design and evaluate materials handling and transport options
- Conduct productivity analysis for the selected mining system
- Identify and evaluate core risks in each mining method
- Appraise mining systems with respect to safe, efficient, economic and environmentally and socially responsible operations
- Demonstrate awareness of major technological trends

115. Course Title : Underground Metal Mining

Faculty : Srikant Mallick

Course objectives:

- Concept on underground metal mining
- Concept on development and Stoping and Mine support

116. Course Title : Drilling and Blasting

Faculty : Srikant Mallick

Course objectives:

- Understand the different approaches to design a perfect blast design in surface and underground mines depending upon different geotechnical properties of rock and explosives
- Select a suitable method of working for exploitation of ore body economically and safely.
- Grasp process of mine production

- Gain knowledge about the various technical and economical and safety issues to be considered in mine designing.

117. Course Title : Electronic Devices and Systems

Faculty : Dr Murali Malijeddi

Course objectives:

- The course is designed to be a broad introduction to electronic systems for students from diverse engineering disciplines. Completing the course will provide the necessary foundation to understand the role, capabilities and constraints of electronics in contemporary engineering systems.
- This course develops a basic understanding of the fundamentals and principles of analog and digital circuits and electronic devices. This understanding is a critical step towards being able to design new electronic circuits or use them appropriately as part of a larger engineering system.

118. Course Title : Mine Economics

Faculty : RAMMOHAN PERUMALLA

Course objectives:

- Exposure to National Mineral policy, pricing Exports and imports.
- Fundamental principles of Mine economics
- Estimation of reserves, classification of reserves, tenor, grade etc..
- Mine Valuation, factors affecting mine evaluation.

119. Course Title : Mine Legislation and General Safety I

Faculty : Arun Kumar Sahoo

Course objectives:

- Describe various aspects of Mines Act 1952.
- Describe various aspects of Mines Rule 1955.
- Describe various aspects of Coal Mines Regulations 2017.
- Describe various aspects of mine safety

120. Course Title : Mineral Dressing

Faculty : Arun Kumar Sahoo

Course objectives:

- Exposure to various aspects of beneficiation of ores and industrial minerals for value addition.
- To introduce mineral processing characteristics of minerals
- To introduce Concentrations, Physico-chemical principles.
- To introduce Flowsheets for the beneficiation of various minerals.

121. Course Title : Computer Aided Drafting

Faculty : Dr. G. Arun Manohar

Course objectives:

Students will learn
• how to create simple parts, assemblies and drawings.
• how to use different feature-based tools to build, review and modify a model.
• how to create and analyze assemblies and how to produce a drawing with different views.
• learn how to dimension the drawing and annotate the views.

122. Course Title : Mine Management

Faculty : Arun Kumar Sahoo

Course objectives:

- Demonstrate an awareness of management theory and processes.
- Recognise the factors that motivate people's behaviour in the mine working environment
- Apply the principal performance measures used in mine management.

123. Course Title : Mine Surveying

Faculty : Srikant Mallick

Course objectives:

- To Understand correlation and stope survey methods and know and limitations of photogrammetry and modern survey methods.
- To be Familiar with dip and strike problems and surveyor responsibility in underground mines.

124. Course Title : Bioprocess Engineering

Faculty : Dr. Ranjan Kumar Sahoo

Course objectives:

To study the historical development of bio process technology.
• To evaluate the kinetics and thermodynamics of enzymatic process
• To study the stoichiometry and energetics of cell growth and product formation
• To evaluate the kinetics and mechanism of microbial growth

125. Course Title : Fermentation Biotechnology

Faculty : Dr. Ranjan Kumar Sahoo

Course objectives:

To study the design and construction of fermentor and parameters to be monitored and controlled in fermentation process.
• To study the principle of sterilization necessary for fermentation.
• To study the cell growth and product formation.
• To evaluate the kinetics and mechanism of microbial growth.

126. Course Title : Mine Management

Faculty : Food Microbiology

Course objectives:
To highlight the microorganisms present in food
• To study in detail the growth of microorganisms and impact of environment on the growth in food
• To know the food borne diseases and their control
• To know the methods for preservation of food

127. Course Title : Microbial Biotechnology

Faculty : Dr. Ranjan Kumar Sahoo

Course objectives:

To highlight the roles and characteristics of microorganisms in field of Biotechnology

• To impart knowledge on the basic concept of multiplication in microorganism

• To study in detail the growth, genetic organization of microorganisms and impact of environment on their growth

• To evaluate explicitly, the metabolic pathways, role of microbes in public health; insight into the physical and chemical control of microorganisms.

128. Course Title : Genetic Engineering

Faculty : Dr. Debanjana Saha

Course objectives:

To highlight the roles and characteristics of microorganisms in field of Biotechnology

• To impart knowledge on the basic concept of multiplication in microorganism

• To study in detail the growth, genetic organization of microorganisms and impact of environment on their growth

• To evaluate explicitly, the metabolic pathways, role of microbes in public health; insight into the physical and chemical control of microorganisms.

129. Course Title : Plant Tissue Culture Engineering

Faculty : Dr. Debanjana Saha

Course objectives:

To understand a procedure that is often used to propagate many plants of the same genetic background.

- To make the students understand the concept of this techniques and its application

130. Course Title : Biosafety Engineering

Faculty : Dr. Debanjana Saha

Course objectives:

- To introduce the biosafety regulations and ethical concepts in biotechnology
- To emphasize on IPR issues and need for knowledge in patents in biotechnology

131. Course Title : Cell Biology

Faculty : Dr. Debanjana Saha

Course objectives:

- To make the student understand all type of cells and cellular components, and how cell works in healthy and diseased states

132. Course Title : Molecular Biology

Faculty : Dr. Debanjana Saha

Course objectives:

- This course covers the structure function, and makeup of the molecular building blocks of prokaryotic and eukaryotic organisms.
  • It focuses on the interactions and interrelationship of DNA, RNA and protein synthesis and how these interactions are regulated.

133. Course Title : Immunology

Faculty : Dr. Ranjan Kumar Sahoo

Course objectives:

- The primary objective of this course is to help students develop knowledge and skills related to health and disease and role of immune system.students are taught immunology so as to develop understanding of the subject, such as functioning the immune system, the molecular and cellular components and pathways that protect an organism from infectious agents

134. Course Title : Engineering Properties of Agricultural Produce

Faculty : Dr. Gitanjali Behera

Course objectives:

- To make students understand the basic theoretical aspects and importance of engineering properties of agricultural produce
- To learn the physical and thermophysical properties of agricultural materials.
- To learn the requirement of engineering properties of materials for analysis and design of agricultural food and biological systems.

135. Course Title : Watershed Hydrology

Faculty : Mr. Shubham Kumar Sarangi

Course objectives:

- To comprehend basic concepts of the hydrologic cycle.
  •To analyse precipitation data in detail, including assessment and instruments of precipitation data.
  •To understand the concept of hydrograph and unit hydrograph.
  •To understand methods to calculate runoff using empirical formulae and concept of flood routing.

136. Course Title : Tractor and Automotive Engines

Faculty : Ms. Sharmistha Sahu

Course objectives:

- Study of internal combustion engine specially a tractor engine keeping a view of upcoming trades and identify different components of each systems of internal combustion .

137. Course Title : Irrigation Engineering

Faculty : Mr. Subhankar Debnath

Course objectives:

- To make students familiar with the crop consumptive use, Irrigation requirement of crops and irrigation methodologies implemented in farm.

138. Course Title : Tractor Systems and Controls

Faculty : Ms. Sharmistha Sahu

Course objectives:

- o enable the students for acquiring knowledge pertaining to systems like transmission system,steering and brake system,power outlets like P.T.O.& draw-bar,stability testing of tractor and ergonomics with a view of current trades.

139. Course Title : Farm Machinery and Equipment-I

Faculty : Mr. Subhankar Debnath

Course objectives:

- To impart knowledge on primary and secondary tillage implements along with earth moving machinery and seeding ,planting ,transplanting equipments.

140. Course Title : Agricultural Structures and Environmental Control

Faculty : Mr. Subhankar Debnath

- Course objectives:

    1. To make students familiar with different farm structures with environmental control parameters
    2. To Understand the importance of planning and lay out of a farmstead
    3. Know about various standards for various dairy, piggery, poultry and other farm structures.
    4. Know about rural electrification, concepts of ecosystem, bio-diversity, environmental pollution and control, solid waste, plant waste management

- 141. Course Title : Sprinkler and Micro Irrigation Systems
  Faculty : Mr. Shubham Kumar Sarangi
  Course objectives: To make students familiar with different micro irrigation systems.

- Learn the various layout and design along with fertilizer application through these systems.

142. Course Title : Soil-Water Conservation Engineering and Structure

Faculty : Mr. Shubham Kumar Sarangi

Course objectives:

- To have an understanding about the degradation of productive soil and the causes of its erosion.
  • To make the students understand about the measurement techniques for soil loss and wind erosion.
  • To know the different agronomical and engineering measures adopted for its control alongwith its design.
  • To study the the design of various gully control structures and water harvesting structures

143. Course Title : Watershed Planning and Management

Faculty : Mr. Shubham Kumar Sarangi

Course objectives:

- To give the students overall idea about:

-Proper use of all available resources of a watershed for optimum production with minimum hazards to natural resources.
-Relate interdisciplinary topics such as the use of public policies, regulations, and management tools to effectively manage water resources for a sustainable future.

144. Course Title : Drainage Engineering

Faculty : Mr. Subhankar Debnath

Course objectives:

- To make students familiar with salinity and water logging situations prevailing in agricultural lands and measures to mitigate them

145. Course Title : Farm Machinery and Equipment-II

Faculty : Ms. Geetanjali Dhupal

Course objectives:

- To enable the students to understand the basic principles of plant protection equipment, cutting mechanism on various harvesting machines, working principles of threshers, harvesting of field and horticultural crops.

146. Course Title : Post-Harvest Engineering of Horticultural Crops

Faculty : Ms. Sudipta Behera

Course objectives:

- Know the different means of storage and value addition of fruits and vegetables along with the cold chain.
  • Know the different unit operations in the processing of major horticultural crops of the country and state.
  • Understand the working principles of different types of machinery used for the processing of fruits, vegetables and spices.
  • Understand the basics of the selection of appropriate machines/equipment for various applications of processing of horticultural crops

147. Course Title : Groundwater, Wells and Pumps

Faculty : Mr. Shubham Kumar Sarangi

Course objectives:

- To get concept of various surface and subsurface geophysical methods for groundwater explorations.
  To know about well hydraulics
  To know about design principles of well
  To understand concept for groundwater management and modelling

148. Course Title : Tractor and Farm Machinery Operation and Maintenance

Faculty : Mr. Shekhar Kumar Sahu

Course objectives:

- To make the student learn about function and maintenance of tractor systems i.e. fuel injection, cooling and transmission system etc.
  • To skill the student about how to attach implements with the tractor and how to operate them.
  • To skill the student about adjustments required in agricultural implements before and during the operation.
  • To make student learn that when to repair and when to replace the machine components and machine.

149. Course Title : Dairy and Food Engineering

Faculty : Dr. Gitanjali Behera

Course objectives:

- To impart knowledge on unit operations of dairy products and study of design and layout of dairy plants.

150. Course Title : Milk Production Management and Dairy Development

Faculty : Dr. Niranjan Barik

Course objectives:

- acquaint the students about different types of indigenous breed of cattle and buffaloes.
- To provide basic inputs about production, planning and management of dairy farms as well as development of clean milk production

151. Course Title : Microbiology of Dairy Product

Faculty : Dr. Rajashree Jena

Course objectives :

- To educate students about the microorganisms and their significance associated with different dairy products.
- Imparting knowledge on different microbial associated defects of the products.
- To disseminate recent information on microbiological standards and biopreservation of dairy products.

152. Course Title : Dairy Process Engineering

Faculty : Dr. Vivek Kumar

Course objectives :

- Imparting knowledge about different unit operation in Dairy industry eg. Evaporation, drying, fluidization, process equipments and membrane separation.

153. Course Title : Starter Cultures and Fermented Milk Products

Faculty : Dr. Rajashree Jena

Course objectives :

- Acquaint the students with the importance and classification of health beneficial dairy starters.
- Impart basic knowledge on activity and different preservation techniques of the starter cultures for future use.
- Aware them with the use of dairy starters for the production of different types of milk based fermented foods with improved nutritional and therapeutic value.

154. Course Title : Condensed & Dried Milks

Faculty : Dr. Rajashree Jena and Mr. Vivek Kumar

Course objectives :

- Demonstrate the history, status, scope and legal standards of condensed and dried milk in India and abroad.
- Understand the manufacturing processes of condensed, sweetened condensed and evaporated milk.
- Acquaint students with the physical properties and physico-chemical changes taking place during manufacture of condensed and dried milk.

155. Course Title : Quality and Safety Monitoring in Dairy Industry

Faculty : Dr. Prasanta Kumar Choudhury

Course objectives :

- To understand about the food safety management system and create awareness among the students about consumer welfare on microbiological quality and safety of dairy foods.

- To understand the basic procedure and principles of quality and safety management involved in processing of dairy foods in industry.

156. Course Title : Ice-cream & Frozen Desserts

Faculty : Soma Maji

Course objectives :

- To learn about the history, development and status of the ice-cream industry
  • Various processes involved in making, freezing and treatment of ice-creams.

• Students can go for employment, higher studies and entrepreneurship after completing this course

157. Course Title : Chemistry of Dairy Products

Faculty : Soma Maji

Course objectives :

- To understand the chemical composition and legal standards of milk products
  • Physico-chemical changes in milk constituents during manufacture and storage of dairy products

• Help students for employment, higher studies and entrepreneurship

158. Course Title : Cheese Technology

Faculty : Dr. Rajashree Jena

Course objectives :

- Acquaint students about the origin and history of development of cheese manufacture, status and scope in India and abroad.
- Demonstrate the technology involved in the production of different types of cheese and related products.

159. Course Title : By Products Technology

Faculty : Dr. Prasanta Kumar Choudhury

Course objectives :

- The provide in depth knowledge to students regarding the status, availability, utilization and nutritional characteristics of dairy by-products.
- To acquaint them with physico-chemical characteristics of whey, butter milk and ghee residue and by products of whey, skim milk, butter milk and their manufacturing processes.

160. Course Title : Packaging of Dairy Products

Faculty : Soma Maji

Course objectives :

- To endow students with the importance of packaging
  • History of package development
  • Different types and characteristics of packaging materials used for dairy products

• Students can go for employment and higher studies after completing this course

161. Course Title: Chemical Quality Assurance

Faculty: Soma Maji

Course objectives :

- Learn the quality and food safety management system concepts and principles
  • Learn national and international food laws
  • Preparation and standardization of dairy reagents
  • Able to detect adulterants, preservatives, and neutralizers in milk and milk products
  • Help students for employment and higher studies

162. Course Title: Dairy Plant Design and Layout

Faculty: Dr. Vivek Kumar

Course objectives :

- To impart knowledge of classification, hygienic consideration for dairy processing plants.
- To impart knowledge of different aspect of Dairy plant planning, design aspect, building construction materials and Computer aided design.

163. Course Title: Food and Industrial Microbiology

Faculty: Dr. Rajashree Jena

Course objectives :

- To provide in-depth knowledge to students on different aspects of microbial growth and associated spoilage in foods.
- Demonstrate students on principles, different preservation methods of food and mode of action of various preservation methods on microbes.
- Acquaint students with types of fermentation processes and microbial production of industrial products.

164. Course Title: Sensory Evaluation of Dairy Products

Faculty: Soma Maji

Course objectives :

- To impart knowledge on importance of sensory evaluation of dairy products in relation to consumer acceptability and economic aspects.

• Students can go for employment and higher studies after completing this course

165. Course Title: Dairy Plant Management

Faculty: Dr. Vivek Kumar

Course objectives :

- Understand production management
- Knowledge about plant operation and human resource management
- Imparting knowledge about food hygiene and safety hazards

166. Course Title: Waste Disposal and Pollution Abatement

Faculty: Dr. Prasanta Kumar Choudhury

Course objectives :

- To inculcate among students the basics concepts of wastewater discharge from milk reception dock, liquid milk processing section, butter, ghee, ice-cream, condensed milk, milk powder, cheese and paneer manufacturing.
- To acquaint students with the environmental issues by effluent discharges from dairy plant.
- Provide a brief idea on waste treatment process in dairy processing plant.

167. Course Title: Pharmcognosy and Phytochemistry of Important Medicinal Herbs

Faculty: Dr G V Ramana

Course objectives :

- This course is very critical in imbibing the knowledge of Medicinal and Aromatic Plants. Through this course students will understand the importance of Phytochemistry which actually added therapeutic value to the Medicinal Plants. This course enables analytical thinking of students which will help them in deducing and isolation of the vital phytochemical compounds.

168. Course Title: Ayurveda and fermentation technology

Faculty: Dr G V Ramana

Course objectives :

- To understand the basics of ancient Ayurvedic drug formulations through standard texts such as Bhaishajya Kalpana & Sarangadhara Samhitha.

169. Course Title: Regulations & Certifications of Herbal Drugs

Faculty: Dr G V Ramana

Course objectives :

- This course emphasizes on the mandatory legal procedures which need to be implemented before manufacturing a drug.
  To give the basic description of the organizations and authorities involved in the certification of organic products. To give knowledge on different certifications

170. Course Title: Material Science of Excipients and Additives

Faculty: Bhisma Narayan Ratha

Course objectives :

- The student will be able to identify a range of excipients and additives. They will learn about their uses and suitability with different pharmaceutical formulations, which will improve skills and employability.

171.Course Title: Phyto-Pharmacology

Faculty: Bhisma Narayan Ratha

Course objectives :

- The student will be able to identify a range of drugs used in medicine and discuss their mechanisms of action, leading to skill improvement.

172.Course Title: Advanced separation technologies and downstream processing

Faculty: Bhisma narayan Ratha

Course objectives :

- To improve their knowledge in Extraction Technology which is a valuable skill. To familiarise with different advanced extraction techniques developed to date
- To improve the existing practical knowledge of students in extraction technology.
- To introduce more sophisticated and sensitive extraction techniques such as Super critical Fluid Extraction and Microwave assisted extraction techniques.

173.Course Title: Bioanalytical techniques

Faculty: Dr G V Ramana

Course objectives :

- This course is introduced to bridge the gap between academics, research and industry. This course begins with a review of basic bio analytical technique and an introduction to general terminologies.

•This course contains bio analytical techniques along with their theory, working principal, common instrumentation and possible applications. This course will be equally beneficial to various scientific areas.

•Students will be exposed to various biological techniques and their applications in identification, isolation of different biological molecules.

174.Course Title: Plant Biotechnology

Faculty: Dr. Shantanu Bhattacharyya

Course objectives :

- The objective of the course is to give students new knowledge by handling of classical and modern plant biotechnology processes.
- Understanding of biotechnological processes has also applicative value in pharmaceutical and food industry, in agriculture and in ecology.

175.Course Title: Evolution of Management Thought

Faculty: Dr. Umaknata Nayak

Course objectives :

- understand how the solution to the age old problems of 'allocating scarce resources to meet the needs and wants of organizations and people' have evolved over time.
- appreciate contributions of management thinkers to the discipline acquainted with different concepts and jargon in the field of management.

176.Course Title:Job Readiness

Faculty: Prajna Pani(IELTS & Verbal) Gayatree Rout (Quantitative Aptitude & Logical Reasoning)

Course objectives :

- Develop additional skills (verbal, logical, quantitative and reasoning) required to enhance employability as well as the entrepreneurial ability of the students.

177.Course Title: Quantitative Techniques

Faculty: Dr Bibhunandini Das

Course objectives :

- To understand, analyse and interpret empirical data

• To develop logical thinking for need of statistical tools and techniques.

178.Course Title: Micro Economics

Faculty: Dr. Madhumita Das

Course objectives :

- Develop a managerial economics perspective;
- Facilitate students understand different economic paradigms using Microeconomics concepts.

179.Course Title: Data analysis through Microsoft Excel

Faculty: Mr. Amit Kumar

Course objectives :

- To build a strong understanding on the Basics of Microsoft Excel
- To understand data crunching and data presentation

180.Course Title: Economic Environment of Business

Faculty: Dr Bibhunandini Das

Course objectives : To develop perspectives of economic growth and development with special reference to Indian economy.

181.Course Title: Indian Society and Culture

Faculty: Dr. Smita Mishra Panda

Course objectives :

- The purpose of this course is to expose students of Technology and Management to different aspects of Indian society and culture. Students will develop an understanding of societal and cultural dimensions of the dynamic nature of society and the environment in which they will live and work as scientists, engineers and enterpreneurs. More specifically, they will get an appreciation of how societal and cultural issues interface with technology, science and business in the context of overall development of the country.

182.Course Title: Economic Environment of Business

Faculty: Dr Bibhunandini Das

Course objectives :

- To develop perspectives of economic growth and development with special reference to Indian economy.

183.Course Title: Principles of Management

Faculty: Dr. Subhendu Mishra

Course objectives :

- The course aims to orient the students with the works of Peter F. Drucker on Management tasks practices and responsibilities.
- The course will help the students to understand and appraise the applications of the concepts in various organization settings.
- The course will encourage the students to critically examine the concepts and develop essays reflecting various works of Peter F. Drucker

184.Course Title: Basics of Design Thinking

Faculty: Dr. Subhendu Mishra

Course objectives :

- The course aims to
- Orient the participants on the basics of the design thinking process
- Familiarize participants with the elements and application of Design thinking

185.Course Title: Operation Research

Faculty: Dr. Parle Kalyana

Course objectives :

- To learn about the operations research techniques, model formulation and applications used to solve business decisions by using computer software

186.Course Title: Introduction to Additive Manufacturing/3D Printing

Faculty: Mr. Raj Trivedi

Course objectives :

1.To offer a clear overview of the recent trend in 3d modeling and 3d printing techniques of different components used in day to day life as well as in the field of mechanical engineering.

2 -To identify the importance of 3D modeling and3D printing in engineering.

3 -To study alternative economical and effective ways of manufacturing components by various Non-traditional Machining Processes

187.Course Title: Introduction to Blockchain

Faculty: Mr. Raj Trivedi

Course objectives :

- Develop a basic understanding of Blockchain,its various applications and delivery models.
- Understand the non-technology factors such as need for trust, institutional mechanisms and resources required for Blockchain based solutions

188.Course Title: Accounting for Managers

Faculty: Pramod Kumar Patjoshi

Course objectives:

- To familiarise with the basic conceptual frame work of Financial Accounting i.e., from recording of transactions for Understanding and Interpreting of Financial Statements.
- To provide the knowledge to the students about financial statements and principles underlying them and to develop their skills in reading Annual Reports.
- To equip students with the skills required to understand cost statements/records and management accounting.

189.Course Title: Marketing Management

Faculty: Dr. Sabyasachi Dey

Course objectives

- To familiarize the students with the concepts and theories and strategies of marketing.
- To understand the digitization of marketing and its application in the modern era.

To focus on the emerging areas of marketing:

190.Course Title: Organizational Behaviour and Structure

Faculty: Dr. Umakanta Nayak

Course objectives :

- To make aware about the perceptual process and errors therein for better managerial judgment
- To acquaint the participants with the personality dimensions that influences the work life
- To develop an understanding of the complexities involved in motivation at workplace
- To develop interpersonal competencies, teamwork skills and leadership potential.
- To make students understand the modern variant of organizational structure and culture

191.Course Title: Marketing Research

Faculty: Dr. Sisir Ranjan Dash

Course objectives :

- To enable the learners interpret marketing research output and make managerial decisions out of marketing research outcomes.
- To enable the learners implement the marketing research tools in summer internship program and generate a SIP report which can be used effectively for managerial decisions.

192.Course Title: Corporate Finance

Faculty: Dr. Debi Prasad Satapathy

Course objectives :

- Appreciate the Interdisciplinary aspects of Financial Management.

• Practical applications of TVM

• Identify the Investment Decision Criteria

• Learn the application of Management of Cash & Marketable Securities-Concept, Need &Techniques

• Gain an understanding of some of the practical aspects of corporate finance decisions

193.Course Title: Production & Operations Management

Faculty: Dr. Prasanta Mohanty

Course objectives :

- Understand Manufacturing 4.0 and appreciate technology integration in smart production
- Understand the various production and operations design decisions and how they relate to the overall strategies of organizations.
- Understand the importance of product and service design decisions and its impact other design decisions and operations.
- Obtain an understanding of quality management practice in organizations and how total quality management and six-sigma facilitate organizational effectiveness.
- Understand the roles of inventories and basics of managing inventories in various demand settings.

194.Course Title: Data Analysis and Visualization Using Python

Faculty: Dr. Anita Patra

Course objectives:

- How to tell a story from data
- How to marshal the data for storyline
- The ability to develop visualisation to tell the story
- The focus is on analysis of data using visualisation as a tool

195.Course Title: Supply Chain Management

Faculty: Dr. Prasanta Mohanty

Course objectives :

- Creating awareness on the desirability of supply chain management (SCM) concepts for the Indian Industry.
- Understand the integration of the physical (material flow) and virtual (information flow) value chain across multiple organizations will be highlighted.
- Learn cross-functional approaches to supply chain management, including marketing, sales, research & development, finance and accounting, manufacturing/operations, and information technology.

196.Course Title: Advanced Managerial Accounting

Faculty: Dr. Pramod Patjoshi

Course objectives :

- To equip the students with various concepts, tools, and techniques Cost and Management accounting.
- To provide a thorough understanding and techniques of financial statements analysis.
- To provide an understanding of methods of cost accounting and its relevance in management decision making.

197.Course Title: Financial Institutions, Markets & Services

Faculty: Dr. Debi Prasad Satapathy

Course objectives :

- This course aims to provide an idea on the role and functioning of financial markets, financial institution and financial products that are traded in such financial markets and institutions associated with financial markets. The focus of the course will be in the context of global financial markets and institutions. Various conceptual issues related to risk and return, the role of regulatory bodies, operations of insurance companies and mutual funds are discussed elaborately. It also describes the importance of small savings, provident funds, pension funds and credit rating agencies. The course provides a comprehensive overview and systematic evaluation of the mainstream markets of various financial instruments such as call money, bond, stock, derivatives and exchange rate.

198.Course Title: Commercial Banking and ALM

Faculty: Dr. Pramod Patjoshi

Course objectives :

- To give a comprehensive overview of the functioning of a Commercial Bank, various products and services offered by Commercial Bank as well as various risks faced by Banks.
- To provide a thorough understanding and techniques of the Asset/Liability Management of a Bank.

199.Course Title: Security Analysis And Portfolio Management

Faculty: Dr. Girija Nandini

Course objectives :

- To develop the skills required for portfolio management

• Identify, interpret and analyze the varied technical patterns and indicators presented on the real-life stock charts.

200.Course Title: Project Appraisal & Financing

Faculty: Dr. Girija Nandini

Course objectives :

- To provide students an understanding of the commercial, financial, and socio-economic aspects of a new project and/or a business.

201) Course Title: Financial Analysis and Visualization
Faculty:Dr. Pramod Patjoshi

Course Objective:

- To equip the students with various concepts, tools, and techniques Data Visualization Principles for Dashboard Design.
- To provide a thorough understanding and techniques of visualization of financial analysis for dashboard design in excel and tableau based on financial data that can meet managerial and business needs.
- Create compelling, interactive dashboards to combine several visualizations into a cohesive for financial analysis.

202) Course Title: Rural Marketing
Faculty:Dr. Sabyasachi Dey
Course Objective:__CO1. To familiarize participants with environment, challenges, opportunities, strategies and methodology for emerging markets.
CO2. To sensitize the students towards the needs and behavior of rural consumers and strategies implemented to fulfill them.
CO3. To utilize the understanding on peculiarities of rural markets and the decision making process involved.

203) Course Title: Sales and Distribution Management
Faculty:Dr. Sisir Ranjan Das

Course Objective:

- To develop an understanding of concepts, which are helpful in designing sound programs for organizing and managing the sales force and enhance their productivity
- To give practice of winning salesmanship
- To give insight into the practice of organizing and gearing up the sales force to maximize sales
- To explain how to design, develop and manage a distribution channel that delivers business goals
- To expose the learner to the function of modern distribution/fulfillment centers and the practice of omni channels

204) Course Title: Services & Financial Services Marketing
Faculty:Dr. Sabyasachi Dey

Course Objective:

- To supplement basic marketing and marketing strategy courses by focusing on problems and strategies specific to marketing of services with special focus on financial services.
- Problems commonly encountered in marketing services -- such as inability to inventory, difficulty in synchronizing demand and supply, difficulty in controlling quality -- will be addressed.
- To understand the financial services like banking, insurance, mutual funds, venture capitals and the digitization of financial services.
- To understand the strategies used by successful services marketers with reference financial services to overcome these difficulties will be discussed through case studies.

205) Course Title: Brand Management & Consumer Behaviour
Faculty:Dr. Sisir Ranjan Das

Course Objective:

- CO1. To provide the learners cutting edge knowledge on key concepts of brand management and their implications in formulating branding strategies.
- CO2. To enable the learners to understand major factors underlying consumer behavior and develop the ability to efficiently predict consumers' response to marketing actions.

206) Course Title: Digital Marketing & Marketing Communications
Faculty:Dr. Sisir Ranjan Das

Course Objective:

- CO1. To understand various concepts and importance of digital marketing and to visualize its various application in diverse areas of sales & marketing.
- CO2. To gain knowledge about advertisement and its application in real world

207) Course Title: Retail & Etail Management
Faculty:Dr. Sabyasachi Dey

Course Objective:

- To learn the meaning of Retail and Retailing.
- To provide emphasis on Retail Market Strategy and customer service in retail.
- To develop an understanding towards the meaning, process and tools of e-retailing.

208) Course Title: B2B Marketing
Faculty:Dr. Sisir Ranjan Das

Course Objective:

- To understand the B2B marketing situations and the characteristics of the B2B markets
- To develop understanding and skills required to manage B2B relationships
- To explain how to organize the B2B marketing functions
- To develop the analytical and decision-making skills required to succeed in the B2B marketing roles
- To give an idea of B2B Marketing in the age of Social Media and the opportunities and challenges in Industry 4.0

209) Course Title: Fundamentals of Management
Faculty:Dr. Umakanta Nayak
Course Objective:
The major objectives of this course is to:

- Development of analytical and decision-making skills in finance through the use of theory questions and practical problems.
- To familiarize the students with the principles and practices of financial management.

210) Course Title: Organisational Behaviour

Faculty:Dr. Kameshwar Rao

Course Objective:

- To help students to observe, experience, analyze individual behaviour and Group behaviour.
- Students will learn in improving employee behaviour, enhancing leadership skills.
- Students will learn on how to increase employee motivation and satisfaction.

211) Course Title: Statistics for Business Decisions
Faculty:Dr. Anita Patra

Course Objective:

- The objective of this course is to familiarise students with the basic statistical tools used for Managerial decision-making.

212) Course Title: Manegerial Economics
Faculty:Dr. Bibhunandini Das

Course Objective:

- To apply micro economic concepts and techniques in evaluating business decisions taken by firms
- How tools of standard price theory can be employed to formulate a decision problem, evaluate alternative courses of action and finally choose among alternatives

213) Course Title: Business Accounting
Faculty: Dr. Pramod Patjoshi

Course Objective:

- to familiarise with the basic conceptual framework of Financial Accounting i.e., from the recording of transactions for Understanding and Interpreting of Financial Statements.
- To provide the knowledge to the students about financial statements and principles underlying them and to develop their skills in reading Annual Reports.
- To provide a thorough understanding and techniques of financial statements analysis.

214) Course Title: Macro Economics
Faculty:Dr. Madhumita Das

Course Objective:

- Develop a macro-economic perspective
- Understand macro-economic paradigms

215) Course Title: Principles of Marketing
Faculty:Dr. Sabyasachi Dey

Course Objective:

- This course aims to familiarize students with the marketing function in organizations.
- It will equip the students with understanding of the Marketing Mix elements and sensitize them to certain emerging issues in Marketing.
- The course will use and focus on Indian experiences, approaches and cases.

216) Course Title: Management Accounting
Faculty:Dr. Girija Nandini
Course Objective:

- To acquaint students with role of Management Accounting in planning, control and decision-making.
  • To provide an understanding of methods of cost accounting and its relevance in management decision making

217) Course Title: Business Research
Faculty:Dr. Debi Prasad Satapathy
Course Objective: This course of research methodology is for imparting the knowledge of different areas of research to the students. The course is concerned with systematic gathering and analysis of information needed either to understand or to solve a managerial problem or a phenomenon. The objective of the course is to sensitize students with an appropriate research design, several research techniques, to enable them to conduct investigations within and outside their organizations

218) Course Title: Human Resource Management
Faculty:Dr. Kameshwar Rao

Course Objective:

- The student can develop the knowledge, skills and concepts needed to resolve actual human resource management problems or issues.
- The student will be able to manage the employment relationship, which is a shared responsibility between employers, management, human resources specialists, and employees.
- Student will be able to identify the human resources needs of an organization or department.
- Conduct a job analysis and produce a job description from the job analysis.

219) Course Title: Financial Management
Faculty:Dr. Debi Prasad Satapathy
Course Objective: To acquaint students with the techniques of financial management and their applications for business decision making.

220) Course Title: Quantitative Techniques for Management
Faculty:Dr. Parle Kalyana

Course Objective:

- To learn about the operations research techniques, model formulation and applications used to solve business decisions by using computer software

221) Course Title: Legal Aspects of Business
Faculty:Dr. Susanta Kumar Mishra

Course Objective:

- This course provides an understanding of the basics of Business Law which an employee might face in the day -to-day working of the Organisation.
- The course also differentiates between Social Contracts and Business Contracts and liabilities arising out of it.
- Students are expected to be familiar with various aspects associated with the Sale of Goods and relating to the protection of Consumers.

222) Course Title: Business Policy and Strategy
Faculty:Dr. Susanta Kumar Mishra

Course Objective:

- This course provides an understanding of the strategies formulated by the Business Organisation in order to stay ahead of the Competition and to create a niche in the marketplace.
- The course explains the importance of the Vision and Mission statements from the organisational point of view
- Students are expected to be familiar with the Analysis of the Industry and Company.

223) Course Title: Investment Banking & Financial Services
Faculty:Dr. Debi Prasad Satapathy

Course Objective:

- The objective of this paper is to know the different aspects of Investment banking, mergers and acquisition and the detailed SEBI guidelines on issue management.
- This course will help you to perform valuation of companies & prepare reports on important components of Investment Banking such as Mergers & Acquisitions, Project Finance, IPO Analysis etc.

224) Course Title: Advanced Managerial Accounting
Faculty:Dr. Pramod Patjoshi

Course Objective:

- The objective of this paper is to know the different aspects of Investment banking, mergers and acquisition and the detailed SEBI guidelines on issue management.
- This course will help you to perform valuation of companies & prepare reports on important components of Investment Banking such as Mergers & Acquisitions, Project Finance, IPO Analysis etc.

225) Course Title: Financial Institutions, Markets & Services
Faculty:Dr. Debi Prasad Satapathy
Course Objective:

- to equip the students with various concepts, tools, and techniques Cost and Management accounting.
- To provide a thorough understanding and techniques of financial statements analysis.
- To provide an understanding of methods of cost accounting and its relevance in management decision making

226) Course Title: Commercial Banking and ALM
Faculty:Dr. Pramod Patjoshi
Course Objective:

- This course aims to provide an idea on the role and functioning of financial markets, financial institution and financial products that are traded in such financial markets and institutions associated with financial markets. The focus of the course will be in the context of global financial markets and institutions. Various conceptual issues related to risk and return, the role of regulatory bodies, operations of insurance companies and mutual funds are discussed elaborately. It also describes the importance of small savings, provident funds, pension funds and credit rating agencies. The course provides a comprehensive overview and systematic evaluation of the mainstream markets of various financial instruments such as call money, bond, stock, derivatives and exchange rate.

227) Course Title: Security Analysis And Portfolio Management
Faculty:Dr. Girijanandini
Course Objective:

- To develop the skills required for portfolio management
  • Identify, interpret and analyze the varied technical patterns and indicators presented on the real-life stock charts.

228) Course Title: Project Appraisal & Financing
Faculty:Dr. Girijanandini
Course Objective:

- To provide students an understanding of the commercial, financial, and socio-economic aspects of a new project and/or a business.

229) Course Title: Current Asset Management
Faculty:Dr. Susanta Kumar Mishra

Course Objective:

- This course provides an understanding on how to manage Current Assets, working capital financing policies, increasing profits through working capital management and how to properly fund working capital
- The course also discusses the cash conversion cycle, Cash budgeting and credit policy and credit variables.
- Students are expected to be familiar with the Current Asset Management policy of any Organization. They are expected to get hands on experience on any Organization .

230) Course Title: Financial Analysis and Visualization
Faculty:Dr. Pramod Patjoshi

Course Objective:

- To equip the students with various concepts, tools, and techniques Data Visualization Principles for Dashboard Design.
- To provide a thorough understanding and techniques of visualization of financial analysis for dashboard design in excel and tableau based on financial data that can meet managerial and business needs.
- Create compelling, interactive dashboards to combine several visualizations into a cohesive for financial analysis.

231) Course Title: Rural Marketing
Faculty:Dr. Sabyasachi Dey
Course Objective:

- To familiarize participants with environment, challenges, opportunities, strategies and methodology for emerging markets.
- To sensitize the students towards the needs and behavior of rural consumers and strategies implemented to fulfill them.
- To utilize the understanding on peculiarities of rural markets and the decision making process involved.

232) Course Title: Sales and Distribution Management
Faculty:Dr. Sisir Ranjan Das

Course Objective:

- To develop an understanding of concepts, which are helpful in designing sound programs for organizing and managing the sales force and enhance their productivity
- To give practice of winning salesmanship
- To give insight into the practice of organizing and gearing up the sales force to maximize sales
- To explain how to design, develop and manage a distribution channel that delivers business goals

- To expose the learner to the function of modern distribution/fulfillment centers and the practice of omni channels

233) Course Title: Services & Financial Services Marketing
Faculty:Dr. Sabyasachi Dey

Course Objective:

- To supplement basic marketing and marketing strategy courses by focusing on problems and strategies specific to marketing of services with special focus on financial services.
- Problems commonly encountered in marketing services -- such as inability to inventory, difficulty in synchronizing demand and supply, difficulty in controlling quality -- will be addressed.
- To understand the financial services like banking, insurance, mutual funds, venture capitals and the digitization of financial services.
- To understand the strategies used by successful services marketers with reference financial services to overcome these difficulties will be discussed through case studies.

234) Course Title: Brand Management & Consumer Behaviour
Faculty:Dr. Sisir Ranjan Das

Course Objective:

- CO1. To provide the learners cutting edge knowledge on key concepts of brand management and their implications in formulating branding strategies.
- CO2. To enable the learners to understand major factors underlying consumer behavior and develop the ability to efficiently predict consumers' response to marketing actions.

235) Course Title: Digital Marketing & Marketing Communications
Faculty:Dr. Sisir Ranjan Das
Course Objective:

236) Course Title: Retail & Etail Management
Faculty:Dr. Sabyasachi Dey

Course Objective:

- To learn the meaning of Retail and Retailing.

- To provide emphasis on Retail Market Strategy and customer service in retail.
- To develop an understanding towards the meaning, process and tools of e-retailing.

237) Course Title: B2B Marketing
Faculty:Dr. Sisir Ranjan Das

Course Objective:

- To understand the B2B marketing situations and the characteristics of the B2B markets
- To develop understanding and skills required to manage B2B relationships
- To explain how to organize the B2B marketing functions
- To develop the analytical and decision-making skills required to succeed in the B2B marketing roles
- To give an idea of B2B Marketing in the age of Social Media and the opportunities and challenges in Industry 4.0

238) Course Title: Contemporary Development Communication
Faculty:Prajna Pani
Course Objective:
This course aims to enable the students to

- Understand the processes and approaches to contemporary development communication
- Learn situation analysis, problem tree analysis, and participatory communication appraisal in the field
- Understand strategies for awareness raising and communication campaigns relevant to current times (e.g., COVID-19)

239) Course Title: Data Analysis using Excel and Python
Faculty:Mr. Amit Kumar

Course Objective:

- To build a strong understanding on the Basics of Excel and Python
- To understand data crunching and data presentation

240) Course Title: Development Project Management Planning Tools and Techniques-I
Faculty:Dr. Anita Patra

Course Objective:

- To understand the process of developmental planning tools and techniques used in India

241) Course Title: Natural Resource Management
Faculty:Dr. Smita Mishra Panda
Course Objective:

- To familiarises the students with the complexities of natural resource management from the perspective of development and environmental protection.
- To understand the role and contribution of NRM in economic development and people's livelihoods and life support systems especially, in the context of increasing depletion of resources and currently with liberalization, privatisation and globalisation.

242) Course Title: Development Theory and Practice
Faculty:Dr. Supriya Pattanayak

Course Objective:

- To provide a critical understanding of 'development', the major theories of development and imagine a post development era
- Understand the problems of development in a changing context, with a focus on India
- Develop conceptual, analytical and practice skills needed to address community level issues.

243) Course Title: Development Project Management Planning Tools and Techniques-II
Faculty:Dr. Anita Patra

- Course Objective:
- The objective of the course is to impart relevant knowledge and skills on Appraisal, Planning, and Monitoring & Evaluation and impact assessment of development projects and programmes.
- The course comprise of theory, data capturing and analysis tools, workshops and field practice to enable the students to gain practical knowledge on development planning and strategies of local development.

244) Course Title: Social Research Methods
Faculty:Dr. Debi Prasad Satapathy

Course Objective:

- The course aims to impart foundational knowledge of social research methods and will help in demonstrating proficiency in the use of selected research methods and tools.
- It will help in developing students level of analysis through examining the usefulness of various research approaches: content analysis, survey and field research, quantitative and qualitative analysis, and case studies.

245) Course Title: Agricultural Marketing
Faculty:Dr. Durga Prasad Padhy

Course Objective:

- Enable students to gain knowledge on agricultural marketing, challenges and prospects for improving agricultural marketing system.
- Provides an incisive analysis on agricultural input and output marketing with particular emphasis on marketing functions
- Gain skills to analyze Marketing Functions, Market Information and Intelligence
- Imparting knowledge of the marketing efficiency and agricultural prices
- Learn the Markets and Market Structure
- Provide the platform to the students of Marketing of Agricultural Inputs

246) Course Title: General Mathematics
Faculty:Sasmita Jena

- Course Objective:
  To determine the quadrants where sine, cosine and tangents are positive and negative.
  ♣Using the fundamental identities of trigonometry.
  ♣Evaluate inverse functions.
  ♣Know event, outcome, trial, simple event, sample space and calculate probability of an event will occur.
  ♣To make an inference about a population of interest based on information.
  ♣To examine a limit exists or doesn't exists at a point.
  ♣Find the rate of change in velocity and acceleration.

♣Use of different relations of derivatives of a function.
♣Area under the graph of a non-negative function.

247) Course Title: Communicative English

Faculty:Suchismita Nayak

Course Objective:

- Comprehend and identify grammatical structures in written and spoken form
  ● Communicate efficaciously and relevantly in real-time situation

248) Course Title: Employability Skills -I (LEARNWISE)

Faculty:Suchismita Nayak

Course Objective:

- Assimilate how to prepare for an interview and group discussion
  ● Directives and specifications of working in a professional environment
  ● Acquire respectful and polite workplace etiquettes
  ● Apprehend and respect cultural diversity at the workplace

249) Course Title: Emplolyability Skills -II (LEARNWISE)

Faculty:Suchismita Nayak

Course Objective:

- Generate Entrepreneurial values
  ● Firm decision in strenuous circumstances
  ● Enhance teamwork skill set

250) Course Title: Community Action Learning

Faculty:A Avinash

Course Objective:

- To cope and surmount with the real time problems.
- Development of interpersonal skills.

251) Course Title: Learning Reflection

Faculty: AAvinash

Course Objective:

•Enable students to gain knowledge on agricultural marketing, challenges and prospects for improving agricultural marketing system.

•Provides an incisive analysis on agricultural input and output marketing with particular emphasis on marketing functions

•Gain skills to analyze Marketing Functions, Market Information and Intelligence

•Imparting knowledge of the marketing efficiency and agricultural prices

Learn the Markets and Market Structure

•Provide the platform to the students of Marketing of Agricultural Inputs

252) Course Title: SBC Based System Design and IoT

Faculty: JitendraPramanik

Course Objective:

- To determine the quadrants where sine, cosine and tangents are positive and negative.
- Using the fundamental identities of trigonometry.
- Evaluate inverse functions.
- Know event, outcome, trial, simple event, sample space and calculate probability of an event will occur.

- To make an inference about a population of interest based on information.
- To examine a limit exists or doesn't exists at a point.
- Find the rate of change in velocity and acceleration.
- Use of different relations of derivatives of a function.
- Area under the graph of a non-negative function.

253) Course Title: Introduction to Mechatronics

Faculty:Ansuman Nanda

Course Objective:

- Comprehend and identify grammatical structures in written and spoken form
- Communicate efficaciously and relevantly in real-time situation

254) Course Title: Advanced GIS Application

Faculty:K K Barik & K C sethi

Course Objective:

- Assimilate how to prepare for an interview and group discussion
- Directives and specifications of working in a professional environment
- Acquire respectful and polite workplace etiquettes
- Apprehend and respect cultural diversity at the workplace

255) Course Title: Installation Technician - Computing and Peripherals

Faculty:JitendraPramanik

Course Objective:

- Generate Entrepreneurial values
- Firm decision in strenuous circumstances
- Enhance teamwork skill set

256) Course Title: Industrial Electrician

Faculty:Jamaluddin Khan

Course Objective:

•To cope and surmount with the real time problems.

•Development of interpersonal skills.

257) Course Title: Domestic Electrician

Faculty:Jamaluddin Khan

Course Objective:

•Reflect the knowledge gained.

•Development of thought process "Why & How".

•Utilize the knowledge gained

258) Course Title: Power System Technician

Faculty:RadhaGobinda Pradhan

Course Objective:

- Understand Mechatronics system.
- Understand principles of sensors,actuators its characteristics, interfacing with controller.
- Understand and develop the concept of PLC system and its ladder programming, and significance of different control systems in industrial application.

259) Course Title: PLC Technician

Faculty:Jamaluddin Khan

Course Objective:

- Understand Mechatronics system.
- Understand principles of sensors,actuators its characteristics, interfacing with controller.
- Understand and develop the concept of PLC system and its ladder programming, and significance of different control systems in industrial application.

260) Course Title: Refrigeration and Equipment Engineering

Faculty:Biswajit Mohanty

Course Objective:

•To study the basic concepts of GIS.

•To study data conversion in GIS and Meta-data

•To know the basics, importance, and methods of Cartography

•To study the various maps projection and Co-ordinate systems.

261) Course Title: HMI/SCADA Technician

Faculty:Jamaluddin Khan

Course Objective:

•Familiarization to the principles, materials, and tools required for computer system installation and maintenance

•Develop an end-to-end technical understanding

•Complying to the industry specifications, guidelines and safety standards during work

262) Course Title: Supervisor-Industrial Automation

Faculty:Jamaluddin Khan

Course Objective:

•Familiarization to the principles, materials, and tools required for computer system installation and maintenance

•Develop an end-to-end technical understanding

•Complying to the industry specifications, guidelines and safety standards during work

263) Course Title: Supervisor-Electrical Works

Faculty:Jamaluddin Khan

Course Objective:

- Understand key elements of electrical and electronics appliances.
- Understand key elements of RAC (AC and Refrigerators).
- Understand domestic wiring and layout
- Basic safety practices.

264) Course Title: Multi Skill Technician Ã¢â‚¬â€œ Manufacturing

Faculty:Ansuman Nanda

Course Objective:

- Familiarization with the work environment and challenges for power system technician
- Familiarization to the principles, materials, components, and tools required
- Develop an end-to-end technical understanding to execute power transmission
- Complying to the industry specifications, guidelines and safety standards during work

265) Course Title: Machine Tool Operator

Faculty:Ansuman Nanda

Course Objective:

- Design of PLC control panel and ladder Programming
- Complying to the industry specifications, guidelines and safety standards during work.
- Testing troubleshooting PLC panels
- Installation and commissioning of PLC panels

266) Course Title: Welding Technician I

Faculty:KulaBhusan Pradhan

Course Objective:

- In thermodynamics, coldness is an energetic imbalance. In engineering, this imbalance results from the forced exchange of heat between two places. Refrigeration engineering deals with various procedures to produce coldness in many different areas of application. The basic procedures of refrigeration engineering are thermodynamic circle procedures, the energetic efficiency of which is constantly being improved thanks to modern refrigeration engineering. Especially important are compression refrigeration systems on the one and absorption refrigeration systems on the other hand. The energy that is needed for cooling is brought up via mechanical force in compression refrigeration systems, whereas in absorption refrigeration systems this heat energy is used. Refrigeration energy is used on a daily basis in many different fields. The food

industry, air conditioning, medical technology and logistics are barely imaginable without it.

267) Course Title: CNC Programming and CNC Machining

Faculty: SUDEEP KUMAR SINGH

Course Objective:

1 Familiarization with the work environment and challenges for HMI/SCADA technician

2. Familiarization to HMI/SCADA accessories

3. Develop an end-to-end technical understanding to execute HMI/SCADA in industry

4. Complying to the industry specifications, guidelines and safety standards during work

268) Course Title: Welding Technician II

Faculty:KulaBhusan Pradhan

Course Objective:

- Familiarization with the work environment and challenges for an automation supervisor
- 2. Familiarization to the principles, materials, components, and tools required
- 3. Develop an end-to-end technical understanding to execute electrical works in industry
- 4. Complying to the industry specifications, guidelines and safety standards during work

- 269) Course Title: Automotive Service Technician

Faculty:RadhaGobinda Pradhan

Course Objective:

1. Familiarization with the work environment and challenges for an Supervisor Electrical Works

2. Familiarization to the principles, materials, components, and tools required for inspection

3. Develop an end-to-end technical understanding to execute electrical works in site with colleague.

4. supervising to the industry specifications, guidelines and safety standards during work

270) Course Title: Welding (Supervisor)

Faculty:KulaBhusan Pradhan

Course Objective:

• Utilizing different Tools, Mechanisms, Measuring instruments with Safety Practice

• Linking the Specific Tools with their specific applications towards different process.

• Conveyance on Cutting, Joining, Machining & Assembly processes in Manufacturing

271) Course Title: Automotive Supervisor

Faculty:RadhaGobinda Pradhan

Course Objective:

To acquire the hands on experience and skills for various turning operations.

• To acquire the hands on experience and skills for various milling operation.

• To empower participants with the skills to assembling produced mechanical parts.

272) Course Title: Draughtsman

Faculty:Chiranjeeb Prasad Mohanty

Course Objective:

- Identifying the right welding methodology and process.

- Understanding the safety practices for welding.
- Identifying various materials used in welding & their key properties.
- Understanding the activities for MIG welding.
- Understanding the activities for TIG welding.
- Understanding the quality checks and inspection of the finished products.
- 273) Course Title: Store Keeper
- Faculty:SubhendraBaliyarsingh

Course Objective:

- Evaluate manufacturing assignment based on critical thinking and problem solving skills. Become a good communicator and effective team member.
- Practice writing complex “G” code programs for CNC turning centers that meet the part specification
- Interpret and demonstrate complex “G” code programs for CNC milling centers that meet the part specification
- Prepare “G: code programs to perform secondary operations including tapping, countersinking, counter boring, and threading.
- Describe and illustrate common problems with tooling and fixtures in CNC programming and machining.

274) Course Title: Assistant Surveyor

Faculty:MonalishaPani

Course Objective:

- Understanding the classification of welding processes.
- Understanding the welding safety.
- Understanding the processes of TIG welding.

- Understanding the processes of MIG welding.
- Understanding the processes of Pipe welding.
- Understanding the processes of Sheet Metal welding.

275) Course Title: Supervisor (Construction)

Faculty: Chiranjeeb Prasad Mohanty

Course Objective:

1.Safety, health and environmental policies and regulations for the workplace as well as for automotive trade in general (e.g. safe working practices inside pits/ under vehicles).

2.Understand the auto component manufacturer specifications related to the various components/ aggregates in the two/ three wheeler vehicle.

3.Follow standard operating procedures for using workshop tools and equipment for service and minor aggregate repairs in the two/ three wheeler vehicle.

4.Conduct test drives to assess need for repairs, calibration or any other adjustments in the electrical/ mechanical aggregates in the two/ three wheeler vehicle.

5.Ensure OEM recommended procedure and checklist is followed for routine servicing in case of non-routine service or repair, confirm tasks to be carried out with superior.

6.Calibrate, align and adjust settings, alignment, pressures, tension, speeds and levels relevant to:

- Engine and aggregates.
- Transmission system.
- Electrical and electronic components.
- Scooter (two-stroke engine).
- Scooter (four-stroke engine).
- Motorcycle (two-stroke engine),

- Motorcycle (four-stroke engine).
- Disc & drum brakes system.
- Other components (including to valves, ignition, fuel and emissions, transmission, lights, tyres, steering and body fittings).

276) Course Title: HEMM Mechanic

Faculty:RAMMOHAN PERUMALLA

Course Objective:

- Understanding the role and responsibilities of the welding supervisor.
- Understanding of knowledge of drawing in welding.
- Understanding of modelling of welded parts.
- Understanding of large scale production units.
- Understanding of advanced welding processes.
- Understanding of different methods of inspection.

277) Course Title: Embedded System Design

Faculty: Swarna Prabha Jena

Course Objective:

1.The knowledge, understanding required of an individual to supervise the service, maintenance, and repair operation through the technician and components/aggregate specialist.

2.Organize the service & repair department through controlling manpower resources and other assets and tools at a level commensurate with workshop requirements.

3.Supervise all activities performed by subordinates and reporting executive and evaluate their performance.

4.Ensuring and implement strict adherence of all activities performed by subordinates to the organisational guideline.

5.Work requirements including various activities, deliverables, or work output required in the given time, maintain set quality standards.

6.Appropriate use of resources (both material/equipment and manpower).

7.Interact & communicate effectively with colleagues including members in the own group as well as other groups.

278) Course Title: Automotive service technician II

Faculty:RadhaGobinda Pradhan

Course Objective:

- Familiarization with reading drawings.
- Familiarization to use Auto cad or equivalent software.
- Develop knowledge of different symbols and terms used in civil drawings.
- Complying with the industry specifications and guidelines work.

279) Course Title: Communication, Media and Society

Faculty:Dr. Ambika Sankar Mishra

Course Objective:

1. Familiarization to the hand tools, power tools, safety tools, measuring tools.
2. Develop an end-to-end technical understanding to payments, stores and stock yard at construction site.
3. Understand the quality and quantity of different construction materials.
4. Complying to the industry specifications, guidelines and safety standards during work.

280) Course Title: Introduction to Journalism

Faculty:Dr. Md. Aamir Pasha

Course Objective:

- Familiarization with the work environment and expected personal attributes to perform as an Assistant Surveyor
- Familiarization to the principles, components, and tools required.
- Develop an end-to-end technical understanding to execute surveying works in construction industry.

- To solve measurement problems in an optimal way.

281) Course Title: Communication Research

Faculty:Dr. Ambika Sankar Mishra

Course Objective:

- Familiarization with the work environment and expected personal attributes to perform as construction supervisor.
- Familiarization to the methods, technique,components, and tools required.
- Develop an end-to-end technical understanding to execute construction works in civil engineering.

282) Course Title: Print Media Production

Faculty: Dr. Md. Aamir Pasha

Course Objective:

- To assist an applicant to acquire the knowledge, understanding, and specific skill necessary to obtain over HEMM Heavy machinery like excavator, wheel loader, backhoe loader, soil compactor, grader and bulldozer, etc.

- To give more emphasis on safety during attending the machine or work in a workshop in Industrial core value Safety, quality, and environmental care.

- Mainly explore the practical consequences of the Diesel engine system, Hydraulic system, Electrical and electronic system, Use of special tools, Pre-delivery Inspection.

- Foundation with a conceptual understanding of the engine (4 & 6 cylinders) along with precision measurement of all internal components.

283) Course Title: Exploring Hindi Cinema

Faculty:Sarat Kumar Jena

Course Objective:

- Develop skilled workforce with the knowledge on latest technologies to meet the need of Embedded Industry.

- Make the student industry-ready with hands-on experience in the various Real-Time Embedded Systems.

284) Course Title: Graphic Designing & Visual Images

Faculty:Saban Kumar Maharana

Course Objective:

I. To perform skill automotive work in diagnostic, repairing and maintaining of mechanical and electrical system work on 4-wheeler vehicle and follow preventive maintenance duty of technical task relative to assign work reasonability.

II. Apply safe working practice in an automotive workshop.

III. Demonstrate knowledge of concept and principle of basic arithmetic, calculation and apply knowledge of specific area to perform practical operation.

285) Course Title: Television Journalism

Faculty:DrChinuBohidar

Course Objective:

- The course aims to provide a basic idea about the process of communication
- It will provide an idea about the models and theories of communication
- This will explain the relationship between communication and culture
- The course will give an idea about media business and audience research

286) Course Title: Development Communication

Faculty:Dr. Md. Aamir Pasha

Course Objective:

- This paper will help students to understand the relationship between Media and Society
- This paper provide approximate overall knowledge of Journalism
- This paper provide overall knowledge about Print Media as well as other media also

287) Course Title: Camera and Editing for TV

Faculty:DrChinuBohidar

Course Objective:

- The Course will provide an understanding of the basic techniques of social science research to students.
- The Course will help them to have an idea about different elements of Communication and techniques to conduct research on them.
- It will help students to have a clear idea about the functioning of media research Industry
- This will help them to understand about the process of theoretical formulations through research

288) Course Title: Reporting and Anchoring

Faculty:DrChinuBohidar

Course Objective:

- The paper aims at providing an understanding of the print media systems, its impacts on society and the methods and techniques of the content production along with the limitations of the medium.

- This paper also provide practical knowledge about print production.

289) Course Title: Global Politics and Media

Faculty:Dr. Ambika Sankar Mishra

Course Objective:

- To impart overall idea to the learners on the Hindi Cinema from colonial time to till date.

- To deliver to the learners various phases of development and growth of Hindi Cinema.

- To impart knowledge of Cinematic Narrative by keeping art and aesthetic value of Performance in Hindi Cinema with a special emphasis on Hindi Songs of the Indian Panorama.

- To attend screening of Indian Panorama by learners.

290) Course Title: Documentary

Faculty:Sarat Kumar Jena

Course Objective:

- This course enables students to gain broad-based knowledge on a variety of design communications disciplines, including advertising, branding, visual identity, packaging and design management.

- Develops students conceptual and idea generation abilities to produce innovative and effective communication products through print and electronics mediums.

- The design management module arms the students with a serious understanding of business management thinking and deployment of business strategies in the competitive marketplace.

291) Course Title: Communication and the Plastic Arts

Faculty:Sarat Kumar Jena

Course Objective:

- The paper aims at providing an understanding of the electronic media its impacts on society and the methods and techniques of the content production along with the limitations of the medium

- To develop the learner into competent and efficient in reporting news, processing and program production in the field of electronic media

- The Subject is designed to make the students learn about script, interviews techniques, phone-ins, panel discussion, voice over, live shows and field reporting specifically in Television

292) Course Title: Integrated Marketing Communication

Faculty:Dr. Ambika Sankar Mishra

Course Objective:

- Communication is a tool for development and social change. The strategic application of communication as a tool for development is quite popular and it is also producing nice results

- This paper will provide an understanding of the concepts of communication, development, historical dimensions of development communication and the techniques to use communication for development

- It further aims at providing an idea into different selected programs, policies and experiments of the governmental and non-governmental agencies at different times

293) Course Title: Communication Research Methods

Faculty:Ambika Sankar Mishra

Course Objective:

- This course teaches the technical skills and creative principles

required for single camera ('film style') video field shooting and post production

- The student will gain experience planning, shooting and editing

entertainment- and/or information-based video projects

- The course will provide hands-on skills in audio, video recording technology, composition, lighting and editing

294) Course Title: Introduction to Print & Electronic Media

Faculty:DrChinuBohidar

Course Objective:

- This course teaches the technical skills and creative principles

required for single camera ('film style') video field shooting and post production

- The student will gain experience planning, shooting and editing

entertainment- and/or information-based video projects

- The course will provide hands-on skills in audio, video recording technology, composition, lighting and editing

295) Course Title: Society, Media and Communication

Faculty:Sarat Kumar Jena

Course Objective:

- The course will provide students an understanding of the relationship between globalization and media
- It will help them to understand the present situation of media business.
- It will help them to understand the media business and regional alternatives
- The course will provide them an understanding about the role of culture in global media scenario

296) Course Title: Advertising and Public Relations

Faculty:DrChinuBohidar

Course Objective:

- To introduce the learners about theoretical knowledge and practical aspects in 'Documentary Filmmaking'.
- To impart knowledge of Pre-production, Production and Post=Production in Documentary Filmmaking along with research and screenplay writing, technical aspects, social aspects, financial aspects, cast, crew and characterization.

297) Course Title: Animation

Faculty:Saban Kumar Maharana

Course Objective:

- To provide training to the learners to understand the public space and how to communicate in public space by using architecture, sculpture and paintings etc. as the mass media.

- To impart to the learners about historiography of the plastic arts of various medium along with the shifting of the empire in India.

- To engage learners to understand the religious, and socio-cultural institutions associated with the plastic arts in pluralistic traditions of the ancient, medieval and modern India.

298) Course Title: TV Anchoring

Faculty: Dr. Chinu Bohidar

Course Objective:

- This course will provide students an Idea about:

- Marketing communication for promoting business

- Using marketing communication tools to promote product or service

- Choosing and designing the right communication approach

299) Course Title: Photography

Faculty: Dr. Mohammad Aamir Pasha

Course Objective:

- The Course will provide an understanding of the basic techniques of social science research to students.

- The Course will help them to have an idea about different elements of Communication and techniques to conduct research on them.

- It will help students to have a clear idea about the functioning of media research Industry

- This will help them to understand about the process of theoretical formulations through research

300) Course Title: Camera Operator

Faculty: Dr. Chinu Bohidar

Course Objective:

- The paper aims at providing an understanding of the electronic and print media systems, its impacts on society and the methods and techniques of the content production along with the limitations of the medium.

- To impart the basic knowledge of Television, Radio and Print Journalism and related areas of studies.

- To develop the learner into competent and efficient in the filed of reporting news, processing and program production in the field of media.

- The Subject is designed to make the students learn about script, interviews techniques, phone-ins, panel discussion, voice over, live shows and field reporting.

301) Course Title: Video Editor

Faculty: Dr Chinu Bohidar

Course Objectives :

- The course Certificate in Video Editing is a 4 credit paper which is a practice and project based subject.

- Candidate who have qualified 10th and +2 candidate eligible for the course.
- A candidate must have his own laptop or computer
- Trained faculties, Leading Video Editor from Industry, Doubt Clearing Class, Video Editing Lab

302) Course Title: Web Content Development

Faculty: Sarat Kumar Jena

Course Objectives :

1. To introduce the 'World Wide Web' to the learners.
2. To impart knowledge in 'Developing Content' for websites.
3. To develop technical writing skill of the learners.
4. To impart knowledge of the 'Website'.

303) Course Title: Adobe tools and, Illustration

Faculty: Saban Kumar Maharana

Course Objectives :

- To enable learners to study illustration as visual interpretation of words, concepts and ideas.
- To provide understanding of the basic software skills while developing drawing abilities in a digital environment.
- To develop strategies for communicating content through pictorial narrative.

304) Course Title: Radio Jockeying

Faculty: Dr Chinu Bohidar

Course Objectives :

1. The paper will provide students a clear understanding of radio jockeying by skilling them in same
2. To enhance the creative and innovative way of writing and speaking skills of the learner
3. Host live broadcasting program using radio equipment in Studio Setup

305) Course Title: Web Content Development

Faculty: Sarat Kumar Jena

Course Objectives :

1. To introduce the 'World Wide Web' to the learners.
2. To impart knowledge in 'Developing Content' for websites.
3. To develop technical writing skill of the learners.
4. To impart knowledge of the 'Website'.

306) Course Title: Introduction to Social Media

Faculty: Dr. Md. Aamir Pasha

Course Objectives :

- This paper will provide a basic understanding of modern social media communication, its management and influences on society
- This paper also provides how to set up a blog, youtube channel and social media profile and its analysis
- This paper will provide a well understanding of social media

307) Course Title: Fundamentals of Agronomy

Faculty: Dr. Subhashisa Praharaj

Course Objectives :

- To understand the basic concepts and components of Agronomy
- To Understand various agronomic terms
- To have hands on experience of the basic agronomic practices

308) Course Title: Fundamentals of Genetics

Faculty: Dr.Praveen Kumar

Course Objectives :

- To impart knowledge to the students on the ultrastructure of cell and cell organelles, principles of genetics and their applications in plant breeding for improving agricultural productivity

309) Course Title: Fundamentals of Soil Science

Faculty: Dr.S.K.P.Ghouse

Course Objectives :

- To impart knowledge to the students on the Fundamentals of Soil Science and impart skills in collecting and analyzing soils for basic physical, physico-chemical and chemical properties for using it as a medium for plant growth.

310) Course Title: Fundamentals of Horticulture

Faculty: Ms.Basabadatta Sahu

Course Objectives:

- To provide knowledge of horticulture in a brief and prescribed manner.
- To introduce the students to green industry.
- To encourage students to be responsible for environment by demonstrating and valuing sustainable practices.

311) Course Title: Fundamentals of Plant Pathology

Faculty: Dr. Praveen Boddana

Course Objectives :

- The student knows about the early development & role of different micro-organism in development of plant disease.
- The students gain knowledge on general concepts and classification of plant diseases The students have knowledge with general characteristics of fungi, bacteria, virus and mycoplasma like organisms causing plant diseases.
- To acquaint the students with reproduction in fungi and fungal like organisms causing plant diseases

312) Course Title: Rural Sociology & Educational Psychology

Faculty: Mr.Chitrasena Padhy

Course Objectives :

- To understand the basic concept of Rural Sociology, Indian rural society, Importance of rural sociology in Agricultural Extension.
- Understand Social groups, social stratification, culture, social values, social control, social change and their relevance to Agricultural Extension.
- Educational Psychology, Intelligence, Personality, Perception, Emotion, Frustration, Motivation, Teaching, Learning.

313) Course Title: Agricultural Heritage

Faculty: Dr.Sandeep Rout

Course Objectives :

- Agricultural Heritage is to promote student understanding, awareness about sustainable agriculture and to safeguard the social, cultural, economic and environmental goods and services these provide to family farmers, smallholders, indigenous peoples and local communities.

314) Course Title: Mr.Kaleeprasanna Patnaik

Faculty: Agricultural Economics& Trade

Course Objectives :

- Help students to contribute to better decision making by farmers, or by agencies servicing agriculture.

- Help students to understand why farmers respond to policies and economic opportunities in the ways they do.
- To acquaint the learner with introductory Agricultural Economics, development of agriculture in India, use of yield increasing inputs, marketing, trade and prices.

315) Course Title: Statistical Method

Faculty:Ms.Chinmayee Patra

Course Objective:

- To enable the students to analyze data and draw appropriate statistical conclusions.
- To recognize and examine the relationships between inputs and outputs in their agricultural field to make effective and profitable decisions.
- Students will demonstrate an ability to engage in critical thinking by analyzing situations and constructing and selecting viable solutions to solve problems.

316) Course Title: Soil And Water Conservation Engineering
Faculty:Mr.Shubham Sadhangi
Course Objective:

- To have an understanding about the degradation of productive soil and the causes of its erosion.
  • To make the students understand about the measurement techniques for soil loss and wind erosion .
  • To know the different agronomical and engineering measures adopted for its control alongwith its design.

317) Course Title: Fundamentals of Crop Physiology
Faculty:Mr.Chandrasekhar Sahu

Course Objective:

- To confer information to the understudies on various plant metabolic procedures and their functions in plants with special reference to agricultural and horticultural crops

318) Course Title: Introductory Agro Meteorology and Climate Change
Faculty:Ms.Ch.Deepthi

Course Objective:

- To study about different climatic factors affecting crop growth and development
- Study about different weather aberrations
- Study about climate change, it's cause and impacts

319) Course Title: Agricultural Microbiology
Faculty:Ms. Sudeepta Patnaik
Course Objective:

1.To gain knowledge on several beneficial and harmful micro-organisms

2. To have detailed idea about their cell structure, reproduction and mechanism of action

3.To know the complex interaction between agriculture system and micro-organism.
4.To introduce micro-organism in agricultural system for building a pathway for sustainable agriculture.

320) Course Title: Irrigation Water Management
Faculty:Pilli Manasa
Course Objective:
1. The knowledge of irrigation water management to maximising crop yield and quality by developing irrigation and water management techniques can help growers demonstrate best practice to retailers and consumers.
2. This course will recommend ways for growers to improve crop performance by evaluating the different types of irrigation and water managements systems available.
3. To impart the knowledge of various irrigation methods which are more efficient to minimize the water loss and improve the water use efficiency of crop and water requirements of the crops,
4. There is an increasing need for efficient and effective irrigation and water management to maximise crop yield and quality whilst making best use of the water available.
5. Also impart the knowledge on Water requirements of crops, soil-plant- relationship, Irrigation requirements, duty and delta, Irrigation efficiencies, methods of irrigation, Quality of irrigation water.

321) Course Title: Production Technology for Vegetables and Spices
Faculty:MRS KALYANI PRADHAN
Course Objective:

- To educate in details about the production technology of vegetables and spices.

322) Course Title: Fundamentals of Entomology Ã¢â‚¬â€œI
Faculty:V.RAMA LAKSHMI

- Course Objective:

• To impart knowledge to the students on morphology and physiology of Insects.
• To impart knowledge on classification and identification of insects based on their morphology

323) Course Title: FUNDAMENTALS OF AGRICULTURAL EXTENSION
Faculty:Ms. RUPASHREE SENAPATI
Course Objective:
1. To orient the students with the concept of extension education and its importance in agricultural development.
2. To expose the students towards various rural development programmes aimed at poverty alleviation and to increase employment opportunities and their analysis.

3. To orient the students learning about the extension system worldwide and new dimensions of Agricultural Extension in India.

324) Course Title: Farm Machinery and Power
Faculty:Geetanjali Dhupal

Course Objective:

- To enable the students to understand the basic principles and parts internal combustion engine and different tillage, sowing, intercultural, plant protection equipment ,working principles of threshers, harvesting of field and horticultural crops .

325) Course Title: Introduction to Forestry
Faculty:Sonia Panigrahi
Course Objective:

- The objective of the course is to Identify the tree species and the uses of NTFP. Gain knowledge about the choice of tree species for agro forestry purpose. Estimate the quantity of timber / firewood/NTFP(volume/weight) and other forest resources by using height and volume measuring equipments. Manage the forest nursery by applying nursery techniques. Apply the required cultivation practices for different tree species.

326) Course Title: Agricultural Finance and Cooperatives
Faculty:N Durga Prasad

Course Objective:

- The Objective of this Course is to impart knowledge and expertise in the field of agricultural finance.
- It enables the student to understand the business planning and financial management of an agri-business: become aware of the international models for gauging agricultural debt and the role of the regulator in agricultural financing.

327) Course Title: Agricultural Marketing &Prices
Faculty:Dr.Durga Prasad Padhi

Course Objective:

- Enable students to gain knowledge on agricultural marketing, challenges and prospects for improving agricultural marketing system.

- Provides an incisive analysis on agricultural input and output marketing with particular emphasis on marketing functions
- Gain skills to analyze Marketing Functions, Market Information and Intelligence
- Imparting knowledge of the marketing efficiency and agricultural prices
- Learn the Markets and Market Structure
- Provide the platform to the students of Marketing of Agricultural Inputs

328) Course Title: Crop Production Technology Ã¢â‚¬â€œ I
Faculty:Dr. Tanmoy Shankar
Course Objective:

- To teach the crop husbendry of Kharif cerels, pulses, oilseed crops, fibre crops, millets and forage crops.

329) Course Title: Fundamentals of Plant Breeding
Faculty:Mr. Abhilash Behera

Course Objective:

- To impart knowledge to the students on the principles and procedures of plant breeding in self and cross pollinated crops for development of the high yielding varieties / hybrids with the help of various conventional and modern molecular approaches.

330) Course Title: Fundamentals of Entomology- II
Faculty:LIPSA DASH

Course Objective:

- By the end of the course, the students will be able to know the influence of ecological factors on insect development and distribution, understand componenets of integrated pest management, know the classification of insecticides, and their use in pest management, and understand the mass multiplication techniques of major bio-agents.

331) Course Title: Weed Management
Faculty:Ms. Jnana Bharati Palai
Course Objective:

- To familiarize the students about the weeds, herbicides and methods of weed control.

332) Course Title: Fundamentals of Plant Biochemistry
Faculty:PANKAJ MEHER
Course Objective:

- Understand the biochemistry plant defence mechanism, Identify the toxic compounds in plants, Describe the kinetics and characterisation of enzymes, Identify the detoxification mechanisms. To provide education that leads to comprehensive understanding of the principles and practices of biochemistry.

333) Course Title: Production Technology of Fruits and Plantation Crops
Faculty:Mr. Chinmaya Jena

Course Objective:

- To provide technical and scientific cultivation practices of different fruit and plantation crops.
- To provide field knowledge and acquaint the students with practical field

334) Course Title: Agricultural Informatics
Faculty:Mr. Pradeep Kumar Mahapatra

Course Objective:

- Acquire a clear understanding of theory and application of Information & Community technology in various fields and promoting the applications of ICT in Agriculture

335) Course Title: Live Stock and Poultry Management
Faculty:Prof. Niranjan Barik

Course Objective:

- To meet the basic and overall knowledge requirement of the students, the extension workers and the progressive farmers on various livestock specifically the farm animals including poultry with respect to physiological and reproductive system.
- To have expertisation on the housing system, feeding requirements, feeding habits and use of low-cost feed technology for better economic return.
- To have minimum basic concepts on different disease encountered in the farm animal and poultry and their preventive and control measures.

- To make students practically stronger to undertake entrepreneurship in the livestock and poultry sector.
- To know the importance and contribution of livestock in the state and national economy.

336) Course Title: Human Values & Ethics
Faculty:Tapas Bantha

Course Objective:

- To create an awareness about the goal, mission, and vision of life
- To cultivate virtues and eradicate vices which can make them flourish in their lives
- To understand the metaphors of ethical personalities from across domains

337) Course Title: Renewable Energy and Green Technology
Faculty:Dr. Ashish Ranjan Dash

Course Objective:

- Understanding basic characteristics of renewable sources of energy and technologies for their utilization for the thermal and electrical energy needs and also the environmental aspects of these resources
  • To equip students in working with projects and to take up research work integrating with renewable power sources.
  • To Provide un-energized and off-grid areas through affordable and reliable source of energy.

338) Course Title: Fundamentals of Plant Biotechnology
Faculty:Dr. Koustava Kumar Panda

Course Objective:

- Familiarize the students with the key developments in the sphere of Plant Biotechnology.
- Train students with the techniques associated with the invitro propagation of plants and their maintainance.
- Create awareness on the importance of plant diversity and its conservation both insitu and exsitu.

- Train students on basic molecular biology techniques.

339) Course Title: Rain-Fed Agriculture & Watershed Management
Faculty:Chandaka Deepthi

Course Objective:

- Students learn basic knowledge of rain fed agriculture and water shed management.
- Study the crop adaptation and mitigation strategies, crop planning and crop management techniques.
- Main objective is to increase / stabilize production of crops, forage, fruits, fuel and timber in rainfed areas by introduction of improved soil and moisture conservation measures, better crop and range land management practices.

340) Course Title: Principles of Seed Technology
Faculty:Mr.Durgadatta Meher

Course Objective:

- To strengthen undergraduate student in the field of seed science & technology.
- To impart training for entrepreneurship programme .
- To initiate basic research related to genetic purity, seed health and seed storage.

341) Course Title: Diseases of Field and Horticultural Crops and Their Management
Faculty:Dr. Ria Mukhopadhyay
Course Objective:

- To study the causal organism, symptomatology, etiology and epidemiology of the important diseases of field and horticulture crops for devising efficient management strategies against them.

342) Course Title: Crop Production Technology Ã¢â‚¬â€œII
Faculty:Dr. Tanmoy Shankar
Course Objective:
To teach the crop husbandry of cereals fibers, oil seed and pulse crops.

343) Course Title: Production Technology for Ornamental Crops, MAP and Landscaping

Faculty:Mrs. Madhuri Pattanaik
Course Objective:
To educate on Production Technology for Ornamental Crops, MAPs and Landscaping

344) Course Title: Manures, Fertilizers and Soil Fertility Management
Faculty:Dr. Rahul Adhikary
Course Objective:

- To know about different manures, fertilizers
- To manage the soil quality
- To improve soil health
- The relationship between soil fertility and plant health
- Goals of a sustainable fertility/soil management program

345) Course Title: Entrepreneurship Development And Business Communication
Faculty:Dr. Satarupa Modak

Course Objective:

- To familiarize the students understand with key concepts and processes in entrepreneurship and business development.
- To provide context to the processes in the form of differences between small and large firms, and the economic environment.
- To introduce key debates around entrepreneurship and small businesses.

346) Course Title: Principles of Food Science And Nutrition
Faculty:Dr. Grihalakshmi Kakani
Course Objective:

- Give introduction to aspects of food and nutrition.
- Know the principles involving various food preservation methods. Gain knowledge of the role of nutrition in sustaining health and preventing diseases

347) Course Title: Problematic Soils and Their Management
Faculty:Dr. Arunabha Pal

Course Objective:

- To know about the soil and different problem occur during cultivation. How to identify the problem and what are the reclamation method requires improving the soil health.
- Students learn practically about the identification of problem soil and learn different method to improve soil fertility, that necessary to improve the yield.

348) Course Title: Pests of Field Crops and Stored Grain and Their Management
Faculty:Dr. D. DEVIKA RANI

Course Objective:

- This course is offered to the students as this is the most important course which has significant field relevance along with storage conditions.
- The farmers' major problem is the insect pests of crops and their control. The students will be taught in such a way that they will be able to identify the insect pest, diagnose the symptom and advocate the necessary remedial measures.

349) Course Title: Diseases of Field and Horticultural Crops and Their Management-II
Faculty:Ms.Abhinandita Sahoo

Course Objective:

- To study the causal organism, symptomatology, etiology and epidemiology of the important diseases of field and horticulture crops for devising efficient management strategies against them.

350) Course Title: Crop Improvement-I
Faculty:Dr. HARI RAM KUMAR BANDI
Course Objective:

- To understand the origin, distribution and different breeding methods to be adopted for the development of varieties / hybrids in various Kharif crops
  • To study about the plant genetic resources, centres of diversity and breeding for resistance to biotic and abiotic stresses
  • To learn about the influence of Genotype x Environment interaction on yield / performance

351) Course Title: Geoinformatics and Nano-Technology for Precision Farming
Faculty:Mr. LALICHETTI SAGAR

Course Objective:

- To introduce the basic concepts of geoinformatics and nanotechnology
- To create awareness about various applications of geoinformatics and nanotechnology for precision agriculture
- To teach basic handling of various geoinfomatic tools

352) Course Title: Practical Crop Production Ã¢â‚¬â€œ I
Faculty:Dr. Tanmoy Shankar

Course Objective:

- To teach the practical growing of crop husbandry of different *kharif* crops

353) Course Title: Environmental Science and Disaster Management
Faculty:Dr. Dinkar J. Gaikwad
Course Objective:
• Disciplinary knowledge: Enable students to develop a comprehensive understanding of various facets of life forms, ecological processes and how humans have impacted them during the Anthropocene era.
• Critical thinking: Capability to identify relevant environmental issues, analyse the various underlying causes, evaluate the practices and policies, and develop framework to make informed decisions.
• Moral and ethical awareness/reasoning: Develop empathy for various life forms and appreciate the various ecological linkages within the web of life.

354) Course Title: Farming System &Organic Farming for Sustainable Agriculture
Faculty:Roja Mandapati
Course Objective:

• To educate the students on the relevance of farming systems and organic farming in present context and imparting training about biological intensive nutrient management, vermincomposting, greenmanuring and integrated framing systems etc.
• To throw a light on students regarding the organic certification.

355) Course Title: Practical Crop Production II

Faculty:Santosh Kumar Lenka

Course Objective:

- To teach the practical growing of crop husbandry of different rabi crops

356) Course Title: Post-Harvest Management and Value Addition of Fruits and Vegetables
Faculty:VENKATA SATISH KUCHI

Course Objective:

- To provide basic understanding/knowledge of postharvest processing methods and processes involved in post harvest loss reduction.
- To introduce postharvest management practices which are eco-friendly and sustainable by integrating them with existing modern technologies.
- To encourage students in product development, conversion of fresh produce to processed form for value addition (nutritive and economic value).

357) Course Title: Pests of Horticultural Crops and Their Management and Beneficial Insects
Faculty:Ajit Kumar Sahu

Course Objective:

- Horticulture is a major subject in agriculture that includes both short-duration and long-duration crops. Like field crops, these are also attacked by a wide array of insects and the farmers suffer from huge losses. This course is designed to make the students aware of the biotic stress on these crops and the relevant remedial measures.

358) Course Title: Crop Improvement-II
Faculty:Dr. Hari Ram Kumar Bandi

Course Objective:

- To impart knowledge to the students on the botanical description, origin, distribution and various breeding approaches used for the development of varieties / hybrids in various field and horticultural crops (Rabi Crops)

359) Course Title: Principles of Integrated Pest and Disease Management

Faculty:Mr. Deepayan Padhy

Course Objective:

- At the end of the semester students will be able to understand:
  1. What is a pest and categories of Pest.
  2. IPM and tools of IPM.
  3. Cultural, Mechanical, Physical, Biologica, Microbial and Legilative methods of Pest and Disease Management.
  4. Chemical Control of Pests

360) Course Title: Protected Cultivation and Post Harvest Technologies
Faculty:Sharmistha Sahu
Course Objective:

- To impart knowledge on agro-technique and management of different horticultural crops under protected environmental conditions.
- Student will be made aware of the technological changes that are occurring in this field along with pre and post-harvest technology

361) Course Title: Intellectual Property Rights
Faculty:Pradipta Banerjee

Course Objective:

- To encourage innovation and to provide incentives for innovation by granting protection to inventors that will allow them to recover research and development investments and reap the benefits of their inventions for a certain period of time.
- To understand the necessity of patents, copyright, trademark, GI, etc.

362) Course Title: Production Economics and Farm Management
Faculty:Rupashree Senapati

Course Objective:

- To know the way forward for an efficient production.
- To determine the the combinations of most profitable amount of inputs.
- To estimate how the production will respond to a change in the price of output

363) Course Title: Fundamentals of Crop Physiology
Faculty:Chandrasekhar Sahu

Course Objective:

- To confer information to the understudies on various plant metabolic procedures and their functions in plants with special reference to agricultural and horticultural crops

364) Course Title: Principles of Aquaculture
Faculty:Dr. K. S. Krishna Prasad

Course Objective:

- Aquaculture is the farming of aquatic organisms such as fish, crustaceans, mollusks, and aquatic plants. Aquaculture involves cultivating freshwater and saltwater populations under controlled conditions, and can be contrasted with commercial fishing, which is the harvesting of wild fish.
- Successful aquaculture takes into consideration the biology of the aquatic species such as feeding, water flow and temperature needs, and disease prevention and engineering design like water source and water quality study, pond and tank containment systems, water filtration and aeration. Common products of aquaculture are catfish, tilapia, trout, crawfish, oysters, shrimp, and salmon, and tropical fish for aquariums.

365) Course Title: Taxonomy of Finfish
Faculty:Dr. Devanand T N

Course Objective:

- This course has been designed to understand identification and classification of commercially important fishes and other aquatic vertebrates by the students .
- The course objectives are to provide the students with an introductory knowledge of fish classification.
- The students will be required to identify common species available in and around their region using morphological keys. This is accomplished through lecture, class discussion and examination of selected specimens.

366) Course Title: Aquaculture in Reservoirs
Faculty:Chandan Haldar

Course Objective:

- To study about the Aquaculture in Reservoirs
- To know about history and development of Aquaculture in Reservoirs
- To provide new species and strengthening stocks of fish in reservoir.

367) Course Title: Meteorology, Climatology and Geography
Faculty:Hauzoukim
Course Objective:
1.To provide students with a basic understanding of basic meteorology and weather events
2. Students will be able to interpret the general characteristics of weather maps, and further to become familiar with the temporal and spatial representation of meteorological variables (e.g. temperature, atmospheric pressure).
3. Students will learn about modern methods of weather forecasting.

368) Course Title: Statistical Methods
Faculty:Chandan Haldar

Course Objective:

- To develop the students ability to deal with numerical and quantitative issues in statistics
- To enable the use of statistical, graphical and algebraic techniques.
- To have a proper understanding of Statistical applications in Fisheries.

369) Course Title: Fundamentals of Biochemistry
Faculty:Dr. Sagarika Swain
Course Objective:

- Integrate the basic biological and chemical knowledge and its structure to develop a foundation in the concepts and facts in modern cell and molecular biology and biochemistry, and to be familiar with various ways of organizing and accessing scientific knowledge

370) Course Title: Fish in Nutrition
Faculty:Dr. Sagarika Swain
Course Objective:
1. To know about the nutrients
2. To understand the function and sources of nutrients
3. To learn about the nutritional value of fishes
4. Discuss the health benefits of fish

371) Course Title: Fresh Water Aquaculture
Faculty:Dr.Sambid Swain

Course Objective:

- To gain in depth knowledge and field exposure on sustainable aquaculture practices.

372) Course Title: Anatomy and Biology of Finfish
Faculty:Dr.Amrutha Gopan
Course Objective:

- To understand the internal and external anatomy of a fish in detail
  • To identify the different parts of a fish and describe the function of each part
  • To understand the internal organs and their functions
  • To study the life forms of fishes with regard to their food and feeding habits, age, and growth followed by reproduction.
  • To distinguish the fishes with respect to their feeding habits

373) Course Title: Limnology
Faculty:Chandan Haldar

Course Objective:

- To study about the Inland Water bodies
- To know about history and development of Limnology
- To Know Distribution and dynamics of freshwater bodies
- To know Classification and general characteristics of lotic and lentic water bodies.

374) Course Title: Marine Biology

Faculty:Dr. Devanand T N

Course Objective:

- Marine biology is the study of all aspects of life in the sea and the environment on which it depends. This includes marine plants, animals and other organisms, both vertebrate and invertebrate, in deep oceans, shallow seas and the laboratory.
- The main aims of marine biology are to improve understanding of the marine world and to understand and predict changes in ecosystems affected by human and natural disturbances.
- Marine biology is a broad-ranging career. You could go into field work, academic research, laboratory work, consulting, charity, outreach or policy making.

375) Course Title: Inland Fisheries
Faculty:Dr. Devanand T N

Course Objective:

- To study about Fish catch statistics

- Riverine fisheries of India, Riverine systems and their fisheries
- Dams and their effect on fish migration
- Estuarine fisheries
- Fisheries of lakes and reservoirs
- Cold water fisheries of sport or commercial importance
- Fishing crafts and gears and
- Flood-plain capture fishery

376) Course Title: Food Chemistry
Faculty:Dr. Sagarika Swain
Course Objective:
1.To provide an understanding of the chemical function and properties of major food components.
2. To provide an understanding of the chemical interactions of food components and their effects on sensory and nutritional quality, functional properties, and safety of foods

377) Course Title: Taxonomy of Shellfish
Faculty:Dr. Amrutha Gopan
Course Objective:

- To define what is taxonomy
- To understand the importance of shellfish by studying two highly diversified phyla such as phylum Arthropoda and phylum Mollusca
- To develop species identification skills

378) Course Title: Physiology of Finfish and Shellfish
Faculty:Dr. Amrutha Gopan
Course Objective:

- To define what is physiology
- To study physiological functions
- To understand the importance of finfish and shellfish physiology in fishery biology

379) Course Title: Fish Food Organisms
Faculty:Dr. Sagarika Swain
Course Objective:
It deals with the introduction to phytoplanktons and zooplanktons as fish food organisms and their culture techniques

380) Course Title: Fishery Oceanography
Faculty:Biswajit Mohanty
Course Objective:

- The branch of science concerned with the study of the sea. It is the scientific discipline concerned with all aspects of the world oceans and seas, including their physical and chemical properties, origin and geology, and life forms. Research in oceanography entails sampling of seawater and marine life, remote sensing of Oceanic process with aircraft and satellites, and exploration of the seafloor. Oceanography aids in predicting weather and climate, in the exploitation of the earth's resources, and in understanding the effects of pollutants.

381) Course Title: Ornamental Fish Production and Management

Faculty:Biswajit Mohanty

Course Objective:

Ornamental fish production is an important component of the aquaculture industry. The ornamental fish trade is a foreign exchange earner, besides being a source of employment. It has a significant role in the economy of developed and developing countries. The entire ornamental fish industry including accessories and feed are estimated to be worth of more than 14 billion US $ (Thomas, 2008).

Ornamental fish keeping has been serving as a viable recreation, especially for hobbyists from time immemorial. The ancient Romans were the first to keep ornamental fishes as pets at homes. Maintenance of ornamental fish became popular in England and Scotland even in the 18^{th} century. The art of rearing the beautiful fishes by colour, design and shape spread rapidly throughout the world. With the growing interest on the fanciful varieties of brightly coloured organisms, ornamental fish culture developed as a tremendous business. In recent years, this hobby has spread all over the world. As a result, many countries in Asia and Europe started capturing and culturing the colourful, fanciful and the fascinating breeds of the fishes. More and more fishes from the marine, brackish and freshwater environments have been domesticated and popularized for business purposes.

382) Course Title: Freezing Technology

Faculty:Biswajit Mohanty

Course Objective:

- This course deals with the preservation of sea foods by chilling and freezing techniques. As we know, fish is a perishable commodity, its mainly because of the composition. Nearly 70% of the fish body constitutes water and 30% consist of protein, fat, minerals, and vitamin and non-protein nitrogen extractives. At ambient temperature fish muscle undergo rapid biochemical changes and creates a favorable environment for microorganisms to grow. This in turn responsible for the production of fouls smell and makes muscle spoiled and unsuitable for human consumption. Fish contains all essential amino acids (EAA) that is necessary for human body. Poly unsaturated a fatty acid (PUFA) (Omega-3-fatty acids) of fish is good for human health. Therefore it is imperative to preserve the fish immediately after catch to get the EAA & PUFA without any deterioration. How it can be preserved?. It is possible by lowering the temperature by direct (icing) or indirect (chill storage) methods. The main principle of chilling by ice is, it lowers the temperature of fish body from 30°C to 5°C. This greatly affect the mesophilic bacterial flora of fish and its growth is completely arrested by lowering of

temperature and also slows down the biochemical activity, there by preserving quality to the extended time. Various methods of chilling is explained in detail. To consume the fish as similar to fresh fish, it has to be subjected to freezing process. Different methods of freezing fish, equipments used, refrigeration load and refrigerants used are discussed with illustration in detail. Before consuming, frozen fish has to be thawed to obtain fish in normal form. Various methods of thawing including latest techniques are described.

383) Course Title: Genetics and Breeding
Faculty:Dr. Amrutha Gopan
Course Objective:
To discuss the important topics under genetics and breeding since a knowledge of genetics and breeding is essential for fishery science

384) Course Title: Fish Immunology
Faculty:Avijit Biswas

Course Objective:

- To develop knowledge among students about the fish's immune system.
- To understand the Innate and adaptive immunosystem and its interaction with fish pathogens and responses to stimulation and vaccines.

385) Course Title: Fish Nutrition and Feed Technology
Faculty:Dr. Sagarika Swain
Course Objective:
1.Basic concept of feed formulation and different feed processing techniques
2.Nutritional requirements of commercially important fish and shellfish. Feeding methods and feed management.
3.Requirement and availability of ingredients for aqua-feeds
4.The basic principle of fish nutrition and the function of individual nutrients

386) Course Title: Fish Canning Technology
Faculty:Hauzoukim
Course Objective:

1. To study about canning and its importance in preservation of food
2. To familiarize with common steps involved in canning operations
3. To study different canning procedures for fish and shellfish

387) Course Title: Fish Packaging Technology
Faculty:Biswajit Mohanty
Course Objective: The course comprises of packaging. The concept and definition of packaging of fish and fishery products have been explained. Use of glass, plastics and regenerated cellulosic casings explaining manufacturing process and properties have been explained in detail. The closure of glass containers is different from metal can containers both in terms of operation and material used has been highlighted in the course content. The theoretical instruction has been supplemented by practical classes.

388) Course Title: Fishing Craft Technology
Faculty:Dr. Devanand T N

Course Objective:

- To study about History and development of fishing craft
- Basic geometric concept of the fishing vessel
- Design procedure
- Boat building materials and construction of boat
- Marine Engine and propulsion system

389) Course Title: Fisheries Extension Education
Faculty:Chandan Haldar
Course Objective:
1. The basic objectives of the extension education are the overall development of the rural people.
2. To bring about desirable changes in the human behavior, which includes change in knowledge, skill and attitude?
3. The dissemination of useful and practical information relating to agriculture, including improved seeds, fertilizers, implements, pesticides, improved cultural practices, dairying, poultry nutrition etc.
4. To make the people aware that agriculture is a profit table profession.

5. To create an environment for rural people so that they can show their talent, leadership and efficiency.
6. To provide appropriate solution of the farmer's problems.
7. To bring the scientist closer to the farmers.

390) Course Title: Microbial and Parasitic Diseases of Fish and Shellfish
Faculty:Avijit Biswas
Course Objective:
1. To learn the fish and shellfish diseases associated with bacteria, virus, parasite and protozoan.
2. To understand the gross and clinical signs of different diseases and defense mechanisms in fish and shellfish against disease causing microorganisms.
3. To learn the preventive and therapeutic measures of fish and shellfish diseases.

391) Course Title: Finfish Hatchery management
Faculty:Dr.Sambid Swain
Course Objective:
To learn seed production and hatchery management of commercially important cultivable fishes

392) Course Title: Anatomy and biology of shell fish
Faculty:Dr.Amrutha Gopan
Course Objective:

- To learn seed production and hatchery management of commercially important cultivable fishes. To understand the internal and external anatomy of a shellfish in detail
- To identify the different parts of a shellfish and describe the function of each part
- To understand the internal organs and their functions
- To study the life forms of shellfish with regard to their food and feeding habits, age and growth followed by reproduction.

393) Course Title: Marine Fisheries
Faculty:Avijit Biswas
Course Objective:
1. To learn the stock status of marine fishes.

2. To learn the exploitation rate of the fishes fore rational exploitation with respect to MSY and MEY.

394) Course Title: Fisheries Cooperative and Marketing
Faculty:Chandan Haldar

Course Objective:

- To develop knowledge and skills on Fisheries Cooperative and Marketing.
- To develop the capacity for formulating fishery promotion policies

395) Course Title: Fishing Gear Technology
Faculty:Hauzoukim
Course Objective:
1. To study about the history and development of fishing and fishing gears of India and the world
2. To study the factors that determines selection of fishing methods and gears used in relation to fish and fishing area.
3. To study different nets

396) Course Title: Fish Population dynamics and Stock Assessment
Faculty:Dr. Devanand T N

Course Objective:

- Population dynamics is a branch of life science which is concerned with the short and long-term changes in the size and age composition of populations, and the biological and environmental processes influencing those changes. It deals with the way populations are affected by birth and death rates, and by immigration and emigration, and studies topics such as ageing populations or population decline.
- Stock assessment is an important tool in fisheries management. In particular, to ensure contained, healthy, fish stocks, measurements of the Spawning Stock Biomass (the stock population capable of reproducing) allows sensible conservation strategies to be developed and maintained through the application of sustainable fishing quotas.

397) Course Title: Coastal Zone Management
Faculty:Dr. K. S. Krishna Prasad

Course Objective:

- The prime objective of Coastal Zone Management course is to create knowledge to balance between development needs and protection of natural resources which means if coastal ecosystems are manage through the guiding principles of sustainability then livelihoods of millions will be protected and their survival guaranteed.

398) Course Title: Refrigeration and Equipment Engineering
Faculty:Biswajit Mohanty
Course Objective:

- In thermodynamics, coldness is an energetic imbalance. In engineering, this imbalance results from the forced exchange of heat between two places. Refrigeration engineering deals with various procedures to produce coldness in many different areas of application. The basic procedures of refrigeration engineering are thermodynamic circle procedures, the energetic efficiency of which is constantly being improved thanks to modern refrigeration engineering. Especially important are compression refrigeration systems on the one and absorption refrigeration systems on the other hand. The energy that is needed for cooling is brought up via mechanical force in compression refrigeration systems, whereas in absorption refrigeration systems this heat energy is used. Refrigeration energy is used on a daily basis in many different fields. The food industry, air conditioning, medical technology and logistics are barely imaginable without it.

399) Course Title: Fisheries Policy and Law
Faculty:Avijit Biswas
Course Objective:

- To know public administration, public administration, organization and Public enterprises-Current scenario and its importance.
- To learn Laws and Policies related to the environment.
- To learn International law of the sea.

400) Course Title: Aquatic Pollution
Faculty:Chandan Haldar

Course Objective:

- To collect wastewater from residences, industries, institutions, and so on,
- To find a place to discharge the wastewater (usually the nearest water course is chosen, but wastewater could also be used for groundwater recharge or even recycled to water supply),
- To remove water pollutants that would produce adverse impacts to the receiving water or adversely affect the health of people subsequently using the water and
- To do all the above in a cost - effective manner.

401) Course Title: Fishing Technology
Faculty:Hauzoukim
Course Objective:

1. To study about the history and development of fishing and fishing gears of India and the world
2. To study the factors that determines selection of fishing methods and gears used in relation to fish and fishing area.
3. To study different nets

402) Course Title: Fish Production and Value Addition
Faculty:Hauzoukim

Course Objective:

- Population dynamics is a branch of life science which is concerned with the short and long-term changes in the size and age composition of populations, and the biological and environmental processes influencing those changes. It deals with the way populations are affected by birth and death rates, and by immigration and emigration, and studies topics such as ageing populations or population decline.
- Stock assessment is an important tool in fisheries management. In particular, to ensure contained, healthy, fish stocks, measurements of the Spawning Stock Biomass (the stock population capable of reproducing) allows sensible conservation strategies to be developed and maintained through the application of sustainable fishing quotas.

403) Course Title: Microbiology of Fish and Fisheries Product

Faculty:Avijit Biswas

Course Objective:

- The prime objective of Coastal Zone Management course is to create knowledge to balance between development needs and protection of natural resources which means if coastal ecosystems are manage through the guiding principles of sustainability then livelihoods of millions will be protected and their survival guaranteed.

404) Course Title: Navigation and seamanship

Faculty:Dr. Devanand T N

Course Objective:

- In thermodynamics, coldness is an energetic imbalance. In engineering, this imbalance results from the forced exchange of heat between two places. Refrigeration engineering deals with various procedures to produce coldness in many different areas of application. The basic procedures of refrigeration engineering are thermodynamic circle procedures, the energetic efficiency of which is constantly being improved thanks to modern refrigeration engineering. Especially important are compression refrigeration systems on the one and absorption refrigeration systems on the other hand. The energy that is needed for cooling is brought up via mechanical force in compression refrigeration systems, whereas in absorption refrigeration systems this heat energy is used. Refrigeration energy is used on a daily basis in many different fields. The food industry, air conditioning, medical technology and logistics are barely imaginable without it.

405) Course Title: Fish Byproducts and waste utilization

Faculty:Hauzoukim

Course Objective:

- To know public administration, public administration, organization and Public enterprises-Current scenario and its importance.
- To learn Laws and Policies related to the environment.
- To learn International law of the sea.

406) Course Title: Quality assurance of Fish and Fishery Products

Faculty:Biswajit Mohanty

Course Objective:

- To collect wastewater from residences, industries, institutions, and so on,
- To find a place to discharge the wastewater (usually the nearest water course is chosen, but wastewater could also be used for groundwater recharge or even recycled to water supply),
- To remove water pollutants that would produce adverse impacts to the receiving water or adversely affect the health of people subsequently using the water and
- To do all the above in a cost - effective manner.

407) Course Title: Fundamentals of Microbiology
Faculty:Tasok Leya
Course Objective:
To study about different fishing gear operation in relation to target species and specific water bodies

408) Course Title: Therapeutics in Aquaculture
Faculty:Tasok Leya
Course Objective:
1. To Study the characteristic of fish, its nutritional quality and relation to spoilage
2. To Study about different fish preservation techniques to reduce post-harvest loss
3. To develop different products from fish and shellfish
4. To explore different area for fish value addition for better utilization of by-catch and low value fish

409) Course Title: Fish and Shellfish Pathology
Faculty:Tasok Leya
Course Objective:
1. To know different types of microorganisms associated with fish and shellfish spoilage.
2. To learn the growth and survival of microorganisms in food.

410) Course Title: Fish Toxicology
Faculty:Tasok Leya

Course Objective:

- Navigation is the art and science of safely and efficiently directing the movements of a vessel from one point to another.
- Piloting uses water depth and visible references, while dead reckoning uses courses and distances from the last known position.

411) Course Title: Introduction to biotechnology and Bioinformatics
Faculty:Gulshan Kumar
Course Objective:
1. To identify a way to convert waste from fish processing
2. To study about the nutritional value of fish byproducts

412) Course Title: Pharmacology
Faculty:Gulshan Kumar

Course Objective:

- The students will learn about different microorganisms associated with fish and fishery products.
- Study about HACCP quality control and management of fish and fisheries products.
- Study the role of microorganisms in spoilage and their effects on human health.

413) Course Title: Shellfish Hatchery Management
Faculty:Gulshan Kumar

Course Objective:

- λ To impart knowledge on aquatic microorganisms with reference to their role in the aquatic environment and bioprospecting.
  λTo impart knowledge of the basic principles of bacteriology, virology, pathogenic microorganisms, pathogenesis, laboratory diagnosis.
  λTo acquire requisite skill in the use and care of basic microbiological equipment; performance of basic laboratory procedures in microbiology.

414) Course Title: Aquaculture Engineering
Faculty:Gulshan Kumar

Course Objective:

- λIdentify the fundamental principles of Therapeutics in aquaculture λCompare and contrast the specific pharmacology of the major classes of drugs, important distinctions among members of each class, the risks and benefits, in relation to the organ systems they affect, and the diseases for which they are used therapeutically.

415) Course Title: Soil and Water Chemistry
Faculty:Nandini Padhi

Course Objective:

- To provide holistic knowledge on fish and shellfish pathogens and their control measures

416) Course Title: Information and Communication Technology
Faculty:Nandini Padhi

Course Objective:

- λTo learn the basic principles of general toxicology, branches of toxicology, classification of poison and diagnosis of poisoning.λTo learn toxicokinetics, toxicodynamics, systemic toxicology and different types of toxins: phytotoxins, mycotoxins, bacterial toxins.

"417) Course Title: Aquatic Ecology, Biodiversity and Disaster Management
Faculty:Nandini Padhi

Course Objective:

- To learn various biotechnological applications for enhancing production through sustainable eco-friendly culture.

418) Course Title: Aquatic Mammals, Reptiles and Amphibians
Faculty:Nandini Padhi

Course Objective:

- λ 1. Identify the fundamental principles of pharmacokinetics and pharmacodynamics.λ2. Compare and contrast the specific pharmacology of the major classes of drugs, important distinctions among members of each class, the risks and benefits, in relation to the organ systems they affect, and the diseases for which they are used therapeutically.

419) Course Title: Coastal Aquaculture and Mariculture
Faculty:Nandini Padhi

Course Objective:

- To provide overall knowledge of seed production and hatchery management of commercially important cultivable crustaceans and molluscs.

420) Course Title: Energy storage materials
Faculty:Dr. Satyanarayan Dhal

Course Objective:

- To learn the basic aspects of successful farm designing for effective management and optimum yield

421) Course Title: Bio and Biomimetic Nanomaterials
Faculty:Dr Subhraja Panda

Course Objective:

- To know the chemistry and composition of water.
- To know the concept of physical and chemical properties of soil and water.

422) Course Title: Advanced characterization techniques
Faculty:Dr. Tapan Dash

Course Objective:

- To know about uses of computer and modern software.
- Its importance in various sectors of aquaculture.

423) Course Title: Smart electronic materials
Faculty:Dr. Nilaya Kumar Mohanty
Course Objective:

- To know the brief amount of component of aquatic system.
- To know the animal association and their environment.
- To know Disaster management in Fisheries-Basic concept.

424) Course Title: Corrosion and advanced coating applications
Faculty:Dr Prasanta Kumar Rath
Course Objective:

- Identification and distribution characteristic of different aquatic mammals, reptiles.
- Biology of those species and how they are relevant to Indian fisheries.

425) Course Title: Synthesis and application of nano composites
Faculty:Dr. Srikanta Moharana

Course Objective:

- Status of sea-farming and overview of coastal resources.
- Shore based aquaculture and sea farming in India.
- Importance of marine cultivable species and plant.

426) Course Title: Material behavior of nanostructures
Faculty:Dr Soubhagyalaxmi Behera

Course Objective:

- This course will educate the students the concepts and operation of accessible energy storage systems, significance of energy storage in current scenario, reason and transfer of efficiency losses in different energy storage systems.
- This course is to designed to help the students to provide adequate knowledge regarding nanomaterials in fuel cells, hydrogen Storage, thermoelectric materials (in nano scale), supercapacitors.
- The students will also learn various types of batteries used in modern technology and the intercalation of nanomaterials inside them.

427) Course Title: Emerging materials
Faculty:Dr. Santosh Kumar Satpathy
Course Objective:

- Gain knowledge about biomaterials, their properties, behavior, interaction and use of them over in pharmaceutical science.
- The emphasis of course is to understand the physics of biomaterials in detail and to explore the wide application.

428) Course Title: Synthesis routes of nanomaterials
Faculty:Dr Soubhagyalaxmi Behera

Course Objective:

- The objective of the subject is that the student acquires knowledge of the different existing experimental techniques for the microstructural and physicochemical characterizations of materials.
- Students gain knowledge about the principles of various techniques.

429) Course Title: Computational materials science
Faculty:Dr. Subrata Sarangi
Course Objective:

- To acquaint with various kinds of smart materials for device application
- To have the knowledge about the different types of structure of the materials which affect their properties
- To understanding the theories behind electric and magnetic properties
- To use the nanotechnology in electronics
- Application of different kinds of materials

430) Course Title: Plasma technology
Faculty:Dr. Tapan Dash

Course Objective:

- To impart knowledge on surface coating and engineering of nanomaterials and their applications.
- Role of surface coating and surface modification technologies in obtaining required surface characteristics (mechanical, chemical, thermal, electrical, electronic, optical) of a product.
- Learn about different surface coating technologies (chemical vapour deposition, physical vapour deposition, electro-deposition, thermal spray, etc).
- Substrate technology and its significance in obtaining high performance coating. Various methods for evaluating the performance of the coating.

431) Course Title: Essentials of nanomaterials
Faculty:Dr. Prasanta Kumar Rath
Course Objective:
• To provide knowledge of the advantages of using different types of nanocomposites
• To make the students familiar with the mechanism of nanocomposites
• To make them aware the manufacturing and testing methods of nanocomposites
432) Course Title: Advanced quantum mechanics
Faculty:Dr Padmaja Patnaik

Course Objective:

- To understand the influence of dimensionality of the object at nanoscale on their properties;
- To study size and shape controlled synthesis of nanomaterials and their future applications in industry.
- To bring out the distinct properties like mechanical, magnetic, thermal, electronic, optical, and photonic properties of of nanostructures.

433) Course Title: Physics of solids and semiconductors
Faculty:Dr. Nibedita Nayak

Course Objective:

- Efficient to understand materials and materials properties
- Develop their confidence on self driven experimental materials research
- Able to work in research and industrial set up on material research
- understanding of materials behavior, or conceived, designed, and realized useful products and technology

434) Course Title: Laser technology
Faculty:Dr Padmaja Patnaik

Course Objective:

- To equip the students with the concepts of synthesis routes in nanoscience that he/she needs for understanding theoretical treatment in different courses taught in this class and for developing a strong background to pursue research in Nanotechnology as a career.
- This course is intended to cover the two groups of synthesis of nanostructures namely top-down and bottom-up approach various synthesis methods, including biological methods, advantages and disadvantages etc.

435) Course Title: Industrial chemicals
Faculty:Dr Dojalisa Sahu

Course Objective:

- Expose the students to the challenges in the analyses of materials and how to address those challenges
- Impart practice of developing Toy Models of Molecular Dynamics, Hartree Fock and Density Functional Theory in Python for small scale systems using various Pseudo-Potentials
- Hands-on training on open source tools in Molecular Dynamics (LAMMPS) and Hartree-Fock and Density Functional Theory (Quantum Espresso); Data Visualization Tools like OVITO and VMD

436) Course Title: Pharmcognosy and phytochemistry
Faculty:A Avinash
Course Objective:

- To explore the fourth state of matter, Plasma.
- To understand fundamental characteristics of plasma, various plasma generation methods, various applications of plasma technology in nanomaterial synthesis, energy production and storage, medicine/health care, etc.
- To acquire comprehensive knowledge of how plasmas are utilized for different types of materials processing specially in nanotechnology and developing advanced materials

437) Course Title: Polymer chemistry
Faculty:Dr. Sk Najmul Islam
Course Objective:

- Understand and use the properties of Nano-materials in diverse fields.
- Gain knowledge about the Nanomaterials, their properties, behavior, interaction and use of them over many discipline of science.
- The emphasis of the course is to understand the physics of Nanomaterials in detail and to explore the wide application.
- Highlights of the course is to provided virtual way of understanding the courses materials. Specially the application based approach.

438) Course Title: Packaging
Faculty:Bhisma Narayan Rath

Course Objective:

- Learn methods to solve Schrodinger's equation by WKB method, Variational method and perturbation method.
- Learn Practical application of these methods to real time problems
- Learn to apply these methods to solve several problems.

439) Course Title: Industrial pollution and its waste management
Faculty:Dr. Ashish Kumar Sarangi

Course Objective:

- To learn about crystal structure, electronic and dielectric properties of solids.
- To learn about basic properties of metals, insulators and semiconductors.
- To learn about semiconductor physics and discuss working & applications of basic devices.

440) Course Title: Toxicology
Faculty:Dr. Atia Arzoo
Course Objective:

- To acquire a thorough understanding of the theory of modern Laser Physics
- understand different types of modern lasers and their applications
- computationally verify material properties for Laser production and uses

441) Course Title: Biopolymer and hydrogel
Faculty:Dr Niladri Sarkar
Course Objective:

- To make the students well-grounded in the detail of chemicals and thorough knowledge of scientific techniques and the application of chemicals in market oriented and product oriented industry

442) Course Title: Nano-pharmaceuticals and biomedical science

Faculty:Dr. Srikanta Sahu

Course Objective:

The main purpose of subject is to impart the students the knowledge of how the secondary metabolites are produced in the crude drugs, how to isolate and identify and produce them industrially. Also this subject involves the study of producing the plants and phytochemicals through plant tissue culture, drug interactions and basic principles of traditional system of medicine

443) Course Title: Synthetic organic chemistry

Faculty:Mr. Rajguru Rajesh Raman Mishra

Course Objective:

• To understand the importance of the chemical approach to polymers and the subject provides an introduction to polymer science with respect to synthesis, polymerization kinetics and network formation/gelation of macromolecules formed by step-growth and chain-growth polymerization.

• To Study the, methods of measuring the molecular weight, polymerization kinetics and Copolymerization and polymer processing technologies.

• To understand about radical and ionic polymerization and techniques of polymer analysis

• To study mechanical properties and applications of polymers

444) Course Title: Energy storage system

Faculty:Dr. Narayan Gouda

Course Objective:

- To deliver the packaging requirements as per different international guidelines such as labeling, packaging material requirements; altogether it will improve the employability of the students.

445) Course Title: Sustainable chemistry

Faculty:Dr Rosy Mallik

Course Objective:

- To create the knowledge among students with respect to the subject and it's possible applicability.
- To encourage understanding of basic and advanced concepts in Industrial pollution aspects and waste water treatment technologies.
- To expose the students for different processes used in industries and in research field.
- To grow skills required in various industries, research labs and in the field of human health.
- To develop the students to accept the challenges in industrial sectors.

446) Course Title: Analytical techniques
Faculty:Dr. Narayan Gouda

Course Objective:

- To give students knowledge and skill that allow an overall assessment of the fate of foreign chemicals in the environment and of their effects on different biological organization levels.
- To develop a conceptual framework to identify toxins and its remedies.

447) Course Title: Herbal Cosmetic Technology
Faculty:Dr G V Ramana
Course Objective:

- To introduce students to various classes of biomaterials
- To develop understanding regarding the characteristics of the materials to be used as biomaterials
- To develop the understanding regarding the various applications of biomaterials.

448) Course Title: Plant Physiology and Metabolism
Faculty:Dr. Shantanu Bhattacharyya

- Course Objective:
- To obtain an hands-on experience in converting a small novel idea / technique into a working model / prototype involving multi-disciplinary skills and / or knowledge and working in at team.

449) Course Title: Good Manufacturing Practices-Herbal Industry
Faculty:Dr G V Ramana
Course Objective:

- To understand various reagents and rearrangements and their mechanism involved in various reactions.
- To understand and explain the stereochemical aspects of organic compounds and stereoselective reactions
- To understand how to design complex molecules by retrosynthetic methods

450) Course Title: Developmental Biology and Phytotomy
Faculty:Dr. Sagarika Parida

Course Objective:

- To provide a foundation for understanding the general principles and fundamentals of Li-Ion battery technology design and operation.
- To understand the expectancy of the hydrogen as a fuel and energy vector in the context of the renewable energy without CO_2.
- To learn basic electrochemical principles of the hydrogen fuel cells, basic fuel cell design concepts, fuel cell systems concepts.

451) Course Title: Systematics and Diversity Of Plants
Faculty:Dr. Gyanranjan Mahalik

Course Objective:

- To learn the fundamental philosophy and the latest developments in sustainable chemistry.
- To understand why solvent replacements are being sought.
- To familiarize with different green reaction alternatives of conventional reaction procedures with real world applications.
- To understand how waste biomass can be converted to wealth.
- To understand importance of recycling and its application in circular economy

452) Course Title: Advanced Separation Technologies and Downstream Processing
Faculty:Dr G V Ramana

Course Objective:

- To reinforce chemical principles central to analytical chemistry.
- To introduce instrumental techniques for chemical measurement.
- To develop critical thinking for interpreting analytical data.
- To select instrumentation appropriate to the measurement need.
- To gain an insight into the key methodologies used

453) Course Title: Biochemistry and Enzyme Technology
Faculty:Dr. Shantanu Bhattacharyya

Course Objective:

- This is a skill course which will help students in preparation of cosmetic products.
- This course will elucidate the formulations in detail such that can innovate new products of similar health care objectives.

454) Course Title: Advances In Plant Ecology
Faculty:Kalpita Bhatta
Course Objective:

- To Know and understand the concept of Ecology
- Describe bio geochemistry, energy flow, biodiversity and their response to climate change.
- Develop a broad range of knowledge about biological activity of toxic substance.
- Students will gain an overview of contemporary pollution issues.
- Students will gain competency to understand the conservation biology.

455) Course Title: Computational Biology
Faculty:Dr. Jyoti Prakash Rath
Course Objective:

- Introduce students to the field of computational biology. To make them realize the importance of insilico databases and computational tools to understand biology in a better way.

456) Course Title: Microbiology
Faculty:Dr Pratibha Rani Deep
Course Objective:

- To know various Culture media and their applications and also understand various physical and chemical means of sterilization .
- Master aseptic techniques and be able to perform routine culture handling tasks safely and effectively.

- To know the various Physical and Chemical growth requirements of microbes and get equipped with various methods of microbes culture techniques and their role in various industry.

457) Course Title: Cell and Molecular Biology
Faculty:Gagan Kumar Panigrahi
Course Objective:

- By the end of the course, learners should have a knowledge of:
  ● The cell biology of all major groups of organisms, including microorganisms, plants and animals
  ● How genome organisation differs in the major groups of organisms
  ● The complex interactions between nucleus and cytoplasm that determine how cells function
  ● Basic concepts of how cells become specialised into different types in complex organisms
  ● How the cytoskeleton is organised and its role in cellular function

458) Course Title: Bioanalytical Techniques
Faculty:Dr Sitaram Swain
Course Objective:

•This course is introduced to bridge the gap between academics, research and industry. This course begins with a review of basic bio analytical technique and an introduction to general terminologies.
•This course contains bio analytical techniques along with their theory, working principal, common instrumentation and possible applications. This course will be equally beneficial to various scientific areas.
•Students will be exposed to various biological techniques and their applications in identification, isolation of different biological molecules.

459) Course Title: Plant Biotechnology
Faculty:Dr Rukmini Mishra
Course Objective:

- To understand the basics principles of plant sciences and molecular biology and their integration towards trait improvement in plants.

•To have a thorough knowledge of laboratory techniques used in plant biotechnology.
•To understand the industrial applications of biotechnology in developing new products.
•To undertake research in plant biotechnology.

460) Course Title: Plant Breeding and Genetics
Faculty:BHAGYESWARI BEHERA
Course Objective:

- This course examines the application of genetic principles to plant improvement.
  • Topics include breeding objectives, mating systems, selection, testing and germplasm maintenance of horticultural and crop plants.

461) Course Title: Plant Genomics
Faculty:Dr Rukmini Mishra
Course Objective:

- Deciphering the genetic makeup and protein population in an organism are among the elementary approaches in biological sciences.
  •To provide an understanding in genomics and proteomics and, the different approaches and techniques employed in these fundamental fields of study.

462) Course Title: Advanced aquaculture
Faculty:Mr. Debashish Tripathy
Course Objective*:*

- The goal of the Aquaculture Biology specialization is to give a theoretical basis and practical experience for understanding the biological principles in aquatic food production.
- The specialization is intended to give a solid background for students who wish to work in aquaculture or related industries, or to pursue further research.

463) Course Title: Water and soil quality management in aquaculture
Faculty:PANKAJ MEHER

Course Objective:

- To learn effective soil and water quality management practices which is important for any aquaculture endeavours .

464) Course Title: Fish and shell fish nutrition
Faculty:Mrs. Sunita Mishra

Course Objective:

- To learn basic concepts of feed formulation
- To learn about different feed processing techniques

465) Course Title: Fish and shell fish health management
Faculty:Gagan Kumar Panigrahi
Course Objective:

- To provide holistic knowledge on fish and shellfish pathogens and their control measures.
  • To undertake surveillance of existing and emerging fish and shellfish diseases.
  • To develop improved diagnostic techniques for the detection of existing and emerging fish and shellfish diseases.
  • To develop prophylactic and therapeutic measures including herbal remedies with nutraceutical and immunostimulant formulations for the control of fish and shellfish diseases and study the pharmacodynamics and pharmacokinetics of select formulations.

466) Course Title: Anatomy and biology of fish and shell fish
Faculty:Dr Siba Prasad Parida
Course Objective:

- Introduces students to an integrated approach to fish biology, including anatomy, morphology, physiology, ecology and behavior.
  • Students will study how fishes interact with their environment and the wide range of biological adaptations they have evolved to live in a remarkably diverse range of habitats.

467) Course Title: Coastal aquaculture
Faculty:Debashish Tripathy
Course Objective:
To gain knowledge in establishing and managing different fish/shellfish farming systems in coastal waters.

468) Course Title: Fish processing and value addition
Faculty:Dr Siba Prasad Parida
Course Objective:

- To impart skill-based training to the students on different aspects of fish processing technologies related to production of value added quality fish products and their preservation

469) Course Title: Ornamental aquaculture
Faculty:Dr Sambid swain

Course Objective:

- To impart knowledge on ornamental fish production, bait fish culture and aquatic ornamental plant propagation.
- Production of ornamental fish for aesthetic appeal and financial enhancement.
- The specialization is intended to give a solid background for students who wish to work in aquaculture or related industries, or to pursue further research.

470) Course Title: Animal physiology and biochemistry
Faculty:Mr. Pankaj Meher

Course Objective:

- To know the functioning of various organs and their inter relationship.
- To inform about various metabolic processes upto molecular level .
- To facilitate students about applications in medicine, drugs and research

471) Course Title: Immunology and cancer biology

Faculty:Dr Sitaram Swain

Course Objective:

- The primary objective of this course is to help students develop knowledge and skills related to health and disease and role of immune system.students are taught immunology so as to develop understanding of the subject, such as functioning the immune system, the molecular and cellular components and pathways that protect an organism from infectious agents.
  •The common cellular and molecular mechanisms that are deregulated in cancerous cells and their contribution to the development of cancer.
  •Role of gene mutation and environmental factors in the development of cancer.

472) Course Title: Animal biotechnology

Faculty:Dr Sujit Kumar Mishra

Course Objective:

- To make the student understand the tools and techniques required for the animal cell cultures, assisted reproductive technology, development of transgenic animals, and development of animal models

473) Course Title: Animal breeding

Faculty:Mr. Pradeep Kumar Prusty

Course Objective:

- To educate about the concept of conservation of Animal Genetic Resources and their sustainable utilization.
- To educate about the concept of cattle and buffalo breeding.
- To educate about the small farm animal breeding concepts.
- To impart knowledge about the latest tools and techniques of animal genetics and their uses in animal sciences.
- To acquaint with recent trends in animal breeding and designing of need-based breeding strategies.

474) Course Title: Genetics and epigenetics

Faculty:Dr Yashaswi Nayak

Course Objective:

- Be able to explain and provide examples of how continuous traits are “quantitative traits” and that phenotypic variation may be due to genetic variation within a population and/or environmental variation experienced by individuals within a population.
- To explain the polygenic theory of genetic variance and the nature of additive alleles, and the assumptions that accompany these ideas and also able to provide competing hypotheses that explain a distribution data set of phenotypes.
- To discuss epigenetics and its role in cancer, imprinting and X chromosome inactivation.
- To describe the modifications/mechanisms of DNA marks that result in epigenetic changes and also to discuss the role of epigenetics in environmental exposures.

475) Course Title: Phycology and Microbiology
Faculty:Dr. Pratibha Rani Deep

Course Objective:

- The course has been developed to provide the students basic knowledge about viruses, viroids, Prions, bacteria and algae.

- The students will explore the living world which is not visible to naked eye.

- The students will learn about how molecular entities like viruses have been used or can be exploited in future in the production of vaccines and medicines, disease diagnosis and in research

476) Course Title: Biomolecules & Cell biology
Faculty:Dr. Shantanu Bhattacharyya
Course Objective:

- Students will be able to
  •Understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.
  •Exploration of different types of biomolecules and the importance in cellular composition..

477) Course Title: Mycology & Phytopathology
Faculty:Dr. Pratibha Rani Deep

- Course Objective:

- Understanding the principles of plant pathology and the application of principles in the control of plant disease.

- To understand of how human as well plant life is highly dependent upon the microbes present in environment.

- Gain knowledge on Fungi, their structure and function, their effect on living world, economic importance etc.

478) Course Title: Archegoniate
Faculty:Dr. Shantanu Bhattacharyya
Course Objective:

- To know the principles of Archegoniate taxonomy.
- To know economic importance of archegoniate.

Studying the archegoniate phylogeny.

479) Course Title: Anatomy of Angiosperms
Faculty:Dr. Sagarika Parida
Course Objective:

- To know the principles of Archegoniate taxonomy.
- To know economic importance of archegoniate.
- Studying the archegoniate phylogeny.

480) Course Title: Economic Botany
Faculty:Kalpita Bhatta

Course Objective:

- Investigate utilization of crop plants.
  •Study of origin, distribution, botanical description, brief idea of cultivation and economic uses of cereals, pulses, beverages, natural fibers and medicinal plants
  •Gain knowledge about the taxonomic diversity of important families of useful plants
  •Is able to map and recognize geographical, historical and cultural contributions of economically important plants
  •Understanding of the roles of potentially important plant and plant products to the development of human culture

481) Course Title: Basics of Genetics
Faculty:Srimay pradhan
Course Objective:

- The basic principles of inheritance at the molecular, cellular and organism levels.
  • Describe the mechanisms governing Mendelian inheritance, gene interactions and gene expression.
  • Apply principles of genetics to real-world problems in biology.

482) Course Title: Molecular Biology
Faculty:Bhagyeswari Behera
Course Objective:

- Molecular biology deals with nucleic acids and proteins and how these molecules interact within the cell to promote proper growth, division, and development
  • This course will emphasize the molecular mechanisms of DNA replication, repair, protein synthesis etc.

483) Course Title: Plant Ecology and Phytogeography
Faculty:Srimay pradhan
Course Objective:

- This course will provide to understand the major factors influencing the geographic distribution of species.
  • Be able to understand the ecological context in which a particular species may have evolved, or a specific ecological process takes place.

484) Course Title: Plant Systematics
Faculty:Dr. Gyanranjan Mahalik

Course Objective:

- The major features and evolutionary origins of vascular plants •Identification of plants using dichotomous keys •The major features and evolutionary origins of vascular plants •Collect, preserve and identify herbarium specimens in a phylogenetic context

485) Course Title: Reproductive Biology of Angiosperm
Faculty:Dr. Pratibha Rani Deep

- Course Objective: To study the development of the different parts of the flower, and how these regions further develop to form the fruit with its seeds.
- To observe some of the variation in different parts of sample fruits, and relate these modifications to changes in function.

486) Course Title: Plant Physiology
Faculty:Dr. Sagarika Parida
Course Objective:

- Describe how physiological processes scale up from the functioning of complex structures such as stems, roots and leaves to whole plants and plant communities • Our objective is to provide training in scientific and transferable skills through modular lecture courses, research projects, written work, seminars and supervisions.

487) Course Title: Plant Metabolism
Faculty:Dr. Shantanu Bhattacharyya
Course Objective:

- Explain the purposes of and relationship between photosynthesis and respiration in plants.
- Explain the significance of plant mass gain and loss to larger-scale ecosystem processes, such as the global carbon cycle.
- Describe the sources and sinks involved in the acquisition and utilization of carbon in plant systems..

488) Course Title: Plant Biotechnology
Faculty:Dr. Shantanu Bhattacharyya
Course Objective:

- To understand the basics principles of plant sciences and molecular biology and their integration towards trait improvement in plants.
- To have a thorough knowledge of laboratory techniques used in plant biotechnology.

- To understand the industrial applications of biotechnology in developing new products.
- To undertake research in plant biotechnology.

489) Course Title: Atomic Structure and Chemical bonding-I
Faculty:Dr. Shraban Kumar Sahoo
Course Objective: To study and compare between various theories of atomic structure.
• To know the most common structure and hybridization observed for different compounds.
• To use periodic trend to understand the chemistry of alkali metals, alkaline earth metals, halogens, transition as well as inner transition elements.

490) Course Title: States of matter and ionic equilibrium
Faculty:Dr. Shraban Kumar Sahoo
Course Objective:

- To develop basic and advance concepts regarding the three states of matter.
- To derive the expressions for determining the physical properties of gases, liquids and solids.

491) Course Title: Basics and Hydrocarbons
Faculty:Dr S.K. Biswal

Course Objective:

- The general concept of this course is to train students the fundamental laboratory skill extraction, purification and separation techniques with some simple organic preparations.
- This helps students to gain experience to predict the functional group transformations,simple reaction mechanisms, and the synthesis of organic molecules by multi-step synthesis strategies

492) Course Title: Chemical Thermodynamics and its application
Faculty:Dr. Niladri Sarkar

Course Objective:

- The Course covers the fundamentals laws of Thermodynamics and its related Phenomena
- To understand the applicability of chemical thermodynamics in various industrial processes as well as day to day life incidents.
- To understand the conceptual basis of thermodynamic scale of temperature as standard scale
- To understand the concept of chemical equilibrium in attaining high products by controlling various factors.
- To understand the concept of ideal and non-ideal solution along with various colligative properties.
- To practice various thermochemical experiments

493) Course Title: S- and P-block elements
Faculty:Dr. Aditya Kumar Purohit

Course Objective:

- To identify the common physical properties of metals and non- metals and explain how their uses relate to these properties.
- To explore in depth specialized areas of chemistry of materials, including ores, metals, acids and bases and to understand how metals are extracted from their ores.
- To understand the trends in properties and reactivity of the s, p-block elements and noble gases.
- To become familiar with some of the roles of inorganic polymer and its applications in day to day life.

494) Course Title: Oxygen Containing Functional Groups
Faculty:Dr Anupam Sahoo

Course Objective:

- The aim of this course to introduce basic practical skills to synthesize organic molecules containing functional groups like alcohols, acids, acid derivatives, carbonyl compounds, ethers, etc.
- In addition to that, the course will also help students to understand the reaction mechanism subjects in the later stages of their study.

495) Course Title: Phase Equilibria & Chemical Kinetics
Faculty:Dr. Sk Najmul Islam
Course Objective:

- The course gives idea about the different phases of matter and their equilibria from which the stability and sustainability can be easily predicted
  • Deals with kinetics study of different processes and surface phenomenon like adsorption, chemisorptions etc.

496) Course Title: Coordination Chemistry
Faculty:Dr Dojalisa Sahu

- Course Objective: To Know the basic of coordination chemistry, bio-inorganic chemistry and aimed at advanced knowledge in the field of industrial chemistry
- To be able to describe the stability of metal complexes by the use of formation constants and to calculate thermodynamic parameters from them
- To able to know the bonding and structure of coordination compounds and their applications

497) Course Title: Heterocyclic Chemistry
Faculty:Dr. Rosy Mallik

Course Objective:

- To introduce students to Nitrogen containing functional groups and their application in organic conversions and related mechanisms.
- Students are also expected to learn about structure, synthesis, reactivity of important heterocyclic compounds and polycyclic aromatic hydrocarbons.
- To familiarize students about different classes of N-based naturally occurring important alkaloid and terpenoid compounds, their structures, synthesis and reactivity.

498) Course Title: Electrochemistry
Faculty:Dr Pratap Chhotray

Course Objective:

- To Know the basic of ions, electrolyte, movement of ions, electrochemistry
- To know how the ionic movements are related to different other fields such as thermodynamics.
- Also, this course will help students to garner basic knowledge on novel energy storage devices

499) Course Title: Biomolecules
Faculty:Dr Srikant Sahu
Course Objective:

- To Know the basic of Bio-Organic chemistry and its application in industry

• This course gives idea about the structure of different bases of nucleic acid, DNA and RNA.
• Number of amino acids, there functions and the peptide bond that connect di, tri and polypeptides.
• To study about proteins, lipid and carbohydrates

500) Course Title: Quantum Chemistry & Spectroscopy
Faculty:Dr. Ashish Kumar Sahoo
Course Objective:

- To impart knowledge about quantum mechanical principles and understanding as well as predicting different microscopic phenomena.
- To understand the covalent nature of bonding and their theoretical background and correlation to practical aspects.
- To have a sound understanding of different spectroscopic techniques and photochemistry.

-

501) Course Title: Organometallic chemistry
Faculty:Dr. Arun Kumar Pradhan

- Course Objective: The main focus of this course is on the synthesis, structure, bonding, properties and reactivity of organometallic compounds such as: metal carbonyls, hydrocarbon, and carbocyclic based molecules.
- This course also covers, 18-electron rule (Saturation and Unsaturation), Organometallic reaction (substitution, oxidative-addition, reductive elimination, insertion and de-insertion, and isomerization).

502) Course Title: Spectroscopy
Faculty:Mr. Chittaranjan Routray

Course Objective:

- To learn proper sample handling procedures for acquiring different spectral techniques.
- To determine the percentage composition of a liquid sample mixture by the application of Beer's law.
- Recognize and draw particular carbohydrate structures
- Know general structural elements of cyclic monosaccharides and disaccharides, and their implications for structure/function
- To train the students for identification of unknown compounds

- To train the students to synthesize various dyes

503) Course Title: Mathematical Physics-1
Faculty:Mrs.Truptimayee Behera
Course Objective:
1. To introduce the students to understand the physical meaning of different mathematical methods
2. The emphasis of course is on applications in solving problems of interest to physicists.
3. Highlights the use of computational methods to solve physical problems

504) Course Title: Mechanics
Faculty:Mr. Gouri Kumar Sahu
Course Objective:

- This course would empower the student to acquire skills and practical knowledge, which help the student in their everyday life.
- This syllabus will cater the basic requirements for their higher studies.
- This course will provide a theoretical basis for doing experiments in related areas.
- This is an introductory course for undergraduate science students.

505) Course Title: Thermal Physics
Faculty:Dr Tapan Dash

Course Objective:

- To acquire working knowledge of the zeroth, first and second law of thermodynamics.
- To apply the laws of thermodynamics and its application to understand thermo dynamical behavior.
- To link thermodynamics to the micro description used in Classical Statistical Mechanics.

506) Course Title: Waves and optics
Faculty:Dr Soubhagyalaxmi Behera

Course Objective:

- To aware the students about the various phenomena of waves and optics.
- To solve many types of problems involving wave motion.
- To understand the phenomenon like Interference, Diffraction through practice mode.

507) Course Title: Mathematical Physics II
Faculty:Mr. Gyanendra Kumar MIshra
Course Objective:
• Fourier series and its application to the solution of partial differential equations.
• Study of Second order linear differential equations and their importance
• Introduce the concepts of Laplace equation, its application, basic statistical data analysis and curve fitting.

508) Course Title: Electricity and Magnetism
Faculty:Dr. Santosh Kumar Satpathy
Course Objective:

- Study the electric and magnetic fields in detail.
- Study and explore the dielectric properties of matter.
- Study the relation between electric and magnetic fields.

509) Course Title: Analog system and Applications
Faculty:Mrs.Truptimayee Behera
Course Objective:

510) Course Title: Mathematical Physics III
Faculty:Dr. Pratibha Tripathi

Course Objective:

- The main objective of this course is to familiarize students with a range of mathematical methods that are essential for solving advanced problems in theoretical physics.
- The laws of physics are often expressed through the relatively complex mathematical apparatus.

- This course is intended to give mathematical tools necessary for a better understanding of the later courses in physics such as classical electrodynamics, quantum mechanics, solid-state physics, and statistical physics.

511) Course Title: Elements of Modern Physics
Faculty:Dr. Satyanarayan Dhal

Course Objective:

- This course covers certain conceptual courses of physics by virtue of which the students will be able to understand some concepts of Quantum Mechanics, Atomic Physics and Nuclear Physics.
- It also imparts the basic principles of Quantum mechanics, Schrodinger equation and its applications
- To introduce students to the fundamentals of atomic physics and nuclear physics.
- To introduce them to the basic Laser principles and Properties.

512) Course Title: Digital systems and Applications
Faculty:Mr. T Jaganatha patro

Course Objective:

- To make the student understand the digital system.
- To understand the Boolean algebra and data processing circuit.
- Knowing computer architecture.
- Understanding the arithmetic and sequential circuit and microprocessors

513) Course Title: Quantum Mechanics & Applications
Faculty:Dr Subrata Sarangi
Course Objective:

- This course aims to

- Train the B.Sc. (Physics Honours) students with an understanding of the basic concepts of Quantum Mechanics and its mathematical frame work to describe the systems of microscopic objects (like atoms, molecules) and their properties
- Illustrate, in detail, the procedure of solving the 1D and 3D Schrodinger equations for microscopic systems interacting with time independent Central Potentials.
- Offer hands-on simulation experience of obtaining numerical solutions of Schrodinger Equation for various use-cases along with visualization of the solutions through Python
- Illustrate some present day and some futuristic applications of Quantum Mechanics like Tunnel Diodes, Scanning Tunneling Microscopy, Bose-Einstein Condensation, Quantum Computers etc.

514) Course Title: Solid State Physics
Faculty:Dr Soubhagyalaxmi Behera
Course Objective:

- Basic understanding of symmetry, electronic and thermodynamic properties of solid state systems and their technological applications.

- To impart knowledge of basic theories of the electronic structure of materials.
- Students should learn how to understand physical behavior of solids and electronic devices.

515) Course Title: Electromagnetic Theory
Faculty:Mrs. Meena Kumari Sahu

Course Objective:

- To provide the basic skills required to understand, develop, and design various engineering applications involving electromagnetic fields.
- To lay the foundations of electromagnetism and its practice in modern communications such as wireless, guided wave principles such as fiber optics and electronic electromagnetic structures.
- To understand the transverse nature of light.

516) Course Title: Statistical Mechanics
Faculty:Dr Nibedita Nayak

Course Objective:

- To relate the microscopic properties of individual atoms and molecules to the macroscopic or bulk properties of materials.
- To explore the different types of distribution functions in order to explain the behaviour of the particles.
- To study of quantum theory of radiation and explain black body radiations with help of the various theories and models.
- To explain the thermodynamic behaviour of the atoms and molecules

517) Course Title: Non Chordates-I
Faculty:Dr Yashaswi Nayak

Course Objective:

- To have in depth knowledge about invertebrates of different phyla.
- To understand the taxonomic position of Protozoa to Helminthes.
- To understand the body organization and general characteristics of animals belonging to different phylums ranging from unicellular to multicellular animals

518) Course Title: Non Chordates-II
Faculty:Dr Yashaswi Nayak

Course Objective:

- To have in depth knowledge about invertebrates of different phyla.
- To understand the taxonomic position of Annelida to Echinodermata.
- To understand the body organization and general characteristics of animals belonging to different phylums .

519) Course Title: Principles of Ecology
Faculty:Mr. Pradeep Kumar Prusty
Course Objective:

- To Obtain knowledge about the Ecosystem and their functioning, so that they will be crusader of environmental sustainability
  - To convey the principles of ecology
  - To Provide examples from ecological studies
  - To Illustrate the application of ecological principles to the management of ecosystems

520) Course Title: Cell Biology
Faculty:Mr. Gagan Kumar Panigrahi
Course Objective: Determine the parts of the cell membrane and the cell wall
- Distinguish the types and mechanism of mutation
- Compare and contrast the events of cell cycle and its regulation
- Understand the dynamic character of cellular organelles

521) Course Title: Diversity of Chordates
Faculty:Mrs. Sunita Mishra

Course Objective:

- To understand students about aware of higher organisms and their taxonomy to correlate the evolutionary trend in organisms.
- To make students to identify the diversification of species of chordate world

522) Course Title: Physiology - Controlling and Coordinating system
Faculty:Debashish Tripathy

Course Objective:

- *To obtain Knowledge about the functioning of various system of organisms and their interrelationship for well-coordinated function.*

523) Course Title: Fundamentals of Biochemistry
Faculty:Mr. Pankaj Meher
Course Objective:

- This course will make students to know about the biochemical features in organisms and self.

524) Course Title: Comparative Anatomy of Vertebrates
Faculty:Dr Siba Prasad Parida

Course Objective:

- To make a comparative study of the anatomy of an organ in different groups of vertebrates
  • To derive the evolutionary significance from it
  • Tto understand as to why an organ evolved the way it is present now.

525) Course Title: Physiology- Life sustaining system
Faculty:Dr Yashaswi Nayak

Course Objective:

- To know about the structural organisation and functioning of various organs and their inter relationship.
- To understand about the various metabolic processes and and their inter relationship with organ systems.

526) Course Title: Biochemistry of Metabolic processes
Faculty:Sunita Satapathy

Course Objective:

- To know the functioning of various organs and their inter relationship.
- To make students to know about the various metabolic processes

527) Course Title: Molecular Biology
Faculty:Gagan Kumar Panigrahi
Course Objective:

- This course covers the structure function, and makeup of the molecular building blocks of prokaryotic and eukaryotic organisms.
  • It focuses on the interactions and interrelationship of DNA, RNA and protein synthesis and how these interactions are regulated.

528) Course Title: Principles of Genetics
Faculty:Dr Sitaram Swain
Course Objective:
1.Genetics is offered as a core course that provides fundamental knowledge of inheritance and evolution of the concept of gene with study of genetic diseases.
2.This course provides an overview of genetics starting from the work of Mendel to the current understanding of various phenomena like recombination, transposition, sex determination and mutations.
3.Describe the mechanisms governing Mendelian inheritance, gene interactions and gene expression.

529) Course Title: Developmental Biology
Faculty:Dr Yashaswi Nayak
Course Objective:

- The relationship between the internal structure, function, taxonomy, physiology, ecology and developmental genetics of the organism.
  • Evolutionary history and taxonomic variation of vascular plant anatomy.
  • They will understand the morphology and development of reproductive parts.

530) Course Title: Evolutionary Biology
Faculty:Dr Siba Prasad Parida

Course Objective:

• To provide comprehensive overview of Concept of Evolution.• To explain Origin of Life especially Prokaryotes as well as Eukaryotes in detail.
• To provide adequate information about Geological Time Scale
• To give detailed outline of Extinctions and its types.
• To impart descriptive knowledge regarding Origin and Evolution of Man.

531) Course Title: Calculus

Faculty:Dr. Goutam Kumar Mahato

Course Objective:

- To study how things change. It provides a framework for modeling systems in which there is change, and a way to deduce the predictions of such models.
- To construct a relatively simple quantitative models of change, and to deduce their consequences.

532) Course Title: Linear Algebra
Faculty:Dr.T.N.Samantara

Course Objective:

- This course unit aims to introduce the basic ideas and techniques of linear algebra for use in many other lecture courses.
- Solve systems of linear equations using various methods including Gaussian and Gauss Jordan elimination and inverse matrices.
- Proof of basic results in linear algebra using appropriate proof-writing techniques.

533) Course Title: Analysis-I
Faculty:Dr.Bhairaba Kumar Majhi

Course Objective:

- Analysis extends and refines calculus; it encompasses differentiation, integration, measure, limits, infinite series, and analytic functions, primarily in the context of real and complex number systems.
- In much of analysis, the emphasis is not on finding explicit solutions to specific problems, but rather on determining which problems can be solved and what general properties solutions may share

534) Course Title: Ordinary Differential Equations
Faculty:Mr. Sasi Bhusan Padhi

Course Objective:

- To understand most of the physical phenomena from Science and Engineering which are modeled by differential equations
- To develop the ability to apply differential equations to significant applied and/or theoretical problems.

535) Course Title: Analysis-II
Faculty:Dr.Bhairaba Kumar Majhi

Course Objective:

- To introduce Riemann integrable and Riemann sums
- To describe various theorems about Riemann sums and Riemann integrals and emphasize the proofs' development.
- To evaluate the definite integral, double integral and triple integral.

536) Course Title: Modern Algebra
Faculty:Dr. Swarnalata Jena

Course Objective:

- A major objective is to introduce students to the language and precision of modern algebra. This means that the course will be proof-based, in the sense that students will be expected to understand, construct, and write proofs.
- A challenge for all students of mathematics is to balance the understanding with the communication. There is a tendency to think you are finished once you see why a mathematical statement is true or false.

In fact you are just half-way there because constructing a legitimate proof involves different skills and expertise than the discovery part of the process. In this course both angles of problem-solving will be stressed.

537) Course Title: Partial Differential Equations and System of Ordinary Differential Equation
Faculty:Balaji Padhy
Course Objective:

- Introduce students to partial differential equations.
  • Introduce students to how to solve linear and non-linear Partial Differential Equations with different methods.
  • To practice heat and wave equations in 2D and 3D..

538) Course Title: Numerical Analysis
Faculty:Mr. Satyabrata Sadangi
Course Objective:

- To understand the limitations of analytical methods and the need for numerical methods and the ability to apply these numerical methods to obtain the approximate solutions to engineering and mathematical problems. Ability to decide and to derive appropriate numerical methods for approximating the solutions of various types of problems in engineering and science and analyze the error incumbent in any such numerical approximation. Ability to report analysis, solution and results in a standard engineering format.

539) Course Title: Advanced Analysis
Faculty:Mr. KaliPrasad Rath

Course Objective:

- To point out that iterative processes and convergence of sequences occur in many areas of mathematics, and to develop a general context in metric spaces.
- To provide a basic course in analysis.
- To reinforce ideas of proof

540) Course Title: Complex Analysis
Faculty:Mr. Sasi Bhusan Padhi

Course Objective:

- To understand the application of Complex Analysis to Two-Dimensional problems in Physics including Hydrodynamics and Thermodynamics and also in Engineering fields such as; Nuclear, Aerospace, Mechanical and Civil engineering, signal processing & communications.
- To acquire the skill of evaluating contour integrals using Cauchy's integral formula and Cauchy's integral theorem.

541) Course Title: INTEGRAL TRANSFORMATION
Faculty:Balaji Padhy
Course Objective:

- To describe the ideas of Fourier and Laplace Transforms and indicate their applications in the fields such as application of PDE, Digital Signal Processing, Image Processing, Theory of wave equations, Differential Equations and many others.
- To use Fourier series for solving boundary value problems appearing in scientific & engineering problems.

542) Course Title: Discrete Mathematical Structure
Faculty:Mr. Sasi Bhusan Padhi

Course Objective:

- To understand mathematical reasoning in order to read, comprehend and construct mathematical arguments as well as to solve problems, occurred in the development of programming languages.
- To work with different types of Sets, Lattices and Boolean Algebra.

543) Course Title: Linear Programming
Faculty:Dr. Mohammed Siddique

Course Objective:

- To introduce a brief understanding about Linear Programming Problems.
- To cater the characteristics of Linear Programming Problems and its Applications.
- To demonstration of the utilization of Linear Programming Problems in industry and business.

544) Course Title: Probability and Statistics
Faculty:Dr.Banitamani Mallik
Course Objective:

- To translate real-world problems into probability models.
  • To motivate students in an intrinsic interest in statistical thinking.
  • T o apply probability and statistics in engineering and science like disease modeling, climate prediction and computer networks etc.

545) Course Title: Heat and Mass Transfer
Faculty:Dr.Ashok Misra

Course Objective:

- To understand the basic concepts and mechanisms of heat and mass transfer under steady state and transient conditions.

546) Course Title: Numerical Methods for CFD
Faculty:Dr.Ashok Misra

Course Objective:

- To learn fundamentals of computational methods like FDM and FVM for solving linear and non-linear partial differential equations related to fluid dynamics and heat transfer.

547) Course Title: Fluid Dynamics
Faculty:Dr. Goutam Kumar Mahato
Course Objective:

- To introduce the foundations of fluid dynamics, various formulations of governing equations and their mathematical properties in order to establish a firm basis for other modules.

548) Course Title: Geometry and Grid Generation
Faculty:Dr.Ashok Misra

Course Objective:

- To introduce the concepts of grid generation required for Computational Fluid Dynamics applications providing hands-on experience using Simulia.

549) Course Title: Applications of CFD using Computational Tool-Simulia
Faculty:Dr.Ashok Misra

Course Objective:

- To produce a CFD simulation in order to generate an exact picture of a particular flow problem in various engineering fields.
- To apply for resolving different fluid flow related problems like flow velocity, density, temperature, and chemical concentrations for any area where flow is present.

550) Course Title: Advanced differential equations
Faculty:Mrs. Saubhagyalaxmi Singh
Course Objective:
1. Working with systems of ordinary differential equations and non-linear ordinary differential equations
is also stressed.
2. Developing and understanding and appreciation of the qualitative behavior of the solution
3. To introduce wave equations, Laplace equations, Heat equations, Diffusion equations.

551) Course Title: Graph Theory
Faculty:Dr.Bhairaba Kumar Majhi

Course Objective:

- *To introduce the students to graphs, their properties and their applications as models of networks.*
- To represent almost any physical situation involving discrete objects and a relationship among them.
- To introduce the students to generating functions and their applications.

552) Course Title: Optimization techniques
Faculty:Dr. Mohammed Siddique

Course Objective:

- To introduce a brief understanding about Non Linear Programming Problems.
- To cater the characteristics of Non Linear Programming Problems and its Applications.
- To demonstration of the utilization of Non Linear Programming Problems in industry and business.
- To apply the evolutionary optimization techniques in machine learning prediction model
- To solve the case study related to strategic management

553) Course Title: Advanced Statistical Methods
Faculty:Dr.Banitamani Mallik
Course Objective:

- Ability to summarize and present data numerically and visually.
  • Knowledge of which statistical methods to use in which situations
  • Ability to think critically about data-based claims and quantitative arguments
  • Ability to learn new statistical analysis techniques on your own

554) Course Title: Applied Number Theory
Faculty:Mr. KaliPrasad Rath

Course Objective:

- Analyze, evaluate, or solve problems with in given a set of circumstances or data.
- To understand and utilize mathematical functions and empirical principles and processes.
- Enhance and reinforce the student's understanding of concepts through the use of technology when appropriate.

555) Course Title: Advanced complex analysis
Faculty:Dr. Goutam Kumar Mahato
Course Objective:

- To understand the applications of Residue for evaluation of definite and improper integrals occurring in Real analysis and Applied mathematics.
- To know about special functions like Riemann zeta function which plays a pivotal role in analytic number theory and has applications in physics, probability theory, and applied statistics.

556) Course Title: Topology

Faculty:Mrs. Saubhagyalaxmi Singh

- Course objective:
  To introduce the student to elementary properties of topological spaces and structures defined on them
  • To introduce the student to maps between topological spaces
  • To develop the student's ability to handle abstract ideas of Mathematics and Mathematical proofs

557) Course Title: Differential Geometry
Faculty:Dr.T.N.Samantara

Course Objective:

- To study about different geometrical figure and their representation in mathematical equation
- To study about notations and operations of Tensor.

558) Course Title: Advanced Algebra
Faculty:Mr. Satyabrata Sadangi

Course Objective:

- A major objective is to introduce students to the language and precision of modern algebra. This means that the course will be proof-based, in the sense that students will be expected to understand, construct, and write proofs.
- A challenge for all students of mathematics is to balance the understanding with the communication. There is a tendency to think you are finished once you see why a mathematical statement is true or false.

559) Course Title: Apparel Production & Marketing
Faculty:Radha Gobinda Pradhan

Course Objective:

1.Understand the organization and structure of the global textile/apparel complex.

2.Develop textile/apparel products for specific target markets to meet expectations for cost and quality (materials, performance, and aesthetics).

3.Demonstrate effective leadership, teamwork, and communication skills.

4.Plan, develop, and present merchandise lines for identified market segments.

5.Understand the basic decision-making, production, and creative processes involved in the conversion of materials to finished textile/apparel products.

6.Complying to the industry specifications, guidelines and safety standards during work.

560) Course Title: Line stitching supervisor
Faculty:Madhusmita Maharana
Course Objective:

1.Integration about machines & their uses in garment industry.
2. Identify the processes of stitching, line balancing and process setting.
3. Analyse & articulate pattern, fabric cutting &sewing operation process of selected garment.
4. Recommended suitable functional stitch & seam construction for selected fabric types & garment style.
5. Understand about work area maintenance health & safety in garment industry.

561) Course Title: Apparel Production
Faculty:Madhusmita Moharana
Course Objective:

♣ To provide a comprehensive overview of the production process of garment manufacturing
♣ To understand the technique of mass production of ready-to-wear apparel and evaluation of their quality
♣ To develop the understanding of relationship of cost to quality of readymade garments
♣ To understand the preparation required for mass production of garments
♣ To understand the various assembly line options in garment manufacturing units

562) Course Title: Light Motor Vehicle Driving
Faculty:NO NAME ON COURSEWARE
Course Objective:
1. Plan and organize work processes, identify necessary materials and tools;
2. Perform task with due consideration to safety rules, accident prevention regulations and environmental protection stipulations;
3. Apply professional knowledge and soft skills& entrepreneurship while performing the task.
4. Check the job for accuracy, identify and rectify errors in job.

563) Course Title: Fork Lift Operation
Faculty:Jitendra Pramanik
Course Objective:

564) Course Title: Four Wheeler Service Technology
Faculty:A Avinash
Course Objective:

- Would be able to understand each individual parts working mechanism
- Able to find out the problems using fault diagnosis method or by scan tool
- Would be able to guide the technicians for standard operating procedures to resolve fault
- To empower the students through projects, internships leading to development of creativity, self-confidence and team spirit.
- To create the ambience with scope for developing communication and life skills so as to meet the needs of the society in the globalized environment
- Dismantles partially or completely defective unit or parts of vehicle such as engine, gear box, rear axle, front axle, steering assembly, radiator, etc. according to nature of repairs to be done, using hoist, jack, pullers, hand tools and other devices.

565) Course Title: E-Vehicle Assembly and Service Technology
Faculty:Dr P Anthony Sunny Dayal

Course Objective:

- This course introduces the fundamental concepts, principles, analysis and design of electric vehicles.
- Understand working of Electric Vehicles and recent trends.

566) Course Title: Robotics
Faculty:Gautam Modak
Course Objective:

- Now a days everything is getting automated so as our daily works also like our vehicle, our house hold electrical systems etc. So the ROBOT is also becoming our daily life partner. It helps in cleaning our houses, cooking our food, medical surgeries, guiding robots, fire extinguisher robot etc. So it is now latest technology to be learnt and implemented.

567) Course Title: CNC Programming (CAM)
Faculty:SUDEEP KUMAR SINGH

Course Objective:

- Evaluate manufacturing assignment based on critical thinking and problem solving skills. Become a good communicator and effective team member.
- Practice writing complex “G” code programs for CNC turning centers that meet the part specification
- Interpret and demonstrate complex “G” code programs for CNC milling centers that meet the part specification
- Prepare “G: code programs to perform secondary operations including tapping, countersinking, counter boring, and threading.
- Describe and illustrate common problems with tooling and fixtures in CNC programming and machining.

568) Course Title: Pottery

Faculty:Satish Mondal

Course Objective:

- To significantly increase the amount of quality contemporary ceramic artwork.
- To improve the quality and diversity of ceramic art facilities available to the general public.
- To create an economically and socially diverse community based around the joy and challenge of creating in clay

569) Course Title: Precast Concrete Manufacturing
Faculty:Sagarika Panda
Course Objective:
570) Course Title: Fabrication
Faculty:Dillip Mohanta
Course Objective:
1. Complying to the industry specifications, guidelines and safety standards during fabrication
2. Familiarization with the principles, materials, and tools required in the fabrication
3. Developing an end-to-end technical understanding

571) Course Title: Hi-Tech Surveying
Faculty:Monalisha Pani

Course Objective:

- To study the temporary adjustment of survey instruments by standard methods
- .• To Carry out the topographic surveys using Hi-Tech surveying instruments
- .• To provide basics of digital surveying and mapping of earth surface using GPS, DGPS & GPR.

572) Course Title: Internet of Things
Faculty:N Jeevaratnam

Course Objective:

- Understand the meaning of the Internet of Things and its importance.

- Examine future market opportunities that can be discovered by IoT.
- Study of wireless sensor network protocols.

573) Course Title: Mechatronics System Design
Faculty:Ansuman Nanda
Course Objective:
1. Understand key elements of Mechatronics system.
2. Understand principles of sensors, its characteristics, interfacing with controller.
3. Understand and develop the concept of PLC system and its ladder programming, and significance of PLC systems in industrial application.

574) Course Title: Plant/Drug Research using Biovia
Faculty:somalika pradhan
Course Objective: To know about the tools of discovery studio Biovia software
• Ligand-protein interaction
• Drug designing

575) Course Title: Drone Piloting
Faculty:D Rahul Rao
Course Objective:
1.To pursue the knowledge as a developing country to implement and improve the undesirable human tasks with the help of Drones (UAV).
2. To understand the future and present growing technology on UVA and drones in various technical fields.
3. Complying to the industry specifications, guidelines and safety standards during work
4. Technical Perspective of Drone in India, Technical Aspects of Drone , Experience of Drone Deployment In India.
5. To familiar them with some new electronic equipment and programmable device which will not only help them in Quadcopter but in also upcoming innovation.
6. To be a Drone Pilot.

576) Course Title: Camera Operation
Faculty:Ms. Chinu Bohidar

Course Objective:

- This course teaches the technical skills and creative principles required for single camera ('film style') video field shooting and production
- The student will gain experience in planning and shooting
- Entertainment- and/or information-based video projects
- The course will provide hands-on skills in audio, video recording technology, composition, lighting and production

577) Course Title: Editor
Faculty:Suchismita Nayak

Course Objective:

- Prepare for and make a movie using good movie making techniques
- Demonstrate understanding of the development process for making movies
- Apply knowledge of basic story boarding to prepare for a movie
- Use a video camera to capture video
- Upload digital video to a computer
- Apply knowledge of Movie as a video editing and movie making software
- Apply knowledge of Audacity to add and edit audio

578) Course Title: Desktop Publishing
Faculty:Saban Kumar Maharana

Course Objective:

- To demonstrate methods of traditional and digital publishing by using Adobe InDesign.
- To impart training on creating suitable, digital, interactive print publication.

- To design a variety of publications in print media - newspapers, book layout, feature pages, magazine covers, editorial spreads, newsletters etc.
- To deliver the foundations theories of design, page layout and their application in different formats.

579) Course Title: Medical Lab Technology
Faculty:Prof. Sunil Kumar Jha

Course Objective:

- Understanding the concept of Medical Laboratory Science
- Diagnosis of Disease
- Understanding Rules and Regulations for clinical laboratory
- Automentation technique in diagnostic division

580) Course Title: Operating Theatre Technology
Faculty:Dr. Soumya Jal

Course Objective:

- Apply the knowledge and skills of handling operation theatre room to provide safe and effective care to individual undergoing operational procedures.
- Demonstrate relative knowledge and understanding of vital parameters to be maintained during respective operations.
- Learn the utilization of numerous diagnostic equipment for example Ventilators, Monitors, Defibrillators, C- arm etc.

581) Course Title: Radiology Technology
Faculty:Prof. Sunil Kumar Jha
Course Objective:
1.Covers the practical application of radiography in the paramedical profession.

2.Includes principles of x-ray production, the operation and uses of x-ray machines, the care and development of films, and radiographic positioning of patients.
3.Prerequisites: Admission to the X-Ray Technology program.
4.Use an understanding of diagnostic quality images to determine options to correct deficiencies and to maximize diagnostic benefit and minimize radiation exposure based on repeated images.
5.Apply knowledge of the health risks and effective safety procedures and professional judgment to minimize risks to personnel and patients during radiographic procedures.

582) Course Title: Phlebotomy Technology
Faculty:Susmita Chakrabarty

1. Course Objective:
    1. Introduction to the healthcare system
    2. Collection of blood samples for various tests.
    3. Laboratory safety and standard precautions
    4. Collection of other samples for analysis.
    5. Preparation of blood smears.
    6. Sample transportation.
    7. Infection control.
    8. Biomedical waste disposal.

583) Course Title: First Aid Service
Faculty:Dr. Monali Priyadarsini Mishra

- Course Objective:
- TO PRESERVE LIFE .
- TO PREVENT THE WORESENING OF ONES MEDICAL CONDITION .
- TO PROMOTE RECOVERY .
- PROVIDE PSYCHOLOGICAL FIRST & INFECTION .
- MANAGEMENT OF BLEEDING & INFECTION .
- MANAGEMENT OF BLEEDING & INFECTION .
- MANAGEMENT REASSURE & MONITOR .
- MANAGEMENT OF CPR .
- MANAGEMENT SAFETY OF FIRST – AIDER

584) Course Title: General Duty Assistance Service

Faculty:Miss. Priyanka Priyadarshini Swain

Course Objective:

- Provides patient centered care and perform basic general duty assistance skills in a safe and competent environment.
  •Demonstrate basic personal care skills.
  •Perform within the ethical and legal boundaries of the scope of practice.
  •Understanding body mechanics.
  •Administering drugs as per prescriptions.
  •Disposal of medical waste

585) Course Title: X- ray Technology

Faculty:Rajesh Sukkala

Course Objective:

1.Covers the practical application of radiography in the paramedical profession.

2.Includes principles of x-ray production, the operation and uses of x-ray machines, the care and development of films, and radiographic positioning of patients.

3.Prerequisites: Admission to the X-Ray Technology program.

4.Use an understanding of diagnostic quality images to determine options to correct deficiencies and to maximize diagnostic benefit and minimize radiation exposure based on repeated images.

5.Apply knowledge of the health risks and effective safety procedures and professional judgment to minimize risks to personnel and patients during radiographic procedures.

586) Course Title: Retail Sales

Faculty:Parle Kalyan Chakravarthy

Course Objective:

- To describe the complex nature and environment of retail management together with the buying and selling of goods, services, and ideas to the final consumer.
- To identify the approaches to and guidelines used to analyse and solve retailers' problems and make decisions in retail organizations.

587) Course Title: Gym Instructor

Faculty:Debabrata Biswal
Course Objective:
1. Familiarization to the principles, equipment used in the gym
2. Develop an end-to-end technique during work out.
3. Understand the importance of the fitness in our day to day life

588) Course Title: Swimming
Faculty:Jasmine Parida
Course Objective:
1. Familiarization to the principles, equipment used in the gym
2. Develop an end-to-end technique during work out.
3. Understand the importance of the fitness in our day to day life

589) Course Title: Beauty and Wellness
Faculty:Laxmi priya Panda
Course Objective:

- To make Individuals expert in beauty treatment and wellness giving specialized service and product demonstrations to maximize business in a retail environment or may become an entrepreneur.

590) Course Title: Yoga & Meditation
Faculty:Kula Bhusan Pradhan
Course Objective:

591) Course Title: Solar PV Installation
Faculty:NIMAY CHANDRA GIRI & SMRUTI RANJAN NAYAK
Course Objective:

- The objectives of this subject are:
  • To develop and understanding sustainable development goals (SDGs) for our society
  • To develop and familiarization with the principles, technology, materials, and tools required for solar PV system
  • To develop an end-to-end technical understanding to execute solar PV installation and O&M
  • To comply the industry specifications, guidelines and safety standards during work

592) Course Title: Solar Lighting Technology
Faculty:Smruti Ranjan Nayak & Nimay Chandra Giri

Course Objective:

- Familiarization to the principles, materials, and tools required for solar lighting system
  • Develop an end-to-end technical understanding to execute solar lighting system
  • Concept about load calculation and installation of PV system
  • Complying to the industry specifications, guidelines and safety standards during work

593) Course Title: Solar PV Microgrid System
Faculty:Rama Prasanna Dalai & Nimay Chandra Giri

Course Objective:

- To learn the Rooftop solar sector in India
- To explain the structure of Microgrid system
- To outline division aspects and utilization of Microgrid system for both domestic and industrial applications

594) Course Title: Solar Thermal Engineering
Faculty:Debashree Debadatta Behera
Course Objective:

- To make the students understand the principles of types of Solar Collectors and apply them for solving practical problems.
  •To introduce the principles and design of Types of solar energy Storage Systems and its Application
  • To understand the test and commissioning process of Solar Thermal system
  •To carry out the specification, fabrication process, safety tools during project site.

595) Course Title: Introduction to Quantum Computing
Faculty:Dr.Ashok Misra

Course Objective:

- To introduce the fundamentals of Quantum Computation by problem solving approach using Qiskit.

596) Course Title: Introduction to High-performance Computing
Faculty:Dr.Banitamani Mallik

Course Objective:

• HPC introduces the concepts of parallel and distributed computing. Parallel Computing is used to improve performance of Multi-core Machine using Open MP and Open MPI Programming.
• The students will learn the basic concepts and technology of parallel, distributed and Cloud Computing. The participant will get hands-on- experience on Open MP, Open MP Programming and Virtualization in Cloud Computing.

597) Course Title: Organic Farming
Faculty:Roja Mandapati
Course Objective:

- To provide practical knowledge and to develop a clear understanding regarding organic farming.
- To impart knowledge in raising of crops and their management in organic farming.

598) Course Title: MushroomÃ, Grower
Faculty:Ms. Sudeepta Pattanayak

Course Objective:

1. To make the learners self reliant to identify several kind of mushrooms.
2. To provide detailed hands on training on mushroom cultivation, packaging and marketing.
3. To develop a business plan on mushroom cultivation.
4. To help the learners to practice a means of self employment and income generation.

599) Course Title: Hydroponics Technology
Faculty:Dr. Dinkar J. Gaikwad
Course Objective:

- To provide practical knowledge and to develop a sound understanding of hydroponics technology.
- To impart knowledge on raising crops in hydroponics sustainably.

600) Course Title: Poultry Farming
Faculty:Prof. Niranjan Barik

Course Objective:

- To meet the basic and overall knowledge requirement of the students, the extension workers and the progressive farmers on various livestock specifically the farm animals including poultry with respect to physiological and reproductive system.
- To have expertisation on the housing system, feeding requirements, feeding habits and use of low-cost feed technology for better economic return.
- To have minimum basic concepts on different disease encountered in the farm animal and poultry and their preventive and control measures.
- To make students practically stronger to undertake entrepreneurship in the livestock and poultry sector.
- To know the importance and contribution of livestock in the state and national economy.

601) Course Title: Dairy Farming
Faculty:A Avinash

Course Objective:

- Seeing and doing is the key to success of any entrepreneurship on live animals and birds – being the main focus of skill course.
- To develop the overall practical skill/knowledge on poultry in an operational farm for more profit management, feed requirements, etc.
- To make the students of various professional well versed in their practical skills starting from hatching of chicks to the egg production stage.
- To develop self-confidence among students from various professional to go for entrepreneurship on poultry.

602) Course Title: Vermicomposting Farming
Faculty:Dr. Saurav Barman
Course Objective:
1. To understand the Concept of Vermicomposting
2. To practice vermicomposting techniques inappropriate site/location

603) Course Title: Transformer Manufacturing, Repairing and Maintenance
Faculty:Radha Gobinda Pradhan

Course Objective:

1. Understand the concept of mutual inductance
2. Understand the operation of ideal transformers.
3. Use equivalent circuits to determine voltages and currents.
4. Analyze the operation of the transformer for different transformation ratios.
5. Understand the concept of a reflected load in a transformer and its application in impedance matching.
6. Study the application of transformers in electrical energy distribution and power supplies.

604) Course Title: CCTV Installation
Faculty:Jamaluddin Khan
Course Objective:
1. Familiarization with the work environment and challenges for an CCTV technician
2. Familiarization to the principles, materials, components, and tools required
3. Develop an end-to-end technical understanding to execute CCTV installation
4. Complying to the CCTV installation specifications, guidelines and safety standards during work

605) Course Title: Electrical Installation
Faculty:Jamaluddin Khan
Course Objective:
1. Familiarization with the work environment and challenges for world skill
2. Familiarization to the principles, materials, components, and tools required
3. Develop an end-to-end technical understanding to execute electrical installation
4. Complying to the world skill specifications, guidelines and safety standards during work

606) Course Title: Refrigeration and Equipment Engineering

Faculty:Biswajit Mohanty
Course Objective:
In thermodynamics, coldness is an energetic imbalance. In engineering, this imbalance results from the forced exchange of heat between two places. Refrigeration engineering deals with various procedures to produce coldness in many different areas of application. The basic procedures of refrigeration engineering are thermodynamic circle procedures, the energetic efficiency of which is constantly being improved thanks to modern refrigeration engineering. Especially important are compression refrigeration systems on the one and absorption refrigeration systems on the other hand. The energy that is needed for cooling is brought up via mechanical force in compression refrigeration systems, whereas in absorption refrigeration systems this heat energy is used. Refrigeration energy is used on a daily basis in many different fields. The food industry, air conditioning, medical technology and logistics are barely imaginable without it.

607) Course Title: Super critical Co2 plant operation
Faculty:Pradipta Banerjee, Rosy Mallik
Course Objective:

- The trainees will get hands-on experience in the SCF extraction method.
- The course curriculum aims towards acquiring technical skills.

608) Course Title: Seed production - Paddy
Faculty:Dr. Prabhat Kumar Singh
Course Objective:
To impart knowledge regarding principles of seed production

609) Course Title: Paddy Processing and marketing
Faculty:Mr. Abhilash Behera
Course Objective:

- To strengthen undergraduate student in the field of paddy processing.
- To initiate basic research related to cultivar purity, seed storage and seed marketing.
- To impart training for entrepreneurship program.

610) Course Title: Business Plan Preparation
Faculty:Dr. Susanta Kumar Mishra

Course Objective:
To acquire the Skill relating to Entrepreneurship
-To develop the entrepreneurial way of thinking to identify a business.
-To develop a Business Plan relating to the planned entrepreneurial venture

611) Course Title: Dairy Plant operation
Faculty:U.L.Devakumar
Course Objective:
This certification course on dairy, food process and product technology will be of great help in becoming food scientists and technologists for the students as well as for the common milk growers who want to take their venture to new heights with technical soundness.
2. The course explains in great detail the basic principles and methods of milk processing and preservation.

612) Course Title: Fruit processing with dryers
Faculty:Dr. Vivek Kumar
Course Objective:

- The program objective is aimed at training candidates for the job of a “Fruits and Vegetables Drying/ Dehydration Technician”, in the “Food Processing” Sector/Industry and aims at building the following key competencies amongst the learner.

613) Course Title: Composite fabrication practice
Faculty:Jitendra Pramanik
Course Objective:

- Learn design of a composite material and design a system using the composite.
- To test the composite and control quality.

614) Course Title: Sewage Treatment plant operation
Faculty:Suvendra Baliyarsingh
Course Objective:

- Design of Septic tank and sewerage drain
- Sewerage treatment plant Design and its operation
- Reuse of treated water

615) Course Title: Solid Waste management
Faculty:Suvendra Baliyarsingh
Course Objective:

- Collection of solid waste
- Segregation of solid waste
- Reuse of solid waste

616) Course Title: Bio fertilisers preparation
Faculty:Dr. Praveen Boddana
Course Objective:

- To impart hands on training on the skills associated with Biofertilizer organisms isolation ,production and application.

617) Course Title: Introduction to Block Chain Technology
Faculty:Mr. Raj Trivedi
Course Objective:

- Develop a basic understanding of Blockchain,its various applications and delivery models.
- Understand the non-technology factors such as need for trust, institutional mechanisms and resources required for Blockchain based solutions

618) Course Title: Introduction to Nutraceuticals
Faculty:Preetha Bhadra, Pradipta Banerjee
Course Objective:

1. To study the advantages of functional foods over conventional Medicine to avoid potential side-effects

2. To Study dietary supplements
3. To distinguish between food, functional food, and supplements

619) Course Title: Introduction to Computational Biology
Faculty:Dr. Pushpalatha Ganesh
Course Objective:
High-throughput technologies produce massive amounts of data, much too large to analyze by hand. The objective of this certificate course is to:
1. Analyze DNA, RNA, and protein sequences using computational tools.
2. Demystify computer science, molecular biology, and some of the ways they intersect.
3. Convert a biological question into a computational problem that can be solved using computational tools.

620) Course Title: Product Life Cycle Management through Gate process
Faculty:Sipalin Nayak
Course Objective:

- Use ENOVIA Engineering BOM Management
- Create parts and specifications
- Create Change Orders

621) Course Title: New material development with Biovia
Faculty:Dr Padmaja Patnaik
Course Objective:

- Students will learn to use Biovia.
- Students will be introduced to computational research.
- Students can work with several methods of computational calculations.

622) Course Title: Spectral image processing using Python
Faculty:Vishal Kumar Singh
Course Objective:
To study the spectral python tools for processing Hyperspectral images.
• To study the concept of Hyperspectral remote sensing.

• To know the basics, importance, and methods of Spectral remote sensing.
• To study machine learning technology for processing hyperspectral images and multispectral images.

623) Course Title: Satellite data processing
Faculty:Kamal Kumar Barik
Course Objective:

- To teach Basic Principles of Remote Sensing and understand the current remote sensing system, Digital Image processing and Integration.
- • To known different satellite and its application

624) Course Title: Adobe Tools and Illustrations
Faculty:Saban Kumar Maharana
Course Objective:

- To enable learners to study illustration as visual interpretation of words, concepts and ideas.
- To provide understanding of the basic software skills while developing drawing abilities in a digital environment.
- To develop strategies for communicating content through pictorial narrative.

625) Course Title: Digital Painting
Faculty:Saban Kumar Maharana
Course Objective:

- To impart knowledge of digital painting by using Adobe Photoshop and Adobe Illustrator.
- To achieve proficient technical and aesthetic skills using various tools to generate a broad range of two-dimensional images.
- To learn basic traditional drawing concepts of basic composition, using shadow and highlight to create the illusion of volume,
- To use atmospheric and linear perspective to create the illusion of space.

626) Course Title: 3D Game Art
Faculty:Sandeep Kumar
Course Objective:
1-To offer a clear overview of the recent trend in 3d modeling and 3d printing techniques of different components used in day to day life as well as in the field of mechanical engineering.
2 -To identify the importance of 3D modeling and3D printing in engineering.
3 -To study alternative economical and effective ways of manufacturing components by various Non-traditional Machining Processes

627) Course Title: Drug Design using Biovia Discovery Studio
Faculty:Chinmaya Chidananda Behera
Course Objective:

- The Molecular Modeling Process used in Drug Discovery.
- The concept of Structure and Ligand-based Drug Designing.
- The Molecular Docking processes and their use in drug discovery.
- The Drug-likeness properties of various chemical entities.
- The application of Pharmacophore Modeling in drug discovery.
- To identify potential drug candidates through Virtual Screening of biological compounds.

628) Course Title: Human Anatomy and Physiology-I
Faculty:Miss. Palishree Bhukta
Course Objective:

- To impart fundamental knowledge on the structure and functions of the various systems of the human body.
- It also helps in understanding both homeostatic mechanisms.
- The subject provides the basic knowledge required to understand the various disciplines of pharmacy.

"629) Course Title: Pharmaceutical Analysis-I

Faculty:
Lipsa sama
Course Objective:

- Know the fundamentals of analytical chemistry
- principles of electrochemical analysis of drugs
- Principle of volumetric and electrochemical titrations
- Objective of standardization and validation

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630) Course Title: Pharmaceutics-I
Faculty:Mr. Rudra Narayan Sahoo
Course Objective:

- This course is designed to impart a fundamental knowledge on the preparatory pharmacy with arts and science of preparing the different conventional dosage forms.

631) Course Title: Pharmaceutical Inorganic Chemistry
Faculty:MS SWAGATIKA DASH
Course Objective:

- This subject has been designed to make the students understand different categories of inorganic drugs or compounds which are used as medicinal agents.
- Explanation of the sources of impurities and methods to determine the impurities in inorganic pharmaceuticals
- Explanation of the method of preparation, assay, properties, medicinal uses of acids, bases, buffers, extra and intracellular electrolytes.
- Explanation of the method of preparation, assay, properties, medicinal uses of dental products.
- Explanation of the method of preparation, assay, properties, medicinal uses of acidifiers, antacids and cathartics.
- Explanation of the method of preparation, assay, properties, medicinal uses of antimicrobials
- Explanation of the method of preparation, assay, properties, medicinal uses of expectorants, emetics and haematinics
- Explanation of the method of preparation, assay, properties, medicinal uses of astringent, poison and antidote

- Description of the properties, storage condition and application of radiopharmaceuticals.

632) Course Title: Communication skills
Faculty:Mrs. Rajashree Das
Course Objective:
This course will prepare the young pharmacy student to interact effectively with doctors, nurses, dentists, physiotherapists and other health workers.
The student will get the soft skills set to work cohesively with the team as a team player and will add value to the pharmaceutical business

633) Course Title: Remedial Biology
Faculty:Mrs. Manisha Sahoo
Course Objective:
The biology study aims to learn and understand the components of living world, structure and functional system of plant and animal kingdom as it is the application of theory to the real world

634) Course Title: Remedial Mathematics
Faculty:Mr. Ranjan Sahoo
Course Objective:

635) Course Title: Human Anatomy and Physiology II
Faculty:Miss. Priyanka Priyadarshini Swain
Course Objective:

- To define main structure composing human body.
  • To describe the structure of the human body on cell-, organs-, organ system- and organism level.
  • Describe the relationships between structure and function of the human body.
  • To gain the scientific based knowledge of the structure and function of the human body.

636) Course Title: Biochemistry

Faculty:Susmita Chakrabarty
Course Objective:

- To understand the concept of metabolism of carbohydrates
- To understand the significance of amino acids, proteins
- Use of enzymes in enhancing metabolic reactions
- Role of lipids

637) Course Title: Environmental Sciences
Faculty:Dr.S.P.Nanda

- Course Objective: To understand the concept of multi-disciplinary nature of Environmental Science where different aspects are dealt with a holistic approach.
  • Students will develop a sense of community responsibility by becoming aware of environmental issues in the larger social context.
  • One must be environmentally educated.

638) Course Title: Pharmaceutical Organic Chemistry-II
Faculty:Mr. Chinmaya Chidananda Behera
Course Objective: This subject deals with general methods of preparation and reactions of some organic compounds. The reactivity of organic compounds are also studied here. The syllabus emphasizes on mechanisms and orientation of reactions. Chemistry of fats and oils are also included in the syllabus.

639) Course Title: Physical Pharmaceutics-I
Faculty:Mr. Dinesh Kumar Sharma
Course Objective: The course deals with the various physical and physicochemical properties, and principles involved in dosage forms/formulations. Theory and practical components of the subject help the student to get a better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.

640) Course Title: Pharmaceutical Microbiology
Faculty:Mr. Suman Kumar Mekap

\Course Objective:

- Understanding of types & synthesis of antimicrobial agents
- Manufacture of antibiotics
- To understand the mechanism of action of antibiotics
- To study how microorganisms are known to develop resistance to antibiotics

641) Course Title: Pharmaceutical Engineering
Faculty:Miss. Subhashree Das

Course Objective:

- This course is designed to impart a fundamental knowledge on the art and science of various unit operations used in pharmaceutical industry.

642) Course Title: Medicinal Chemistry I
Faculty:Dr. Gopal Krishna Padhy
Course Objective:

- To expose students towards different chemical classes of drugs and their pharmacological activity.
- To develop the linkage between organic molecules and their transformation to the drug molecule
- To explain the mechanisms of action for representative drug classes.
- To explain the relationship between drug's chemical structure and it's therapeutic properties.
- To discuss the metabolic pathways, adverse effect and therapeutic indications of drug molecules.

643) Course Title: Physical Pharmaceutics II
Faculty:Nihar Ranjan Kar
Course Objective:1.
1. Understand various physicochemical properties of drug molecules in the designing the dosage forms
2. Know the principles of chemical kinetics & to use them for stability testing nad determination of expiry date of formulations

3. Demonstrate use of physicochemical properties in the formulation development and evaluation of dosage forms

644) Course Title: Pharmacology I
Faculty:Gulshan Kumar
Course Objective:
Identify the fundamental principles of pharmacokinetics and pharmacodynamics.λ2. Compare and contrast the specific pharmacology of the major classes of drugs, important distinctions among members of each class, the risks and benefits, in relation to the organ systems they affect, and the diseases for which they are used therapeutically.

645) Course Title: Pharmacognosy and Phytochemistry I
Faculty:Dr G V Ramana
Course Objective:
This course is very critical in imbibing the knowledge of Medicinal and Aromatic Plants. Through this course students will understand the importance of Phytochemistry which actually added therapeutic value to the Medicinal Plants. This course enables analytical thinking of students which will help them in deducing and isolation of the vital phytochemical compounds.

646) Course Title: Medicinal Chemistry-II
Faculty:Dr. Gopal Krishna Padhy

Course Objective:

- To expose students towards different chemical classes of drugs and their pharmacological activity.
- To develop the linkage between organic molecules and their transformation to the drug molecule
- To explain the mechanisms of action for representative drug classes.
- To explain the relationship between drug's chemical structure and it's therapeutic properties.
- To discuss the metabolic pathways, adverse effect and therapeutic indications of drug molecules.

647) Course Title: Industrial PharmacyÃ¢â‚¬â€œI
Faculty:Mr. Himanshu Bhusan Samal
Course Objective:

To Understand and appreciate the influence of Pharmaceutical additives and various Pharmaceutical dosage forms on the performance of the drug product.

648) Course Title: Pharmacology II
Faculty:Mrs. Prachirani Sahu

Course Objective:

- This subject is intended to impart the fundamental knowledge on various aspects (classification, mechanism of action, therapeutic effects, clinical uses, side effects and contraindications) of drugs acting on different systems of body and in addition,emphasis on the basic concepts of bioassay.

649) Course Title: Pharmacognosy and Phytochemistry-II
Faculty:Dr. Priyanka Dash
Course Objective:

- To know the techniques in the cultivation and production of crude drugs.
- To know the crude drugs, their uses and chemical nature know the evaluation techniques for the herbal drugs.
- To carry out the microscopic and morphological evaluation of crude drugs.

650) Course Title: Pharmaceutical Jurisprudence
Faculty:Mr. Nihar Ranjan Kar
Course Objective:

- This course is designed to impart basic knowledge of important legislations related to the profession of pharmacy in India.

651) Course Title: Medicinal Chemistry III
Faculty:A.Avinash

Course Objective:

- This subject is designed to impart fundamental knowledge on the structure, chemistry and therapeutic value of drugs. The subject emphasis on modern techniques of rational drug design like quantitative structure activity relationship (QSAR), Prodrug concept, combinatorial chemistry and Computer aided drug design (CADD). The subject

also emphasizes on the chemistry, mechanism of action, metabolism, adverse effects, Structure Activity Relationships (SAR), therapeutic uses and synthesis of important drugs.

652) Course Title: Pharmacology III
Faculty:Dr Chaitanya
Course Objective:
1. understand the mechanism of drug action and its relevance in the treatment of different infectious diseases
2. comprehend the principles of toxicology and treatment of various poisonings
3. appreciate correlation of pharmacology with related medical sciences.

653) Course Title: Herbal Drug Technology
Faculty:ABHISEK SAHU
Course Objective:
This subject gives the student the knowledge of basic understanding of herbal drug industry, the quality of raw material, guidelines for quality of herbal drugs, herbal cosmetics, natural sweeteners, nutraceutical etc. The subject also emphasizes on Good Manufacturing Practices (GMP), patenting and regulatory issues of herbal drugs

654) Course Title: Pharmaceutical Biotechnology
Faculty:SUMAN KUMAR MEKAP
Course Objective:

- Biotechnology has a long promise to revolutionize the biological sciences and technology.

- Scientific application of biotechnology in the field of genetic engineering, medicine and fermentation technology makes the subject interesting.
- Biotechnology is leading to new biological revolutions in diagnosis, prevention and cure of diseases, new and cheaper pharmaceutical drugs.
- Biotechnology has already produced transgenic crops and animals and the future promises lot more.

655) Course Title: Quality Assurance
Faculty:Santosh Patro
Course Objective:

- To introduce the concept of SQC
  • To understand Design of Experiments concept and ANOVA test
  • To learn about the different plots in quality control

656) Course Title: Instrumental Methods of Analysis
Faculty:Mr. Vijay Kumar Meher

Course Objective:

- This subject deals with the application of instrumental methods in qualitative and quantitative analysis of drugs.
- This subject is designed to impart fundamental knowledge of the principles and instrumentation of spectroscopic and chromatographic techniques.
- This also emphasizes theoretical and practical knowledge of modern analytical instruments that are used for drug testing.

657) Course Title: Industrial Pharmacy-II
Faculty:Dr. Chandra Sekhar Patro
Course Objective:

- To impart fundamental knowledge on pharmaceutical product development and translation from laboratory to market

658) Course Title: Pharmacy Practice
Faculty:Miss. Jyoshna Rani Dash
Course Objective:

1. Know various drug distribution methods in a hospital
2. Appreciate the pharmacy stores management and inventory control
3. Monitor drug therapy of patient through medication chart review and clinical review
4. Obtain medication history interview and counsel the patients
5. Identify drug related problems
6. Detect and assess adverse drug reactions
7. Interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states
8. Know pharmaceutical care services
9. Do patient counseling in community pharmacy;
10. Appreciate the concept of Rational drug therapy.

659) Course Title: Novel Drug Delivery System
Faculty:Dr. Gurudutta Pattnaik
Course Objective:
To impart basic knowledge on the area of novel drug delivery systems.
660) Course Title: Pharmaceutical Regulatory Science
Faculty:BIKASH RANJAN JENA
Course Objective:

661) Course Title: Cell and Molecular Biology
Faculty:Dr. Soumya Jal

Course Objective:

- Understanding the central dogma of life
- To understand the concept of gene regulation and its impact
- The use of several molecular diagnostic techniques for disease interpretation

662) Course Title: Experimental Pharmacology
Faculty:Gulshan Kumar
Course Objective:
Identify the fundamental principles of pharmacokinetics and pharmacodynamics.λ2. Compare and contrast the specific pharmacology of the major classes of drugs, important distinctions among members of each class, the risks and benefits, in relation to the organ systems they affect, and the diseases for which they are used therapeutically.

663) Course Title: Pharmaceutics-I
Faculty:Shubhashree Das
Course Objective:
This course is designed to impart a fundamental knowledge on the preparatory pharmacy with arts and science of preparing the different conventional dosage forms.

664) Course Title: Pharmaceutical Chemistry-I
Faculty:Kamini Sethy
Course Objective
1)principles of limit tests.
2)Familiar with different classes of inorganic pharmaceuticals.
3)Identification of different anions, cations and different inorganic pharmaceuticals.

4) Knowledge about the sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals

5)understand the medicinal and pharmaceutical importance of inorganic compounds 6) To have been introduced to a variety of inorganic drug classes.

665) Course Title: Pharmacognosy

Faculty:Om prakash Panda

Course Objective:

- The subject involves the fundamentals of Pharmacognosy like scope, classification of crude drug, their identification and evaluation, chemical constituents present in them and their medicinal properties.

666) Course Title: Biochemistry & Clinical Pathology

Faculty:Mr. HARA GOURI MISHRA

Course Objective:

- Biochemistry deals with a complete understanding of the molecular levels of the chemical process associated with living cells.
- The scope of the subject is providing biochemical facts and the principles to understand the metabolism of nutrient molecules in physiological and pathological conditions.
- It is also emphasizing on the genetic organization of the mammalian genome and hetero & auto-catalytic functions of DNA.

667) Course Title: Human Anatomy & Physiology

Faculty:Dr Chaitanya

Course Objective:

• To describe the structure of the human body on cell-, organs-, organ system- and organism level.

• Describe the relationships between structure and function of the human body.

• To gain the scientific based knowledge of the structure and function of the human body.

668) Course Title: Health Education & Community Pharmacy

Faculty:Gyanaranjan Parida

Course Objective:

- Demonstrate appropriate depth and breadth of pharmacotherapeutics and disease-related knowledge for common conditions in the ambulatory care clinic population.

- Efficiently and appropriately optimize patient-specific outcomes using the Pharmacist Patient Care Process (PPCP) in the community pharmacy setting, including collaboration with other healthcare professionals.

669) Course Title: Pharmaceutics-II
Faculty:Gyanaranjan Parida
Course Objective:
This course is designed to impart a fundamental knowledge on the preparatory pharmacy with arts and science of preparing the different conventional dosage forms.

670) Course Title: Pharmaceutical Chemistry-II
Faculty:Lipsa samal
Course Objective:
This subject is designed to impart fundamental knowledge on the structure, chemistry and therapeutic value of drugs.
Emphasizes on chemical synthesis of important drugs under each class

671) Course Title: Pharmacology & Toxicology
Faculty:Dharmendra Pradhan
Course Objective:
The subject involves the fundamentals of Pharmacognosy like scope, classification of crude drug, their identification and evaluation, chemical constituents present in them and their medicinal properties.

672) Course Title: Pharmaceutical Jurisprudence
Faculty:Mr. Nihar Ranjan Kar
Course Objective:
Upon completion of the course, the student shall be able to understand:

1. The Pharmaceutical legislations and their implications in the development and marketing of pharmaceuticals.
2. Various Indian pharmaceutical Acts and Laws
3. The regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals
4. The code of ethics during the pharmaceutical practice

673) Course Title: Drug Store And Business Management
Faculty:Lipsa samal

Course Objective:

- Assess the overall level of progress in the pharmacy and make the necessary adjustments.
- Methods of determining the average annual or monthly pharmacy expenses and setting them.
- Knowledge of procedures related to the profession.
- Objective and moral value of entering the labor market and the aim of the pharmacy project.
- Methods and methods of assessing conditions and needs such as the needs of the pharmacist's market
- Substantial differences between pharmacy management and warehouse management
- Technical inventory methods for monthly sales, inputs and outputs.

674) Course Title: Hospital & Clinical Pharmacy
Faculty:VIVEK BARIK

Course Objective:

- To be recognised nationally and internationally as a leader in improving medication outcomes and pharmacy practice research and education. To establish relationships with key individuals and organisations to improve the quality use of medicines and health outcomes.

675) Course Title: Pharmacology
Faculty:Gulshan Kumar
Course Objective:

- Identify the fundamental principles of pharmacokinetics and pharmacodynamics.λ2. Compare and contrast the specific pharmacology of the major classes of drugs, important distinctions among members of each class, the risks and benefits, in relation to the organ systems they affect, and the diseases for which they are used therapeutically.

676) Course Title: Basic Epidemiology

Faculty:Miss. Priyanka Priyadarshini Swain
Course Objective:

- Understand the basic epidemiological methods and study designs.
  • Understand and discuss population based perspective to examine disease and health – related events.
  • Discuss the ethical issues in epidemiological research.
  • Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues.
  Describe a public health problem in terms of person, place, and time.
  • Evaluate the strengths and limitations of epidemiologic reports
  • Apply concepts, methods, and tools of public health data collection, analysis and interpretation, and the evidence-based reasoning and informatics approaches that are essential to public health practice

677) Course Title: Pharmaceutical Brand Management
Faculty:Mr Himansu Bhusan Samal
Course Objective:

- Ensuring that quantitative and qualitative objectives are met. Driving strategic development of the brand portfolio. Identifying new products and packaging. Developing and implementing consumer promotions.

678) Course Title: Pharmaceutical Sales and Distribution Management
Faculty:Dr Gurudutta Pattnaik

Course Objective:

- Study of pharmaceutical sales is different from study of general sales, various factors like physicians behaviour, promotional strategy, marketing reputations of organizations etc.

679) Course Title: Business Analytics
Faculty:Mr Himansu Bhusan Samal
Course Objective:

- To impart basic knowledge on regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals.

680) Course Title: Drug Regulatory Affairs & Intellectual Property Rights
Faculty:Lipsa samal

Course Objective:

- This course is designed to impart basic knowledge on regulatory authorities
- Idea about agencies governing the manufacture and sale of pharmaceuticals.
- Knowledge in IPR

681) Course Title: Manufacturing Management
Faculty:Lipsa samal
Course Objective:

682) Course Title: Financial Reporting & Analysis
Faculty:Gyanaranjan Parida
Course Objective:

- This course is designed to impart basic knowledge on reviewing and analyzing financial statements.

683) Course Title: Pharmaceutical Advertising & Services Management
Faculty:Mr Himansu Bhusan Samal
Course Objective:

- This course is designed to impart basic knowledge on managerial process designed to oversee and control the various advertising activities involved in a program to communicate with a firm's target market and which is ultimately designed to influence the consumer's purchase decisions.

684) Course Title: Principles of Information Security
Faculty:Mr. Sangram K. Routray
Course Objective:

- This course focuses on two aspects of Cyber Security: analysis and assessment of risk plus how to minimize it, and, how to extract and use digital information from a wide range of systems and devices. The course is structured so that all students cover the

same introductory material, but then choose to specialize in either Cyber Security or Digital Forensics. Any aforesaid science graduate who requires keen interest & knowledge of IT programming languages with basic knowledge of math beyond calculus

685) Course Title: Digital forensics
Faculty:Mr. Pranabranjan Sahoo
Course Objective:

- This course focuses on two aspects of Cyber Security: analysis and assessment of risk plus how to minimize it, and, how to extract and use digital information from a wide range of systems and devices. The course is structured so that all students cover the same introductory material, but then choose to specialize in either Cyber Security or Digital Forensics. Any aforesaid science graduate who requires keen interest & knowledge of IT programming languages with basic knowledge of math beyond calculus.

686) Course Title: Computer Networks
Faculty:Mr. Gyanaranjan panigrahi
Course Objective:

- The course objectives include learning about computer network organization and implementation, obtaining a theoretical understanding of data communication and computer networks, and gaining practical experience in installation, monitoring, and troubleshooting of current LAN systems.

687) Course Title: Cyber Crime & Investigations
Faculty:Dr. Digvijay Rathod
Course Objective:

- This course focusses on two aspects of Cyber Security: analysis and assessment of risk plus how to minimize it, and, how to extract and use digital information from a wide range of systems and devices. The course is structured so that all students cover the same introductory material, but then choose to specialize in either Cyber Security or Digital Forensics. Any aforesaid science graduate who requires keen interest & knowledge of IT programming languages with basic knowledge of math beyond calculus.

688) Course Title: Intellectual Property Rights
Faculty:Mr. Sangram K. Routray

Course Objective:

- The main objective of the IPR is to make the students aware of their rights for the protection
  of their invention done in their project work.
  To get registration in our country and foreign countries of their invention, designs and thesis or theory written by the students during their project work and for this they must haveknowledge of patents, copy right, trademarks, designs and information Technology Act.
  Further teacher will have to demonstrate with products and ask the student to identify the different types of IPR's.

689) Course Title: DIGITAL FORENSICS
Faculty:Mr. Gyana Ranjana Panigrah
Course Objective:

- This course focuses on two aspects of Cyber Security: analysis and assessment of risk plus how to minimize it, and, how to extract and use digital information from a wide range of systems and devices. The course is structured so that all students cover the same introductory material, but then choose to specialize in either Cyber Security or Digital Forensics. Any aforesaid science graduate who requires keen interest & knowledge of IT programming languages with basic knowledge of math beyond calculus.

690) Course Title: Mobile Security Analysis
Faculty:Mr. Amiya Mishra
Course Objective:

- This course focuses on two aspects of Cyber Security: analysis and assessment of risk plus how to minimize it, and, how to extract and use digital information from a wide range of systems and devices. The course is structured so that all students cover the same introductory material, but then choose to specialize in either Cyber Security or Digital Forensics. Any aforesaid science graduate who requires keen interest & knowledge of IT programming languages with basic knowledge of math beyond calculus

691) Course Title: IT Governance, Risk & Compliance

Faculty:Mr. Sangram K. Routray

Course Objective:

- This course focusses on two aspects of Cyber Security: analysis and assessment of risk plus how to minimize it, and, how to extract and use digital information from a wide range of systems and devices. The course is structured so that all students cover the same introductory material, but then choose to specialize in either Cyber Security or Digital Forensics. Any aforesaid science graduate who requires keen interest & knowledge of IT programming languages with basic knowledge of math beyond calculus.

692) Course Title: Business Continuity Planning(BCP) & Disaster Recovery

Faculty:Mr. Gyanaranjan panigrahi

Course Objective:

- This course focuses on two aspects of Cyber Security: analysis and assessment of risk plus how to minimize it, and, how to extract and use digital information from a wide range of systems and devices. The course is structured so that all students cover the same introductory material, but then choose to specialize in either Cyber Security or Digital Forensics. Any aforesaid science graduate who requires keen interest & knowledge of IT programming languages with basic knowledge of math beyond calculus.

693) Course Title: Penetration Testing & Vulnerability Assessment

Faculty:Mr. Pranabranjan Sahoo

Course Objective:

- In the end, the goal is to identify security weaknesses in a network, machine, or piece of software. Once they're caught, the people maintaining the systems or software can eliminate or reduce the weaknesses before hostile parties discover them.

"Security" isn't limited to how well the machines and software stand up against penetration attempts.

694) Course Title: Digital Frauds

Faculty:Mr. Sangram K. Routray

Course Objective:

- To provide students with a comprehensive overview of collecting,investigating, preserving, and presenting evidence of cyber crime left in digital storage devices. To introduce topics of forensic data examination of computers and digital storage media. Investigation of computers used for wrong-doing. Understand file system basics and where hidden files may lie on the disk, as well as how to extract the data and preserve

it for analysis. Understand some of the tools of e-discovery. Legal aspects must form a constant background for these types of investigations.

695) Course Title: Project/Dissertation

Faculty:Sangram Routray

Course Objective:

- The general objective of the project is to investigate the development of students' ability in transformational geometry concepts (translations, reflections and rotations) and the effects of two interactive dynamic resources on this ability. The specific purposes of the study are the following:

1) to investigate the development of students' ability on transformational geometry concepts (translations, reflections and rotations),

2) to develop activities for teaching transformations with two different interactive dynamic educational resources to elementary school students,

3) to investigate the effect that two different types of interactive dynamic educational resources for teaching transformational geometry have on different types of students,

4) to design tests for measuring students' ability on transformational geometry and spatial abilities, and a self-report questionnaire for assessing their cognitive styles.

Scientific and technological objectives

The scientific objectives of the project are:

(a) to investigate the development of students' ability in transformational geometry (specifically the concepts of translation, reflection and rotation),

(b) to supply the teachers with activities and information about interactive dynamic educational resources for teaching transformational geometry, and

(c) to provide to the teachers and researchers instruments for measuring elementary school students' abilities in transformational geometry.

The technological development of the project is to provide a review of possible characteristics that different types of interactive-dynamic educational resources may have, with examples of software and mathematical applets for teaching trans formational geometry. Therefore, a rich database of interactive-dynamic educational resources for teaching Euclidean transformations will be developed, with a description of each resource's characteristics. Additionally, the development of a Website will inform teachers about the program and about transformational geometry concepts and it will provide open access to the database of resources and activities.

696) Course Title: Introduction to Forensics, Psychology Law and Statistics

Faculty:Shruti Rajwar

Course Objective:

- To Provide Knowledge about the basic principles of Forensic Science, different branches, functions, nature and scope of Forensic Science.
- Course will Provide detail idea about different roles, Organisational setup and functions of various Government Departments such as FBI, CBI, BPRD,NCRB etc, Forensic laboratories and Police in Crime Scene investigations.
- To provide a detail idea of forensic psychology and its application in investigation.

697) Course Title: Crime Scene Management and Forensic Physics
Faculty:Sanjeev S. Koni
Course Objective:
This Course will cover in Depth Knowledge in crime Scene Management and Forensic Science will emphasis its importance and working in Forensic Science Laboratory.

698) Course Title: Fingerprints and Questioned Documents
Faculty:Varsha Singh
Course Objective:

- To learn about core subjects of forensic
- To provide knowledge about personal identification using fingerprint
- To provide knowledge about handwriting and its basic concepts that will aid in detection of forgery and determining authorship.

699) Course Title: Molecular Biology and Genetics
Faculty:Vikash Kumar
Course Objective:

- The significance of forensic Molecular biology to human society.
- The fundamental principles, functions and application of forensic molecular biology in forensic science.
- Methodologies, developement and future directions in forensic science laboratory.

700) Course Title: Biotechnology in Pharmaceutical Sciences
Faculty:Vikash Kumar
Course Objective:
This course will cover in depth knowledge of Forensic Biotechnology in Pharmaceutical science, it’s disciplines and importance and working of FSL.

701) Course Title: Environmental Biotechnology
Faculty: Sanjeev S. Koni
Course Objective:
This course will cover in Depth Knowledge in Environmental Biotechnology will emphasis its importance and working in Forensic Science Laboratory.

702) Course Title: Concepts of Toxicology
Faculty: Dr. Reena C jhamtani
Course Objective:
I am text block. Click edit button to change this text. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut elit tellus, luctus nec ullamcorper mattis, pulvinar dapibus leo.

703) Course Title: Modern and Applied Analytical Forensic Chemistry
Faculty: Shruti Rajwar
Course Objective:

- This course aims to build in students both theoretical knowledge and practical application of forensic chemistry such as investigation of arson cases, analysis of samples.
- Food adulteration and their detection.
- Analysis of petroleum products.

704) Course Title: Modern Trends in Fingerprint Sciences
Faculty: Shruti Rajwar
Course Objective:
To study fingerprints and its fundamental principles, its role in linking a person to the crime scene, techniques to develop prints.

705) Course Title: Questioned Document and Forensic Accounting
Faculty: Varsha Singh
Course Objective:
This study helps in understanding nature of paper and some other characteristics of written as well printed document with respect to class and individual characteristics and helps to examine fraud cases.

706) Course Title: Forensic Photography and Biometric Traits
Faculty: Shruti Rajwar
Course Objective:

To understand the concept of biometry and its role in identification and various kinds of biometrics.

707) Course Title: Basics of Forensic Science
Faculty: Vikash Kumar
Course Objective:
This course will cover in depth knowledge of forensic science, it's disciplines and importance and working of FSL

708) Course Title: Crime and Society
Faculty: Sanjeev S. Koni
Course Objective:
To obtain knowledge about criminology i.e. crime and its causes, its impact on society and basic elements of justice delivery system.

709) Course Title: Forensic Psychology
Faculty: Shruti Rajwar
Course Objective:

- To Provide Knowledge about the basic principles of Forensic Science, different branches, functions, nature and scope of Forensic Science.
- Course will Provide detail idea about different roles, Organisational setup and functions of various Government Departments such as FBI, CBI, BPRD, NCRB etc, Forensic laboratories and Police in Crime Scene investigations.
- To provide a detail idea of forensic psychology and its application in investigation.

710) Course Title: Forensic Dermatoglyphics
Faculty: Shruti Rajwar
Course Objective:
To study fingerprints and its fundamental principles, its role in linking a person to the crime scene, techniques to develop prints.

711) Course Title: Technological Methods in Forensic Science
Faculty: Varsha Singh
Course Objective:
To gain knowledge about various instruments and techniques used in the analysis and examination of evidence.

712) Course Title: Criminalistics
Faculty: Sanjeev S. Koni

Course Objective:
To gain knowledge about crime scene and its processing including securing, searching and documentation as well as collection and packaging of evidences.

713) Course Title: Forensic Chemistry
Faculty: Shruti Rajwar
Course Objective:
The study enhances ability of investigating officer in arson cases. Scientific study to analyse the explosives and Petroleum product and investigation in cases of IED.

714) Course Title: Questioned Documents
Faculty: Nandini Padhi
Course Objective:
This study helps in understanding nature of paper and some other characteristics of written as well printed document with respect to class and individual characteristics and helps to examine fraud cases.

715) Course Title: Forensic Toxicology
Faculty: Dr. Atia Arzoo
Course Objective:

- To give students knowledge and skill that allow an overall assessment of the fate of foreign chemicals in the environment and of their effects on different biological organization levels.
- To develop a conceptual framework to identify toxins and its remedies.

716) Course Title: Environmental Science
Faculty: Dr. Atia Arzoo
Course Objective:
• To understand the concept of multi-disciplinary nature of Environmental Science where different aspects are dealt with a holistic approach.
• Students will develop a sense of community responsibility by becoming aware of environmental issues in the larger social context.
• One must be environmentally educated.

717) Course Title: Digital Forensics
Faculty: Mr. Gyana Ranjana Panigrahi
Course Objective:
This course focuses on two aspects of Cyber Security: analysis and assessment of risk plus how to minimize it, and, how to extract and use digital information from a wide range of systems

and devices. The course is structured so that all students cover the same introductory material, but then choose to specialize in either Cyber Security or Digital Forensics. Any aforesaid science graduate who requires keen interest & knowledge of IT programming languages with basic knowledge of math beyond calculus.

718) Course Title: Economic Botany
Faculty: Kalpita Bhatta
Course Objective:
•Investigate utilization of crop plants.
•Study of origin, distribution, botanical description, brief idea of cultivation and economic uses of cereals, pulses, beverages, natural fibers and medicinal plants
•Gain knowledge about the taxonomic diversity of important families of useful plants
•Is able to map and recognize geographical, historical and cultural contributions of economically important plants
•Understanding of the roles of potentially important plant and plant products to the development of human culture

719) Course Title: Introduction to Biometry
Faculty: Shruti Rajwar
Course Objective:
To understand the concept of biometry and its role in identification and various kinds of biometrics.

720) Course Title: Financial Accounting
Faculty: Surya Narayan Pradhan
Course Objective:

721) Course Title: Business Law
Faculty: Ajitav Acharya
Course Objective:

- To develop the ability to apply concepts, principles and theories to understand simple business laws.
- To make the students understanding basic principles and origins in the area of commercial law.
- To gain specific knowledge about certain commonly applicable business laws in India including Contract Act, Sale of Goods Act, Partnership Act and Negotiable Instruments Act

722) Course Title: Corporate Accounting

Faculty: Ajitav Acharya
Course Objective:
To understand how to communicate financial information to parties outside the business organization like equity investors, creditors, employees, suppliers and clients.

723) Course Title: Corporate Laws
Faculty:Ajitav Acharya
Course Objective:

- To understand and evaluate the legal framework of Corporate Environment in India and to gain elementary knowledge of Indian Corporate Law.
- To impart basic knowledge of the provisions of the Companies Act 2013 and the Depositories Act, 1996.

724) Course Title: Human Resource Management
Faculty: Ruchimitra Jagadev
Course Objective:

- The student can develop the knowledge, skills and concepts needed to resolve actual human resource management problems or issues.
- The student will be able to manage the employment relationship, which is a shared responsibility between employers, management, human resources specialists, and employees.
- Student will be able to identify the human resources needs of an organization or department.
- Conduct a job analysis and produce a job description from the job analysis.

725) Course Title: Income-tax Law and Practice
Faculty: Surya Narayan Pradhan
Course Objective:

726) Course Title: Management Principles and Applications
Faculty: Prabodh Nanda
Course Objective:

- To enable the students to study the evolution of Management.
- To study the functions and principles of management.
- To learn the application of the principles in an organization.
- To enable the effective and barriers communication in the organization
- To study the system and process of effective controlling in the organization.

727) Course Title: Cost Accounting

Faculty: Ajitav Acharya
Course Objective:

- To understand the basic concepts and processes used to determine product costs,
- To be able to interpret cost accounting statements,
- To be able to analyze and evaluate the information for cost ascertainment, planning, control and decision making, and
- To explain the concept and role of cost accounting in the business management of manufacturing and non-manufacturing companies.
- To define the costs and their impact on value creation in the manufacturing and non-manufacturing companies.
- Use accounting methods of cost calculation.

728) Course Title: Business Mathematics
Faculty: Dr. Goutam Kumar Mahato
Course Objective:
I am text block. Click edit button to change this text. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut elit tellus, luctus nec ullamcorper mattis, pulvinar dapibus leo

729) Course Title: Computer Applications in Business
Faculty: Ajitav Acharya
Course Objective:
To understand the application of computers in the business organization with a focus on Microsoft Word, Microsoft Excel and Microsoft PowerPoint

730) Course Title: Principles of Marketing
Faculty: Sanjukta Mohanty
Course Objective:

- This course aims to familiarize students with the marketing function in organizations.
- It will equip the students with understanding of the Marketing Mix elements and sensitize them to certain emerging issues in Marketing.
- The course will use and focus on Indian experiences, approaches and cases

731) Course Title: Fundamentals of Financial Management
Faculty: Sanjukta Mohanty
Course Objective:
The major objectives of this course is to:

- Development of analytical and decision-making skills in finance through the use of theory questions and practical problems.
- To familiarize the students with the principles and practices of financial management.

732) Course Title: Auditing and Corporate Governance
Faculty: Surya Narayan Pradhan
Course Objective:

733) Course Title: Indirect Tax/GST
Faculty:Surya Narayan Pradhan
Course Objective:

- To make the students about the basic differences of earlier indirect tax system and present indirect tax system.
- To give the students a general understanding of the GST law in the country and provide an insight into practical aspects of GST and equip them to become tax practitioners.

734) Course Title: E-Commerce
Faculty:Ajitav Acharya
Course Objective:

- To provide the students necessary knowledge and skills required for organizing and carrying out entrepreneurial activities
- To develop the ability to analyze various aspects of entrepreneurship – especially of taking over the risk, and the specificities as well as the pattern of entrepreneurship development.
- To provide the students an entrepreneurial way of thinking that will allow them to identify and create business opportunities that may be commercialized successfully

735) Course Title: Entrepreneurship Development
Faculty: Prabodh Nanda
Course Objective:

- It is a study of entrepreneurship, which navigates a student to sustain in business world
- To accomplish the various guidelines and certain mandatory acts for activation and process of business enterprise.
- To have a wider knowledge of domestic,national,international establishments which augments the trade,commerce scenario.
- Develop passion for integrity and honesty.
- To enhance managerial capabilities.

736) Course Title: Proficiency in English
Faculty: Prabodh Nanda
Course Objective:

- The very objective of this course is to develop the soft –skill visa-vis present one self to be recognised as a professional.
- To develop the articulation imaging in a business world with the help of behavioural stigma.
- The students shall develop a confidence posture with verbal and non verbal language.

737) Course Title: Tally ERP 9
Faculty: Surya Narayan Pradhan
Course Objective:

738) Course Title: Introduction to Banking
Faculty:Prabodh Nanda
Course Objective:

- A overall view of Banking knowledge starting from evolution of money,banking to application of banking in day to day scenario.
- to get an exposure of functions of commercials banks,Investment Bank and Central bank of student of ecommerce.
- immersion of knowledge in Modern Banking,digital Banking

739) Course Title: Banking Law & Practice
Faculty: Prabodh Nanda
Course Objective:

- To acquire knowledge about banking laws in India as it is must for management students.
- to have conceptual clarity about the process of banking,product and stakeholders with reference to particular acts passed in India.
- A deep study about the remittance process ,virtual banking,digital banking with various laws applicable in India

740) Course Title: Financial Market Operation
Faculty: Ajitav Acharya
Course Objective:

To provide the student an understanding of the financial market, its different products and operations.

741) Course Title: Bioorganic Chemistry and Metabolites/Molecular Biology
Faculty: Dr Sitaram Swain
Course Objective:

742) Course Title: Biochemical Techniques/Bioanalytical techniques
Faculty: Dr Sitaram Swain
Course Objective:
•This course is introduced to bridge the gap between academics, research and industry. This course begins with a review of basic bio analytical technique and an introduction to general terminologies.
•This course contains bio analytical techniques along with their theory, working principal, common instrumentation and possible applications. This course will be equally beneficial to various scientific areas.
•Students will be exposed to various biological techniques and their applications in identification, isolation of different biological molecules.

743) Course Title: Biomolecules/Biomolecules & Cell biology
Faculty:Dr Sitaram Swain
Course Objective:
Students will be able to
•Understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.
•Exploration of different types of biomolecules and the importance in cellular composition

744) Course Title: Nutrition/Principles of Food Science And Nutrition
Faculty:Dr Sitaram Swain
Course Objective:
Students will learn glycemic index, balanced diet, micronutrient deficiencies and the remedies, nutraceuticals and their importance, junk foods and their hazards. They will understand the need for specialized food for people with special needs - diabetes, pregnancy, inherited genetic disorders. Merits and demerits of vegetarian and non-vegetarian foods will be studied.

745) Course Title: Metabolism/Biochemistry of Metabolic processes
Faculty: Dr Sitaram Swain
Course Objective:
• To understand the importance of lipids as storage molecules and as structural component of biomembranes.
• Understanding the importance of high energy compounds, electron transport chain, synthesis of ATP under aerobic and anaerobic conditions.
• To acquire knowledge related to the role of TCA cycle in central carbon metabolism, importance of anaplerotic reactions and redox balance.

• Students will be exposed with the fact that perturbations in the carbon metabolism can lead to various disorders such as diabetes and cancer.
• Appreciation of the fact that differences in the properties of metabolic enzymes of the host and pathogens can be exploited for the development of new drugs.
• To gain insights into metabolic engineering for the production of useful biomolecules.
• To estimate biomolecules such as glucose , proteins, cholesterol in clinical samples

746) Course Title: Bioenergetics and Membrane Biology/Bioenergetics and Membrane Biology
Faculty: Dr Sitaram Swain

747) Course Title: Physiology/Physiology- Life sustaining system
Faculty: Sunita Satapathy
Course Objective:

- To know about the structural organisation and functioning of various organs and their inter relationship.
- To understand about the various metabolic processes and and their inter relationship with organ systems

748) Course Title: Clinical Biochemistry/Biochemistry & Clinical Pathology
Faculty:Dr Sitaram Swain
Course Objective:

749) Course Title: Microbiology
Faculty: Dr Sitaram Swain
Course Objective:
• To know various Culture media and their applications and also understand various methods of sterilization.
• To know the various Physical and Chemical growth requirements of microbes and get equipped with various methods of microbes culture techniques and their role in various industry.

750) Course Title: Immunology/Immunology and cancer biology
Faculty: Dr Sitaram Swain
Course Objective:
The primary objective of this course is to help students develop knowledge and skills related to health and disease and role of immune system. Students are taught immunology so as to develop understanding of the subject, such as functioning the immune system, the molecular and cellular components and pathways that protect an organism from infectious agent.

751) Course Title: Enzymology/Biochemistry and enzyme technology
Faculty:Dr Sitaram Swain
Course Objective:
• To acquire fundamental knowledge on enzymes and their importance in biological reactions.
• To understand ability to difference between a chemical catalyst and biocatalyst.
• Exposure to the nature of non-protein enzymes such as ribozymes.
• Understanding the role of enzymes in clinical diagnosis and industries.

752) Course Title: Applied Anatomy and Physiology Related to Anesthesia Technology
Faculty:Dr Chaitanya
Course Objective:
This course covers the anatomical and physiological aspects related to anesthesia technology

753) Course Title: Analytical Techniques
Faculty:Chittaranjan Routray

Course Objective:

- To reinforce chemical principles central to analytical chemistry.
- To introduce instrumental techniques for chemical measurement.
- To develop critical thinking for interpreting analytical data.
- To select instrumentation appropriate to the measurement need.
- To gain an insight into the key methodologies used

754) Course Title: Biological Chemistry
Faculty:Miss Sonali Dash

Course Objective:

- Work to promote good health by teaching the public and other health professionals about diet and nutrition.
- To demonstrate clinical disorders, the biochemical consequences of particular disease process and the response to therapy.

- To describe the various intracellular controls that govern the rate at which the metabolic pathway functions.
- To explain the ways in which hormones work in human body and alter cellular activity by binding to intracellular receptors.

755) Course Title: General Microbiology
Faculty:Dr. Monali Priyadarsini Mishra

Course Objective:

- To know various Culture media and their applications and also understand various physical and chemical means of sterilization
- To know General bacteriology and microbial techniques for isolation of pure cultures of bacteria, fungi and virus
- To master aseptic techniques and be able to perform routine culture handling tasks safely and effectively

756) Course Title: Clinical Haematology
Faculty:Susmita Chakrabarty

Course Objective:

- The Clinical Hematology course will cover the diagnosis and management of blood cell disorders, anatomy and physiology of hematopoiesis, routine specialized hematology tests, analysis, classification, and monitoring of blood cell abnormalities.
- Clinically relevant hematological analysis for deeper understanding evaluate normal and abnormal cell morphology with associated diseases and other blood components .
- Be able to handle an investigation of hematological disorder and laboratory abnormalities such as anaemia, polycythemia, leukopenia, leukocytosis, thrombocytopenia, thrombocytosis, elevated ESR etc within hematology.

757) Course Title: Systemic Bacteriology
Faculty:Dr. Monali Priyadarsini Mishra

Course Objective:

- To learn opportunities in the basic principles of medical microbiology and infectious disease.
- To study mechanisms of infectious disease transmission, principles of aseptic practice, and the role of the human body's normal microflora.
- To understand the importance of pathogenic bacteria in human disease with respect to infections of the respiratory tract, gastrointestinal tract, urinary tract, skin and soft tissue

758) Course Title: Cell and Molecular Biology
Faculty:Gagan Kumar Panigrahi
Course Objective:

- By the end of the course, learners should have a knowledge of:
  The cell biology of all major groups of organisms, including microorganisms, plants and animals
  How genome organisation differs in the major groups of organisms
  The complex interactions between nucleus and cytoplasm that determine how cells function
  Basic concepts of how cells become specialised into different types in complex organisms
  How the cytoskeleton is organised and its role in cellular function

759) Course Title: Clinical Pathology
Faculty:Mr. HARA GOURI MISHRA
Course Objective:

- Biochemistry deals with a complete understanding of the molecular levels of the chemical process associated with living cells.
- The scope of the subject is providing biochemical facts and the principles to understand the metabolism of nutrient molecules in physiological and pathological conditions.
- It is also emphasizing on the genetic organization of the mammalian genome and hetero & auto-catalytic functions of DNA.

760) Course Title: Medical Parasitology and Mycology
Faculty:Miss Sonali Dash

Course Objective:

- Describe basic morphology, life cycle, pathogenesis, lab diagnosis and treatment of parasites and fungi.
- Perform appropriate laboratory techniques used in the processing of specimens and identification of parasites and fungi.
- Describe basic principle and procedures of isolation of fungus and parasies from clinical samples like stool, vaginal swab etc.
- Perform appropriate laboratory techniques used in the processing of specimens and identification of parasites and fungi.

761) Course Title: Applied microbiology
Faculty:Dr. Monali Priyadarsini Mishra

Course Objective:

To impart knowledge of the basic principles of bacteriology, virology, including the nature of pathogenic microorganisms, pathogenesis, laboratory diagnosis, transmission, prevention and control of diseases common in the country

762) Course Title: Clinical Biochemistry
Faculty:Susmita Chakrabarty

Course Objective:

- Understanding the concept of Biochemical analyzing instruments, chemicals and normal ranges of biochemical components in our body.
- Clinically relevant biochemical analysis for deeper understanding of all biochemical components i.e., Proteins, Electrolytes, Hormones etc

763) Course Title: Immunology & Virology
Faculty:Dr. Soumya Jal

Course Objective:

- Understanding the concept of Innate & adaptive immune system; complement system; Hypersensitivity

- Clinically relevant serological analysis for deeper understanding of antigen-antibody interaction
- To understand the concept of cells of immune system and organs of immune system
- To understand the properties of virus, diagnosis of important viruses and vaccination

764) Course Title: Histology
Faculty:Susmita Chakrabarty

Course Objective:

- Understanding the concept of histotechnology;Basic concepts about routine methods of examination of tissues Collection.
- perform routine laboratory procedures encompassing all major areas of the histology laboratory.
- accurately and proficiently embed tissue and understand the principles of microtomy.
- Clinically relevant onchological analysis for deeper understanding of abnormal cell growth at anywhere in human body.
- The conceptual understanding of the subject provides opportunities for employability and scopes for higher education.

765) Course Title: Research Methodology
Faculty:Dr. Monali Priyadarsini Mishra
Course Objective:

- To equip students with a basic understanding of the underlying principles of quantitative and qualitative research methods.
- Provide students with in-depth training on the conduct and management of research from inception to completion using a wide range of techniques.

766) Course Title: Clinical Bacteriology
Faculty:Dr. Monali Priyadarsini Mishra

Course Objective:

- To confirm the suspicion of infectious bacterial disease.
- To identify the etiologic agent by isolating the causative bacterial pathogen.

767) Course Title: Medical Laboratory Technology
Faculty:Prof. Sunil Kumar Jha

Course Objective:

- Understanding the concept of Medical Laboratory Science
- Diagnosis of Disease
- Understanding Rules and Regulations for clinical laboratory
- Automentation technique in diagnostic division

768) Course Title: Medical Microbiology
Faculty:Miss Sonali Dash

Course Objective:

- The content of this course includes many etiological agents responsible for global infectious diseases.
- It covers all biology of bacteria, viruses and other pathogens related with infectious diseases in humans.
- It will also provide opportunities for a student to develop diagnostic skills in microbiology, including the practical application and interpretation of laboratory tests for the diagnosis of infectious diseases.
- The content of this course includes isolation process of culturable microorganism from clinical samples like bacteria, fungus and other pathogens related with infectious diseases in humans.

769) Course Title: Blood Banking
Faculty:Prof. Sunil Kumar Jha

Course Objective:

- Understanding blood bank method, demonstrate knowledge of testing
- Knowledge of Anticoagulant used in blood bank
- Get knowledge about blood regulation policy
- Understanding solid organ transplantation and it's policy
- Basic of transfusion reaction
- Investigation related to blood bank

770) Course Title: Advanced Hematology
Faculty:Susmita Chakrabarty

Course Objective:

- The overall aims are that the student should obtain advanced knowledge of the most common hematologic diseases & understanding the concept of Blood cells and other blood components.
- Demonstrate an understanding of the components of human blood and characteristics, functions, and abnormalities and disease states of each.
- Demonstrate proficiency in the skills necessary to perform blood cell counts, and evaluation of blood elements within stated limits of accuracy.
- Determine suitability of hematology specimens and dispose of them in the appropriate bio-hazard containers.

771) Course Title: Immunology & Parasitology
Faculty:Dr. Soumya Jal

Course Objective:

- Understanding the concept of Innate & adaptive immune system; complement system; Hypersensitivity.
- Clinically relevant serological analysis for deeper understanding of antigen-antibody interaction.
- To understand the concept of cells of immune system and organs of immune system.
- To understand the characteristics of parasites and their examination.

772) Course Title: Cell Biology
Faculty:Miss. Priyanka Priyadarshini Swain
Course Objective:

773) Course Title: Medical Instrumentation and Technique
Faculty:Susmita Chakrabarty

Course Objective:

- To learn the principle, instrumentation & application of Microscopy
- Principle, instrumentation & application of Centrifugation
- Principle of Spectroscopy

774) Course Title: Haematology
Faculty:Susmita Chakrabarty

Course Objective:

- The overall aims are that the student should obtain advanced knowledge of the most common hematologic diseases & understanding the concept of Blood cells and other blood components.
- Be able to handle an investigation of hemorrhagic disorder and laboratory abnormalities such as anaemia, polycythemia, leukopenia, leukocytosis, thrombocytopenia, thrombocytosis, elevated ESR etc within hematology.
- Clinically relevant hematological analysis for deeper understanding of Evaluate normal and abnormal cell morphology with associated diseases and other blood components .

775) Course Title: Biochemistry
Faculty:Dr. Soumya Jal

Course Objective:

- To understand the concept of metabolism of carbohydrates

To understand the significance of amino acids, proteins

Use of enzymes in enhancing metabolic reactions

Role of lipids

776) Course Title: Microbiology
Faculty:Dr. Pratibha Rani Deep
Course Objective:

- To know various Culture media and their applications and also understand various physical and chemical means of sterilization .
- Master aseptic techniques and be able to perform routine culture handling tasks safely and effectively.
- To know the various Physical and Chemical growth requirements of microbes and get equipped with various methods of microbes culture techniques and their role in various industry.

777) Course Title: Systemic Virology & Mycology
Faculty:Miss Sonali Dash

Course Objective:

- To perform basic laboratory techniques in mycology, to isolate fungus from clinical samples for disease diagnosis.
- To describe the characteristics and diseases caused by pathogenic virus and fungi.
- Understanding different methods of virus cultivation.
- Understanding collection, transportation and preservation method of clinical specimen.

778) Course Title: Immunology
Faculty:Dr Sitaram Swain

Course Objective:

The primary objective of this course is to help students develop knowledge and skills related to health and disease and role of immune system.students are taught immunology so as to develop understanding of the subject, such as functioning the immune system, the molecular and cellular components and pathways that protect an organism from infectious agents

779) Course Title: Molecular Biology
Faculty:Gagan Kumar Panigrah
Course Objective:

- This course covers the structure function, and makeup of the molecular building blocks of prokaryotic and eukaryotic organisms.
  It focuses on the interactions and interrelationship of DNA, RNA and protein synthesis and how these interactions are regulated.

780) Course Title: Analytical Biochemistry
Faculty:Susmita Chakrabarty

Course Objective:

- Understanding the concept of Biochemical analyzing instruments both automated and semi automated.
- To learn about how to Care & Maintenance of Equipment & Chemicals.
- To learn normal ranges of biochemical components in our body.
- Clinically relevant biochemical analysis for deeper understanding of all biochemical components i.e., Proteins, Electrolytes, Hormones etc.

781) Course Title: Pharmaceutical Microbiology
Faculty:Dr. Soumya Jal

Course Objective:

- Understanding of types & synthesis of antimicrobial agents
- Manufacture of antibiotics
- To understand the mechanism of action of antibiotics

- To study how microorganisms are known to develop resistance to antibiotics

782) Course Title: Public Heath Microbiology
Faculty:Dr. Monali Priyadarsini Mishra

Course Objective:

- To learn the occurrence, abundance and distribution of microorganism in the community and their role in the associated with Public health and also learn different methods for their detection and characterization.
- To understand the basic principles of environment microbiology and be able to apply these principles to understanding and solving environmental problems – Water pollution and waterborne diseases, Air pollution and airborne infections.

783) Course Title: Diagnostic Virology
Faculty:Miss Sonali Dash

Course Objective:

- To produce a cadre of specialized medical virologists who would help establish clinical diagnostic services in various hospitals/centres.
- Understanding laboratory diagnosis of virus by both conventional and molecular method.

784) Course Title: Diagnostic Parasitology
Faculty:Miss Sonali Dash

Course Objective:

- Recognize the disgnostic stage of the infection under the microscope and to manage the infected patient.
- To examine parasites and parasitism, emphasizing the influence of parasites on the ecology and evolution of free-living species, and the role of parasites in global public health.

785) Course Title: Diagnostic Mycology
Faculty:Dr. Monali Priyadarsini Mishra

Course Objective:

- To confirm the suspicion of fungal disease.
- To identify the etiologic agent by isolating the causative fungal pathogen.

786) Course Title: Epidemiology
Faculty:Miss. Priyanka Priyadarshini Swain

Course Objective:

- Understand the basic epidemiological methods and study designs. Understand and discuss population based perspective to examine disease and health – related events.
- Discuss the ethical issues in epidemiological research. Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues.
- Describe a public health problem in terms of person, place, and time. Evaluate the strengths and limitations of epidemiologic reports
- Apply concepts, methods, and tools of public health data collection, analysis and interpretation, and the evidence-based reasoning and informatics approaches that are essential to public health practice

787) Course Title: Diagnostic Bacteriology
Faculty:Dr. Monali Priyadarsini Mishra

Course Objective:

- To confirm the suspicion of infectious bacterial disease.
- To identify the etiologic agent by isolating the causative bacterial pathogen.

788) Course Title: Applied Haematology

Faculty:Susmita Chakrabarty

Course Objective:

- The overall aims are that the student should obtain advanced knowledge of the most common hematologic diseases & understanding the concept of Blood cells and other blood components.
- Demonstrate an understanding of the components of human blood and characteristics, functions, and abnormalities and disease states of each.
- Demonstrate proficiency in the skills necessary to perform blood cell counts, and evaluation of blood elements within stated limits of accuracy.
- Determine suitability of hematology specimens and dispose of them in the appropriate bio-hazard containers.

789) Course Title: Immunopathology
Faculty:Miss. Priyanka Priyadarshini Swain
Course Objective:
To understand how the immune system is working, about the components of the immune system, their functioning, the defense mechanisms against different pathogens (viruses, bacteria ,and parasites), the pathogenesis of immune diseases (hypersensitivity ,autoimmunity, immunodeficiencies),and on the mechanisms underlying the rejection of the transplants and the antitumor immune response.

It also provides knowledge of the main immunological techniques used in research and diagnostics.

790) Course Title: Medical Laboratory Management
Faculty:Prof. Sunil Kumar Jha

Course Objective:

- Explain and apply principle of effective test utilization
- Interpret, implement and complying law, regulation, accrediting standards and guidelines of Govt. and NG organizations.
- Design, implement and evaluate resources in lab
- Communicate effectively with laboratory personnel and health care professional.
- Explain and apply the major principle and tactics of laboratory administration.

791) Course Title: Mycology & Virology
Faculty: Miss Sonali Dash

Course Objective:

- To perform basic laboratory techniques in mycology, to isolate fungus from clinical samples for disease diagnosis.
- To describe the characteristics and diseases caused by pathogenic virus and fungi.
- Understanding different methods of virus cultivation.
- Understanding collection, transportation and preservation method of clinical specimen.
-

792) Course Title: Introduction to Quality and Patient Safety
Faculty:Prof. Sunil Kumar Jha

Course Objective:

- Knowing patient safety
- Report Distribution system
- Laboratory infection control Policy
- Bio-Medical waste management
- Understanding Patient rights
- ISO Policy for medical laboratory

793) Course Title: General Physiology
Faculty:Dr Nooka Raju Chintala

Course Objective:

794) Course Title: Basic Biochemistry
Faculty: Dr. Soumya Jal

Course Objective:

- To understand the concept of metabolism of carbohydrates

- To understand the significance of amino acids, proteins
- Use of enzymes in enhancing metabolic reactions

Role of lipids

795) Course Title: Applied Radiation Physics & Radiation Protection
Faculty:Dr.K.Venkata Prasad

Course Objective:

- To understand the importance of the X – rays in medical field
- To study the applications of radiotherapy sources.
- To develop an understanding of radiation measurements.
- To understand how to follow radiation protection rules
- To study the physical properties and applications of x- ray machine techniques

796) Course Title: Radiographic Technique - 1
Faculty:Sambangi Satyananda Shiva Sagar
Course Objective:

- Understanding the concept of anatomy and positioning of x ray radiography.
- To know the protocols of x ray in radiology

797) Course Title: Basic Equipment in Radiotherapy
Faculty:Subhraraj Panda

Course Objective:

- Introduction to the use of ionizing radiation for the management of cancer.
- To get exposure to different types of clinical radiation generators.
- Use of radioactive sources for the management of malignant and non-malignant diseases.
- To know different areas of cancer management using advanced types of equipment.

798) Course Title: Mammography and Ultrasound

Faculty:Dr Nooka Raju Chintala

Course Objective:

- To obtain Knowledge about the preparation and positioning of the patient during the imaging.
- To familiarize the student with the requirements and principles of imaging of the breast using X-ray mammography.
- To develop the technical skills of ultrasound, and doppler techniques to bring good quality images for better analysis.

799) Course Title: Computerized Tomography (CT Scanning) Method & Procedure

Faculty:Rajesh Sukkala

Course Objective: The course should help the students have a basic working knowledge of the main imaging modalities and also help them actually use it in practice. It should help them achieve a level so that they can function as technologists. In fact in this course physics of imaging modalities do not exist the course would have no meaning. This subject forms the basics of the understanding of the course both intellectually as well as professionally. This subject gives an insight into the world of imaging modalities. It will help them to work as technologists and not only technicians. It should help them work with full confidence as compared to the other students taking other courses.

800) Course Title: Image Interpretation of X-Ray Mammography, CT & MRI

Faculty:A Avinash

Course Objective: Understanding the anatomy and pathology of different body parts.

Identifying the anatomy and pathology of body parts in different planes and in different images like X ray, mammography,Ultrasound,CT and MRI.

801) Course Title: Orientation in Clinical Sciences Course Contents

Faculty:G. Indu Priya

Course Objective: Orientation of Clinical Sciences is designed to present students with essential concepts of pathological processes and altered health states. The course looks in depth at a wide variety of common pathological conditions.Clinical scenarios within each module correlate the anatomical pathology with major clinical symptoms and signs. Course concepts will focus on the cause, development and progress of disease, and how the body is affected. The Candidates should be skilled and sufficiently qualified with theoretical knowledge and able to develop skills and abilities to diagnose a specific disorder.

802) Course Title: Geometric Optics
Faculty:Dr K Venkata Prasad
Course Objective: To study of light and its behavior as it propagates in a variety of media.
To understand the phenomena of reflection and refraction of light at boundaries between media and subsequent image formation will be dealt with in detail.

- To study the reflections at plane and spherical surfaces and refractions at plane, spherical, cylindrical and toric surfaces.
- To Attention will be given to the system of surfaces and/or lenses and their imaging properties.
- To study the effect of aperture stops on the quality of images, such as blur, aberrations, depth of field and depth of focus.

803) Course Title: Ocular Anatomy
Faculty:Sourav Karmakar
Course Objective:

804) Course Title: Physical Optics
Faculty:Mr. Gouri Kumar Sahu
Course Objective: This course provides an understanding of wave nature of light to describe different optical phenomenon like interference, diffraction, polarisation, scattering. Photoluminescence, Stimulated emission, Radiometry

805) Course Title: Introduction to Optometry
Faculty:Ms. Anuhya Nalluri
Course Objective: This subject deals with the basic components & scope of optometry, national and international associations of optometry, various optometric instrumentations, visual acuity charts, basics of retinoscopy and other refraction devices.

806) Course Title: Visual Optics Ã¢â‚¬â€œI
Faculty:Vinay Dinakaran Mallepudi
Course Objective: This course will be taught in two consecutive semesters. Geometric Optics is the study of light and its behavior as it propagates in a variety of media. Specifically, the phenomena of reflection and refraction of light at boundaries between media and subsequent image formation will be dealt with in detail. Reflections at the plane and spherical surfaces and refractions at plane, spherical, cylindrical and toric surfaces will be studied in this course. Attention will be given to the system of surfaces and/or lenses and their imaging properties. The effect of aperture stops on the quality of images, such as blur and aberrations, depth of field and depth of focus, will also be studied.

807) Course Title: Optometric Optics Ã¢â‚¬â€œI
Faculty:Vinay Dinakaran Mallepudi
Course Objective: This course deals with understanding the theory behind spectacle lenses and frames, their materials, types, advantages and disadvantages, calculations involved, when and how to prescribe. It will impart construction, design application and development of lenses, particularly of the methods of calculating their power and effect.

808) Course Title: Ocular Diseases Ã¢â‚¬â€œI
Faculty:A Avinash
Course Objective:

809) Course Title: Ocular Microbiology & Pathology
Faculty:G. Indu Priya
Course Objective: This course provides an overview of the essential knowledge and skills in Microbiology and Pathology to identify the disorders which is required for an optometry technician to perform their work effectively. It helps in applying the correct procedures to laboratory investigations and interpretation of tests in terms of the underlying pathology, as well as an understanding of the sensitivity, specificity and limitations of certain investigations

810) Course Title: Clinical Examination Of Visual System Lab
Faculty:U.L.Devakumar
Course Objective:

811) Course Title: Optometric Optics Ã¢â‚¬â€œII & Dispensing Optics
Faculty:Vinay Dinakaran Mallepudi
Course Objective: This course deals with understanding the theory behind spectacle lenses and frames, their materials, types, advantages and disadvantages, calculations involved, when and how to prescribe. It will impart construction, design application and development of lenses, particularly of the methods of calculating their power and effect.

812) Course Title: Contact Lenses-I
Faculty:A Avinash
Course Objective:

813) Course Title: Ocular Diseases Ã¢â‚¬â€œII

Faculty:A Avinash
Course Objective: The subject provides the student with suitable knowledge both in theoretical and practical aspects of Contact Lenses.

814) Course Title: Contact Lenses-II
Faculty:Vinay Dinakaran
Course Objective: The subject provides the student with suitable knowledge both in theoretical and practical aspects of Contact Lenses.

815) Course Title: Binocular Vision Ã¢â‚¬â€œI
Faculty:Ms. Anuhya Nalluri
Course Objective: This course provides theoretical aspects of Binocular Vision and its clinical application. It deals with fundamentals of normal binocular vision and space perception, gross anatomy and physiology of extra ocular muscles, binocular movement coordination and binocular optical defects, amblyopia & nystagmus

816) Course Title: Low Vision & Rehabilitation
Faculty:Sourav Karmakar
Course Objective: At the end of the course, the student will be knowledgeable in the following:
1. Definition and epidemiology of Low Vision
2. Clinical examination of Low vision subjects
3. Optical, Non-Optical, Electronic, and Assistive devices.
4. Training for Low Vision subjects with Low vision devices
5. Referrals and follow-up

817) Course Title: Basic & Ocular Pharmacology
Faculty:Dr Chaitanya
Course Objective: This course covers the actions, uses, adverse effects and mode of administration of drugs, especially related to eyes.

818) Course Title: Occupational Optometry
Faculty:Ms. Anuhya Nalluri
Course Objective: This course deals with general aspects of occupational health, Visual function demands in various jobs, visual task analysis, visual standards, occupational hazards, occupational safety and role of optometrist in different occupations through classroom sessions and project presentations.

819) Course Title: Optometric Instruments
Faculty:Sourav Karmakar

Course Objective:

820) Course Title: Public Health & Community Optometry
Faculty:Dr. Monali Priyadarsini Mishra
Course Objective:

821) Course Title: Contact lens
Faculty:A Avinash
Course Objective: 1. Understand the basics of contact lenses
2. List the important properties of contact lenses
3. Finalise the CL design for various kinds of patients
4. Recognize various types of fitting

5. Explain all the procedures to patient
6. Identify and manage the adverse effects of contact lens

822) Course Title: Microbiology
Faculty:Dr. Pratibha Rani Deep
Course Objective: To know various Culture media and their applications and also understand various physical and chemical means of sterilization .

Master aseptic techniques and be able to perform routine culture handling tasks safely and effectively.

To know the various Physical and Chemical growth requirements of microbes and get equipped with various methods of microbes culture techniques and their role in various industry.

823) Course Title: Pharmacology
Faculty:Gulshan Kumar
Course Objective: 1. Identify the fundamental principles of pharmacokinetics and pharmacodynamics.□2. Compare and contrast the specific pharmacology of the major classes of drugs, important distinctions among members of each class, the risks and benefits, in relation to the organ systems they affect, and the diseases for which they are used therapeutically.

824) Course Title: Introduction to Anesthesia and OT Technology
Faculty:Dr D Sree Lakshmi

Course Objective: I am text block. Click edit button to change this text. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut elit tellus, luctus nec ullamcorper mattis, pulvinar dapibus leo.

825) Course Title: Applied Anatomy and Physiology Related to Anesthesia Technology
Faculty:Dr Chaitanya
Course Objective: This course covers the anatomical and physiological aspects related to anesthesia technology

826) Course Title: Basic Principles of Hospital Management
Faculty:Dr Nooka Raju Chintala
Course Objective: To impart knowledge about the Principles of Hospital Management and Organization
To familiarize the student with the importance and different functions of Management.
To learn about the concepts of inventory control and get awareness regarding the National Programmes of Health and disease eradication/control.

827) Course Title: Anesthesia for Specialty Surgeries
Faculty:Dr D Sree Lakshmi
Course Objective: I am text block. Click edit button to change this text. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut elit tellus, luctus nec ullamcorper mattis, pulvinar dapibus leo.

828) Course Title: Anesthesia for Patients with Medical disorders
Faculty:Dr D Sree Lakshmi
Course Objective: I am text block. Click edit button to change this text. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut elit tellus, luctus nec ullamcorper mattis, pulvinar dapibus leo.

829) Course Title: Hospital and Clinical Pharmacy
Faculty:VIVEK BARIK
Course Objective: To be recognised nationally and internationally as a leader in improving medication outcomes and pharmacy practice research and education. To establish relationships with key individuals and organisations to improve the quality use of medicines and health outcomes.

830) Course Title: Information Security FundamentalsÃ‚
Faculty:K V Kalyan Chakravarthy

Course Objective: The objective of this course is to focus on the models, tools, and techniques for enforcement of security.
Students will learn security from multiple perspectives.

831) Course Title: Digital ForensicsÃ, Ã,
Faculty:Mr. Gyana Ranjana Panigrahi
Course Objective: This course focuses on two aspects of Cyber Security: analysis and assessment of risk plus how to minimize it, and, how to extract and use digital information from a wide range of systems and devices. The course is structured so that all students cover the same introductory material, but then choose to specialize in either Cyber Security or Digital Forensics. Any aforesaid science graduate who requires keen interest & knowledge of IT programming languages with basic knowledge of math beyond calculus.

832) Course Title: IT Infrastructure Management
Faculty:K V Kalyan Chakravarthy
Course Objective: To learn how to install DOS and NON-DOS OS
Assembling and dissembling computer and laptop
To configure network

833) Course Title: Operating System Concepts
Faculty:Suvendu Kumar Nayak
Course Objective: To understand the services provided by and the design of an operating system.

To understand the structure and organization of the file system.

To understand what a process is and how processes are synchronized and scheduled.

To understand different approaches to process management, management and resource management

To understand the data structures and algorithms used to implement an OS.

834) Course Title: Structural Detailing and Drawing
Faculty:Vignesh M
Course Objective: To introduce the students to basic theory and concepts of Structural Drawing, STAAD Pro and the classical methods for the analysis of building drawings.
 On completion of this course the students will be able to know the process of making sketches, types of projections, designing of beam, columns and shear walls.

835) Course Title: Building Information Modeling
Faculty:Chiranjeeb Prasad Mohanty
Course Objective: This course aims to make the participants productive by giving the ability to produce drawings and redone images of buildings.
It will help navigate user interface, architectural objects such as door, walls, roofs, windows, and stairs.
Covering the basics of Revit Architecture, This course will assist in the creation of schematic design through construction documentation.

836) Course Title: OOPs with C ++ Programming
Faculty:K.Santoshachandra Rao
Course Objective: To understand how C++ improves C with object-oriented features
To learn how to design C++ classes for code reuse
To learn how inheritance and virtual functions implement dynamic binding with polymorphism
To learn how to use exception handling in C++ programs

837) Course Title: IT Infrastructure Management
Faculty:K V Kalyan Chakravarthy
Course Objective: To learn how to install DOS and NON-DOS OS
Assembling and dissembling computer and laptop
To configure network

838) Course Title: Java Technologies
Faculty:Sashi Bhusan Maharana
Course Objective: Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.
Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.
Be aware of the important topics and principles of software development
Have the ability to write a computer program to solve specified problems
Have the ability to write a computer program to solve specified problems
Be able to use the Java SDK environment to create, debug and run simple Java programs

839) Course Title: Data Structures using C++
Faculty:K.Santoshachandra Rao
Course Objective: Be familiar with techniques of algorithm analysis and Recursive method
Be familiar with implementation of linked data structures such as linked lists and binary trees

Be familiar with several sub-quadratic sorting algorithms including quick sort, merge sort and heap sort
Be familiar with some graph algorithms such as shortest path and minimum spanning tree

840) Course Title: Database Creation and Maintenance
Faculty:Ms. Sasmita Kumari Nayak
Course Objective: Foundation knowledge in database concepts, technology and practice to groom students into well-informed database application developers.
Make the students understand the principles behind relational database management systems, including the database environment, the relational model, relational languages, develop simple SQL queries using MySQL Workbench.
Strong practice in SQL programming through a variety of database problems.

841) Course Title: Operating System Concepts
Faculty:Mrs.Monalisa Joshi
Course Objective: The objectives of the operating system are −.

To make the computer system convenient to use in an efficient manner.
To hide the details of the hardware resources from the users.
To provide users a convenient interface to use the computer system.
Course Description Covers the classical internal algorithms and structures of operating systems, including CPU scheduling, memory management, and device management.
Considers the unifying concept of the operating system as a collection of cooperating sequential processes.
Distinguish between Operating Systems software and Application Systems software.
Describe commonly used operating systems. Identify the primary functions of an Operating System.
Describe the “boot” process. Identify Desktop and Windows features. Use Utility programs.

842) Course Title: Wireless Networks
Faculty:K V Kalyan Chakravarthy
Course Objective: Describe the features and functions of WLAN components.
Skills needed to install, configure, and troubleshoot WLAN hardware peripherals and protocols.
Understand the Wi-Fi communications process and security standards.

843) Course Title: Information Security
Faculty:K V Kalyan Chakravarthy

Course Objective: The objective of this course is to focus on the models, tools, and techniques for enforcement of security.
Students will learn security from multiple perspectives.

844) Course Title: Database Cluster Administration and Security
Faculty:G.Narasimha Rao
Course Objective: The objective of this course is to focus on the models, tools, and techniques for enforcement of security.
Students will learn security from multiple perspectives.

845) Course Title: Advanced Web Programming
Faculty:Debendra Maharana
Course Objective: Understand client server architecture and able to use the skills for web project development
Create job opportunities as a web developer..

846) Course Title: Formal Language and Automata Theory
Faculty:A Avinash
Course Objective: This course covers the theoretical computer science areas of formallanguages and automata, computability and complexity. Topics covered include: regular and context-free languages; finite automata and pushdown automata; Turing machines; computability - halting problem, solvable and unsolvable problems.
Study of the “lexical analyzer” of a typical compiler, that is, the compiler component that breaks the input text into logical units, such as identifiers, keywords, and punctuation; Software for scanning large bodies of text, such as collections of Web pages, to find occurrences of words, phrases, or other patterns.

847) Course Title: Android App Development
Faculty:Sanjib Kumar Naik
Course Objective: Introduction to the Android platform for Mobile Application Development.
Understand Native Android Application, Android SDK features, Android Virtual Device (AVD), SDK manager, The Android Application Lifecycle.
Understand Application Priority and Process state.
Fundamental Android UI Design, Introduction Views, Creating Activity with UI to lunch the Activity.
Explicitly Starting new Activities, Implicit Intent, and Runtime Binding
Saving simple Application Data, creating and Saving Preferences, Retrieving Shared Preference.
Introduction the Preference Activity and Preference Framework.

Introduction Android Database, Introduction SQLite, and Content value working with SQLite Databases.

848) Course Title: Cloud Practitioners
Faculty:K V Kalyan Chakravarthy
Course Objective: Understanding fundamentals of Cloud and its basic infrastructure
Learn about account management, billing and pricing
Acquire knowledge on security model and compliance concepts
Learn how to use different core services of Cloud

849) Course Title: Office Automation
Faculty:Asha Rani Dalai
Course Objective: Introduces the basic features of Microsoft Office, Windows basics, and file management.
Develops familiarity with Word, Excel, Access, PowerPoint, email, and Internet basics.

850) Course Title: Computer System Architecture
Faculty:Dr. Jayakishan Meher
Course Objective: Grasp characteristics of computer systems to develop balanced system design that maximizes the computer performance.
Identify elements of modern instruction sets and their impact on processor design including how constructs in high level languages are realized.
Experience use of a design/simulation tool to model various parts in computer design.

851) Course Title: Fundamentals Of Algorithm Design And Analysis
Faculty:Mrs.Monalisa Joshi
Course Objective: The objective of this course is to study paradigms and approaches used to analyze and design algorithms and to appreciate the impact of algorithm design in practice. It also ensures that students understand how the worst-case time complexity of an algorithm is defined
How asymptotic notation is used to provide a rough classification of algorithms,
how a number of algorithms for fundamental problems in computer science and engineering work and compare with one another, and how there are still some problems for which it is unknown whether there exist
efficient algorithms, and how to design efficient algorithms.

852) Course Title: Internet and Web Technology
Faculty:Mrs. Prativa Satpathy

Course Objective: Describe Internet hardware components and their interaction, including server and client computers, hubs, switches and routers.
Compare different guided and unguided media used to transmit Internet communications.
Describe network types, topologies and structural arrangements.
Describe the organisation and access of files, including directories and URLs.

853) Course Title: Dot Net Technology
Faculty:Mrs. Prativa Satpathy
Course Objective: This course is designed to provide the knowledge of Dot Net Frameworks along with ASP.Net ,ADO.Net and C#.

854) Course Title: Database Management Systems
Faculty:A Avinash
Course Objective: To understand the different issues involved in the design and implementation of a database system.
To study the physical and logical database designs, database Modeling,relational,hierarchical, and network models
To understand and use data manipulation language to query, update, and manage a database
To develop an understanding of essential Peoperties of DBMS concepts such as: database security,integrity, concurrency
To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS.

855) Course Title: Introduction to Mechantronics
Faculty:Ansuman Nanda
Course Objective: Understand Mechatronics system.
2. Understand principles of sensors,actuators its characteristics, interfacing with controller.
3. Understand and develop the concept of PLC system and its ladder programming, and significance of different control systems in industrial application.

856) Course Title: Mine Machinery I
Faculty:Abhimanyu Kumar Patel
Course Objective: To give knowledge on Mine machinery equipment like Wire Ropes, Rope Haulage, Head Gear Structure.
To give knowledge on Cage and Shaft fittings and their accessories.
To give knowledge on Winding, Friction Winding and Skip Winding. .

857) Course Title: Mine Machinery II

Faculty:Abhimanyu Kumar Patel
Course Objective: Different machineries that are used in mines for carrying out heavy operations.

858) Course Title: Mine Planning and Design
Faculty:Arun Kumar Sahoo
Course Objective:
To study the planning aspects of production, scheduling and monitoring of openpit
859) Course Title: Mine Planning and Design Practical
Faculty:Abhimanyu Kumar Patel
Course Objective: Creation and utilization of data base for various studies and applications of the same for planning and design of mining projects

860) Course Title: Data Science and Machine Learning
Faculty:Dr. Sujata Chakravarty
Course Objective:

"861) Course Title: Data Analysis and Visualisation
Using Python
Faculty:Dr Anita Patra
Course Objective: How to tell a story from data
How to marshal the data for storyline
The ability to develop visualisation to tell the story
The focus is on analysis of data using visualisation as a tool
"
862) Course Title: Machine Learning using Python
Faculty:Dr. Sujata Chakravarty
Course Objective: Understand the meaning, purpose, scope, stages, applications, and effects of ML.
Explore important packages of python, such as numpy, scipy, OpenCV and scikit-learn.

863) Course Title: ML for Predictive Analysis
Faculty:Dr. Sujata Chakravarty
Course Objective:

864) Course Title: ML for Image Analytics
Faculty:Dr. Sujata Chakravarty
Course Objective:

865) Course Title: ML for Hyperspectral imaging
Faculty:Dr. Sujata Chakravarty
Course Objective:

866) Course Title: Project
Faculty:Dr. Sujata Chakravarty
Course Objective:

867) Course Title: Advanced JAVA Programming
Faculty:Sujata Acharya
Course Objective:

868) Course Title: Product Development
Faculty:Dr. G. Arun Manohar
Course Objective: Understand modern product development processes.
Understand and explain the concept of Industrial design and robust design concepts.
Understand the concept of Design for manufacture and assembly.
Understand the legal factors, social issues, engineering ethics related to product design

869) Course Title: Aerial Survey and Remote Sensing Applications
Faculty:Dr.Prafulla Ku.Panda
Course Objective:

870) Course Title: Remote Sensing & Digital Image Processing
Faculty:Dr.Prafulla Ku.Panda
Course Objective:

871) Course Title: Geospatial Technology and its Application
Faculty:Dr.Prafulla Ku.Panda
Course Objective: To teach the basic concept of Geospatial Technology and to do various field works with the help of digital surveying instruments.
To provide basics of digital surveying and mapping of earth surface using GPS, DGPS, GPR

872) Course Title: Photogrammetry and its Application
Faculty:Dr.Prafulla Ku.Panda
Course Objective: To introduce digital photogrammetry

• To study the data acquisition and components

• To study data conversion techniques

• To study digital photogrammetric applications

873) Course Title: Lidar Remote sensing and its Applications
Faculty:Dr.Prafulla Ku.Panda
Course Objective:

874) Course Title: Hyper-spectral Remote Sensing and its Application
Faculty:Dr.Prafulla Ku.Panda
Course Objective:

875) Course Title: Cloud Technology
Faculty:K V Kalyan/Raj Kumar Mohanta
Course Objective:

876) Course Title: AWS Solution Architect (SAA-CO2)
Faculty:K V Kalyan/Raj Kumar Mohanta
Course Objective:

877) Course Title: AWS Developer (DVA-CO1)
Faculty:K V Kalyan/Raj Kumar Mohanta
Course Objective:

878) Course Title: Cyber Security
Faculty:
Course Objective:

879) Course Title: Linux Administration
Faculty:Suvendu Kumar Nayak
Course Objective:

880) Course Title: Advanced Hacking Techniques
Faculty:Shreela Dash
Course Objective:

881) Course Title: System and Network Security
Faculty:Nilamadhab Dash
Course Objective:

882) Course Title: IT Data Security
Faculty:Shreela Dash
Course Objective:

883) Course Title: Embedded System Design
Faculty:Subrat Kumar Pradhan
Course Objective: To allow students in Embedded System sectors to learn programming / Interfacing peripherals to ARM Cortex based Microcontroller

884) Course Title: Micro-Controller Based Embedded System Design
Faculty:Subrat Kumar Pradhan
Course Objective: To allow students in Embedded System sectors to learn programming / Interfacing peripherals to ARM Cortex based Microcontroller

885) Course Title: Real-Time Operating System and Porting
Faculty:Swarna Prabha Jena
Course Objective: To allow students in Embedded System sectors to learn programming / Interfacing peripherals to ARM Cortex based Microcontroller

886) Course Title: Embedded Linux on ARM
Faculty:Swarna Prabha Jena
Course Objective: To allow students in Embedded System sectors to learn programming / Interfacing peripherals to ARM Cortex based Microcontroller

887) Course Title: Project
Faculty:Swarna Prabha Jena
Course Objective: To allow students in Embedded System sectors to learn programming / Interfacing peripherals to ARM Cortex based Microcontroller

888) Course Title: Gaming and Immersive Learning (AR & VR)
Faculty:Abhi Mitra

- Course Objective: Students will know about the History of Computer Graphics
- Know about Gaming Industry
- Understanding of Individual Roles in a Gaming Industry
- End to End Game Development Pipeline

889) Course Title: Introduction to Gaming & Simulation
Faculty:Abhi Mitra

- Course Objective: Students will know about the History of Computer Graphics
- Know about Gaming Industry
- Understanding of Individual Roles in a Gaming Industry
- End to End Game Development Pipeline

890) Course Title: Game Assets & Game Objects
Faculty:Abhi Mitra

- Course Objective: Students will know about the History of Computer Graphics
- Know about Gaming Industry
- Understanding of Individual Roles in a Gaming Industry
- End to End Game Development Pipeline

891) Course Title: Game Animation, Scripting & UI
Faculty:Abhi Mitra

- Course Objective: Students will know about the History of Computer Graphics
- Know about Gaming Industry
- Understanding of Individual Roles in a Gaming Industry
- End to End Game Development Pipeline

892) Course Title: Chip Design and Fabrication using VLSI
Faculty:Dr. Chandra Sekhar Dash and Satyanarayan Padhy
Course Objective: •This course would enable students to design analog / digital IC components, design of application-specific integrated circuits (ASICS) for digital systems and theory and practice of VLSI test and verification.
•To study the issues relating to the design of application-specific integrated circuits (ASICS) for digital systems.
•To involve the students in the theory and practice of VLSI test and verifications.

893) Course Title: ASIC Design
Faculty:Dr. Chandra Sekhar Dash and Satyanarayan Padhy

Course Objective: •This course would enable students to design analog / digital IC components, design of application-specific integrated circuits (ASICS) for digital systems and theory and practice of VLSI test and verification.
•To study the issues relating to the design of application-specific integrated circuits (ASICS) for digital systems.
•To involve the students in the theory and practice of VLSI test and verifications.

894) Course Title: Digital VLSI
Faculty:Dr. Chandra Sekhar Dash and Satyanarayan Padhy
Course Objective: •This course would enable students to design analog / digital IC components, design of application-specific integrated circuits (ASICS) for digital systems and theory and practice of VLSI test and verification.
•To study the issues relating to the design of application-specific integrated circuits (ASICS) for digital systems.
•To involve the students in the theory and practice of VLSI test and verifications.

895) Course Title: Analog VLSI
Faculty:Dr. Chandra Sekhar Dash and Satyanarayan Padhy
Course Objective: This course would enable students to design analog / digital IC components, design of application-specific integrated circuits (ASICS) for digital systems and theory and practice of VLSI test and verification.
•To study the issues relating to the design of application-specific integrated circuits (ASICS) for digital systems.
•To involve the students in the theory and practice of VLSI test and verifications.

896) Course Title: Verification Using SystemVerilog
Faculty:Dr. Chandra Sekhar Dash and Satyanarayan Padhy
Course Objective: •This course would enable students to design analog / digital IC components, design of application-specific integrated circuits (ASICS) for digital systems and theory and practice of VLSI test and verification.
•To study the issues relating to the design of application-specific integrated circuits (ASICS) for digital systems.
•To involve the students in the theory and practice of VLSI test and verifications.

897) Course Title: Operation and Maintenance of Electrical Grid System & Transformers

Faculty:Swakantik Mishra
Course Objective: To create technically trained manpower readily available for recruitment to the power/energy companies & Transformer Manufacturing firms in Electrical Sector.

"898) Course Title: Introduction, Power Scenario, Power
Quality & Fault clearance
Faculty:Swakantik Mishra
Course Objective: To create technically trained manpower readily available for recruitment to the power/energy companies & Transformer Manufacturing firms in Electrical Sector.
"
899) Course Title: Switchyard & substation Networks
Faculty:Swakantik Mishra
Course Objective: To create technically trained manpower readily available for recruitment to the power/energy companies & Transformer Manufacturing firms in Electrical Sector.

900) Course Title: Protection scheme & Switchgear
Faculty:Swakantik Mishra
Course Objective: To create technically trained manpower readily available for recruitment to the power/energy companies & Transformer Manufacturing firms in Electrical Sector.

901) Course Title: Cable system & Testing,
Faculty:Swakantik Mishra
Course Objective:To create technically trained manpower readily available for recruitment to the power/energy companies & Transformer Manufacturing firms in Electrical Sector.

902) Course Title: Power Markets
Faculty:Swakantik Mishra
Course Objective:To create technically trained manpower readily available for recruitment to the power/energy companies & Transformer Manufacturing firms in Electrical Sector.

903) Course Title: Grid Safety
Faculty:Swakantik Mishra
Course Objective:To create technically trained manpower readily available for recruitment to the power/energy companies & Transformer Manufacturing firms in Electrical Sector.

904) Course Title: Transformer Manufacturing
Faculty:Swakantik Mishra
Course Objective:To create technically trained manpower readily available for recruitment to the power/energy companies & Transformer Manufacturing firms in Electrical Sector

905) Course Title: Industrial Automation
Faculty:Gautam Modak
Course Objective:

By 2025, there will be 50 billion devices connected to the Internet. How will the students capitalize on this tremendous opportunity?

- Students will learn the new evolution in hardware, software, and data.

- While the promise of the Industrial Internet of Things (IIoT) brings many new business prospects, it also presents significant challenges ranging from technology architectural choices to security concerns.

- Students acquire upcoming Industrial IoT: Roadmap to the Connected World Course offers important insights on overcoming the challenges and thrive in this exciting space.

906) Course Title: Introduction to Industrial Automation
Faculty:Gautam Modak

Course Objective:

- Now a day's automation is everywhere like in Industries, Medical Science, Agriculture, Aerospace, Home, office, but the main tragedy is these industries are suffering due to lack of trained automation engineers.
- Now to fulfill the above scarcity of trained automation engineers we help the new comers as well as working professionals to get trained in automation field.
- Our vision is to be the market leader in the teaching, training, product design, development and implementation of industrial automation systems.

907) Course Title: Advanced Programming & Control Blocks of PLC
Faculty:Gautam Modak

Course Objective:

By 2025, there will be 50 billion devices connected to the Internet. How will the students capitalize on this tremendous opportunity?

- Students will learn the new evolution in hardware, software, and data.
- While the promise of the Industrial Internet of Things (IIoT) brings many new business prospects, it also presents significant challenges ranging from technology architectural choices to security concerns.
- Students acquire upcoming Industrial IoT: Roadmap to the Connected World Course offers important insights on overcoming the challenges and thrive in this exciting space.

908) Course Title: Control & Signal Wiring of PLC
Faculty:Gautam Modak

Course Objective:

- Now a day's automation is everywhere like in Industries, Medical Science, Agriculture, Aerospace, Home, office, but the main tragedy is these industries are suffering due to lack of trained automation engineers.

- Now to fulfill the above scarcity of trained automation engineers we help the new comers as well as working professionals to get trained in automation field.

- Our vision is to be the market leader in the teaching, training, product design, development and implementation of industrial automation systems.

909) Course Title: SCADA based advanced features
Faculty:Gautam Modak
Course Objective:

- By 2025, there will be 50 billion devices connected to the Internet. How will the students capitalize on this tremendous opportunity?

- Students will learn the new evolution in hardware, software, and data.

- While the promise of the Industrial Internet of Things (IIoT) brings many new business prospects, it also presents significant challenges ranging from technology architectural choices to security concerns.

- Students acquire upcoming Industrial IoT: Roadmap to the Connected World Course offers important insights on overcoming the challenges and thrive in this exciting space.

910) Course Title: SCADA & PLC based sequential control
Faculty:Gautam Modak

Course Objective:

- Now a day's automation is everywhere like in Industries, Medical Science, Agriculture, Aerospace, Home, office, but the main tragedy is these industries are suffering due to lack of trained automation engineers.

- Now to fulfill the above scarcity of trained automation engineers we help the new comers as well as working professionals to get trained in automation field.

- Our vision is to be the market leader in the teaching, training, product design, development and implementation of industrial automation systems.

911) Course Title: Human Machine Interface
Faculty:Gautam Modak
Course Objective:By 2025, there will be 50 billion devices connected to the Internet. How will the students capitalize on this tremendous opportunity?

- Students will learn the new evolution in hardware, software, and data.

- While the promise of the Industrial Internet of Things (IIoT) brings many new business prospects, it also presents significant challenges ranging from technology architectural choices to security concerns.

- Students acquire upcoming Industrial IoT: Roadmap to the Connected World Course offers important insights on overcoming the challenges and thrive in this exciting space.

912) Course Title: OPC server base data fetching & control
Faculty:Gautam Modak

Course Objective:

- Now a day's automation is everywhere like in Industries, Medical Science, Agriculture, Aerospace, Home, office, but the main tragedy is these industries are suffering due to lack of trained automation engineers.

- Now to fulfill the above scarcity of trained automation engineers we help the new comers as well as working professionals to get trained in automation field.

- Our vision is to be the market leader in the teaching, training, product design, development and implementation of industrial automation systems.

913) Course Title: Project
Faculty:Gautam Modak
Course Objective:By 2025, there will be 50 billion devices connected to the Internet. How will the students capitalize on this tremendous opportunity?

- Students will learn the new evolution in hardware, software, and data.

- While the promise of the Industrial Internet of Things (IIoT) brings many new business prospects, it also presents significant challenges ranging from technology architectural choices to security concerns.

- Students acquire upcoming Industrial IoT: Roadmap to the Connected World Course offers important insights on overcoming the challenges and thrive in this exciting space.

914) Course Title: Internship
Faculty:Gautam Modak

Course Objective:

- Now a day's automation is everywhere like in Industries, Medical Science, Agriculture, Aerospace, Home, office, but the main tragedy is these industries are suffering due to lack of trained automation engineers.

- Now to fulfill the above scarcity of trained automation engineers we help the new comers as well as working professionals to get trained in automation field.

- Our vision is to be the market leader in the teaching, training, product design, development and implementation of industrial automation systems.

915) Course Title: Architectural and Structural Design
Faculty:Sadhana Devi, Sagarika Panda, Snigdha Sanyal

Course Objective:

1. To teach the Principles of architectural building design.
2. To familiarise the student with practicing life in construction industry and orient their learnings towards practical application in the field
3. Make a difference with cutting edge technology

"916) Course Title: Critical Thinking and Presenting it with
Digital Platform

Faculty:Sadhana Devi, Sagarika Panda, Snigdha Sanyal

Course Objective:

1. To teach the Principles of architectural building design.
2. To familiarise the student with practicing life in construction industry and orient their learnings towards practical application in the field
3. Make a difference with cutting edge technology

"

"917) Course Title: Scope to Enrich by Exposing them to BIM Modelling

Faculty:Sadhana Devi, Sagarika Panda, Snigdha Sanyal

Course Objective:

1. To teach the Principles of architectural building design.
2. To familiarise the student with practicing life in construction industry and orient their learnings towards practical application in the field
3. Make a difference with cutting edge technology

"

918) Course Title: Design and Failure Analysis of Structure

Faculty:Sadhana Devi, Sagarika Panda, Snigdha Sanyal

Course Objective:

1. To teach the Principles of architectural building design.
2. To familiarise the student with practicing life in construction industry and orient their learnings towards practical application in the field
3. Make a difference with cutting edge technology

"919) Course Title: Amalgamation of Architecture and Civil Requirements using Generative Apps

Faculty:Sadhana Devi, Sagarika Panda, Snigdha Sanyal

Course Objective:

1. To teach the Principles of architectural building design.
2. To familiarise the student with practicing life in construction industry and orient their learnings towards practical application in the field
3. Make a difference with cutting edge technology

"

920) Course Title: Composite Design and Manufacturing
Faculty:Blank

Course Objective:

- Learn design of a composite material and design a system using the composite.
- To test the composite and control quality.

921) Course Title: Introduction to composites
Faculty:Sipalin Nayak

Course Objective:

- Learn design of a composite material and design a system using the composite.
- To test the composite and control quality.

"922) Course Title: Composite materials and characterization
techniques
Faculty:Sipalin Nayak

Course Objective:

- Learn design of a composite material and design a system using the composite.
- To test the composite and control quality.

923) Course Title: CATIA-Composites Design
Faculty:Kalpesh Swain

Course Objective:

- Learn design of a composite material and design a system using the composite.
- To test the composite and control quality.

924) Course Title: Composite Product Validation; Simulia
(Abaqus FEA)
Faculty:Kalpesh Swain

Course Objective:

- Learn design of a composite material and design a system using the composite.
- To test the composite and control quality.

925) Course Title: GO-TO-MARKET
Faculty:Sipalin Nayak

Course Objective:

- Learn design of a composite material and design a system using the composite.
- To test the composite and control quality.

926) Course Title: Design Thinking and Managing Innovation
Through GATE Process
Faculty:Sipalin Nayak

Course Objective:

- Learn design of a composite material and design a system using the composite.
- To test the composite and control quality.

927) Course Title: PLM Tools on Dassault Platform
Faculty:Sipalin Nayak

Course Objective:

- Learn design of a composite material and design a system using the composite.
- To test the composite and control quality.

928) Course Title: Process Management (Using Enovia)
Faculty:Sipalin Nayak

Course Objective:

- Learn design of a composite material and design a system using the composite.
- To test the composite and control quality.

929) Course Title: Go To Market-Product Development
Faculty:Sipalin Nayak

Course Objective:

- Learn design of a composite material and design a system using the composite.
- To test the composite and control quality.

930) Course Title: Welding and Inspection
Faculty:SUDEEP KUMAR SINGH
Course Objective:
1.To develop understanding and skill of students for Welding Technology
2. students pursuing this domain will be ready for industrial employment
3. The students develop passion for higher education and research in Welding Engineering

931) Course Title: Automobile Engineering
Faculty:AMIT KUMAR SAHOO
Course Objective:
1.To familiarize the students with different systems and subsystems of automobile.
2. To teach basic skill in maintenance of different types of automobiles.
3. To know the operation and maintenance of electric vehicle.

932) Course Title: Introduction to Automobile Engineering
Faculty:AMIT KUMAR SAHOO
Course Objective:
1.To familiarize the students with different systems and subsystems of automobile.
2. To teach basic skill in maintenance of different types of automobiles.
3. To know the operation and maintenance of electric vehicle.

933) Course Title: Computational Fluid Dynamics
Faculty:Dr. Ashok Misra, Mr.Sujit Mishra & Mr.Mukundjee pandey

Course Objective:

- To provide the knowledge of CFD in the Industrial Level.
- To apply CFD methods as a tool for design, analysis and engineering applications.

934) Course Title: Introduction to CFD
Faculty:Dr. Ashok Misra

Course Objective:

- To provide the knowledge of CFD in the Industrial Level.
- To apply CFD methods as a tool for design, analysis and engineering applications.

935) Course Title: Grid Generation
Faculty:Mr.Sujit Mishra

Course Objective:

- To provide the knowledge of CFD in the Industrial Level.
- To apply CFD methods as a tool for design, analysis and engineering applications.

936) Course Title: Flow Solver Techniques-Simulia
Faculty:Mr.Sujit Mishra

Course Objective:

- To provide the knowledge of CFD in the Industrial Level.
- To apply CFD methods as a tool for design, analysis and engineering applications.

937) Course Title: Simulation and Validation
Faculty:Mukundjee pandey

Course Objective:

- To provide the knowledge of CFD in the Industrial Level.
- To apply CFD methods as a tool for design, analysis and engineering applications.

938) Course Title: Industry Specific Project and/or Internship
Faculty:Mukundjee pandey

Course Objective:

- To provide the knowledge of CFD in the Industrial Level.
- To apply CFD methods as a tool for design, analysis and engineering applications.

939) Course Title: Renewable Energy Applications
Faculty:Nimay Chandra Giri, Debashree Debadatta Behera, Abhinna Chandra Biswal, Smruti Ranjan Nayak
Course Objective:

The objectives of of these subjects are:

- 1. To gain the knowledge on different types of materials used in Renewable Energy.
- 2. To understand the importance of Renewable Energy technology and it's applications.
- 3. To know the applications of solar thermal technology.
- 4. To become expert in Entrepreneurship.

940) Course Title: Materials for Renewable Energy applications
Faculty:Dr. Abhinna Chandra Biswal
Course Objective:

The objectives of of these subjects are:

- 1. To gain the knowledge on different types of materials used in Renewable Energy.
- 2. To understand the importance of Renewable Energy technology and it's applications.
- 3. To know the applications of solar thermal technology.
- 4. To become expert in Entrepreneurship.

941) Course Title: Micro-grid Design & Implementation
Faculty:SMRUTI RANJAN NAYAK
Course Objective:

- To learn the Rooftop solar sector in India
- To explain the structure of Microgrid system
- To outline division aspects and utilization of Microgrid system for both domestic and industrial applications

942) Course Title: Smart Farm Machinery
Faculty:Shekhar Kumar Sahu
Course Objective:
1. To make student learn about the smart technologies and their application in farm machinery.
2. To make student learn how to design farm machinery and develop its 3D model in software.
3. To make student learn how to simulate the model using software.
4. To make student learn how to develop a prototype model and test it in rearl conditions.

943) Course Title: Piloting a Drone
Faculty:D Rahul Rao
Course Objective:

1. To pursue the knowledge as a developing country to implement and improve the undesirable human tasks with the help of Drones (UAV).
2. To understand the future and present growing technology on UVA and drones in various technical fields.
3. Complying to the industry specifications, guidelines and safety standards during work
4. Technical Perspective of Drone in India, Technical Aspects of Drone , Experience of Drone Deployment In India.
5. To familiar them with some new electronic equipment and programmable device which will not only help them in Quadcopter but in also upcoming innovation.
6. To be a Drone Pilot.

944) Course Title: Organic Farming
Faculty:Ms. Deepthy
Course Objective:

Domain Objectives
1.To impart traditional,innovative and scientific skills in organic farming.

2.To demonstrate low cost media preparation and impart ecofriedly inputs in Biofertilizer production

"945) Course Title: Certification and Inspection Systems in Organic
Farming in India.
Faculty:Ms. Roja
Course Objective:

Domain Objectives
1.To impart traditional,innovative and scientific skills in organic farming.

2.To demonstrate low cost media preparation and impart ecofriedly inputs in Biofertilizer production

"

946) Course Title: Biopesticides and Biofertilizers
Faculty:Dr. Praveen Boddana and Dr. Ria Mukhopadhyay
Course Objective:

Domain Objectives
1.To impart traditional,innovative and scientific skills in organic farming.

2.To demonstrate low cost media preparation and impart ecofriedly inputs in Biofertilizer production

947) Course Title: Organic Production- Field Crops

Faculty:Ms. Roja
Course Objective:

1.To impart traditional,innovative and scientific skills in organic farming.

2.To demonstrate low cost media preparation and impart ecofriedly inputs in Biofertilizer production

948) Course Title: Organic Production- Horticultural Crops
Faculty:Ms. Roja
Course Objective:

1.To impart traditional,innovative and scientific skills in organic farming.

2.To demonstrate low cost media preparation and impart ecofriedly inputs in Biofertilizer production

949) Course Title: Biofertilizer and Biopesticide Production Technology
Faculty:Dr. Praveen Boddana and Dr. Ria Mukhopadhyay
Course Objective:

1.To impart traditional,innovative and scientific skills in organic farming.

2.To demonstrate low cost media preparation and impart ecofriedly inputs in Biofertilizer production

950) Course Title: Dairy Processing and Development
Faculty:Soma Maji
Course Objective:
• To acquaint students about the processes involved in the processing of raw milk with constructional details, operation and maintenance of dairy equipments.
• To impart a comprehensive knowledge on chemical and microbiological quality of milk for production of health beneficial foods.
• To apprise students with the quality control and safety of milk and milk products.

951) Course Title: Dairy Starters in Fermented Milk Products
Faculty:Dr. Rajashree Jena and Dr. Prasanta Kumar Choudhury
Course Objective:

- To acquaint students about the processes involved in the processing of raw milk with constructional details, operation and maintenance of dairy equipment.

- To impart a comprehensive knowledge on dairy starters for the production of health beneficial fermented foods.
- To apprise students with the quality control and safety of milk and milk products.

952) Course Title: Quality Assurance in Dairy Industry
Faculty:Soma Maji
Course Objective:

- To acquaint students about the processes involved in the processing of raw milk with constructional details, operation and maintenance of dairy equipment.
- To impart a comprehensive knowledge on dairy starters for the production of health beneficial fermented foods.
- To apprise students with the quality control and safety of milk and milk products.

953) Course Title: Dairy Products Development
Faculty:Dr. Rajashree Jena and Dr. Prasanta Kumar Choudhury and Dr. Vivek Kumar
Course Objective:

- To acquaint students about the processes involved in the processing of raw milk with constructional details, operation and maintenance of dairy equipment.
- To impart a comprehensive knowledge on dairy starters for the production of health beneficial fermented foods.
- To apprise students with the quality control and safety of milk and milk products.

954) Course Title: Symbiotic Dairy Foods
Faculty:Dr. Rajashree Jena and Dr. Prasanta Kumar Choudhury
Course Objective:

- To acquaint students about the processes involved in the processing of raw milk with constructional details, operation and maintenance of dairy equipment.
- To impart a comprehensive knowledge on dairy starters for the production of health beneficial fermented foods.
- To apprise students with the quality control and safety of milk and milk products.

955) Course Title: Quality Analysis of Milk and Milk Products
Faculty:Soma Maji
Course Objective:

- To acquaint students about the processes involved in the processing of raw milk with constructional details, operation and maintenance of dairy equipment.

- To impart a comprehensive knowledge on dairy starters for the production of health beneficial fermented foods.
- To apprise students with the quality control and safety of milk and milk products.

956) Course Title: Intensive Aquaculture
Faculty:Dr.Sambid Swain
Course Objective:

1. To enable students to gain practical experience in industry-specific procedures.
2. To provide students with a good understanding of how the various aspects of water quality affecting aquaculture.
3. To provide an understanding of managing stock levels in an aquaculture setting
4. To develop students' experience of collation, presentation and interpretation of data collated during applied study

957) Course Title: Intensive Fish Rearing
Faculty:Dr.Sambid Swain
Course Objective:

1. To enable students to gain practical experience in industry-specific procedures.
2. To provide students with a good understanding of how the various aspects of water quality affecting aquaculture.
3. To provide an understanding of managing stock levels in an aquaculture setting
4. To develop students' experience of collation, presentation and interpretation of data collated during applied study

958) Course Title: Ornamental Fish Farming
Faculty:Dr.Sambid Swain
Course Objective:

1. To enable students to gain practical experience in industry-specific procedures.
2. To provide students with a good understanding of how the various aspects of water quality affecting aquaculture.
3. To provide an understanding of managing stock levels in an aquaculture setting
4. To develop students' experience of collation, presentation and interpretation of data collated during applied study

959) Course Title: Biofloc Aquaculture
Faculty:Dr.Sambid Swain

Course Objective:

1. To enable students to gain practical experience in industry-specific procedures.
2. To provide students with a good understanding of how the various aspects of water quality affecting aquaculture.
3. To provide an understanding of managing stock levels in an aquaculture setting
4. To develop students' experience of collation, presentation and interpretation of data collated during applied study

"960) Course Title: Framing of SOPs for Intensive Fish Culture
and Ornamental Fish Culture
Faculty:Dr.Sambid Swain
Course Objective:

1. To enable students to gain practical experience in industry-specific procedures.
2. To provide students with a good understanding of how the various aspects of water quality affecting aquaculture.
3. To provide an understanding of managing stock levels in an aquaculture setting
4. To develop students' experience of collation, presentation and interpretation of data collated during applied study

961) Course Title: Health Management in Aquaculture
Faculty:Dr.Sambid Swain

Course Objective:

1. To enable students to gain practical experience in industry-specific procedures.
2. To provide students with a good understanding of how the various aspects of water quality affecting aquaculture.
3. To provide an understanding of managing stock levels in an aquaculture setting
4. To develop students' experience of collation, presentation and interpretation of data collated during applied study

962) Course Title: Feed Management in Aquaculture
Faculty:Dr.Sambid Swain

Course Objective:

1. To enable students to gain practical experience in industry-specific procedures.
2. To provide students with a good understanding of how the various aspects of water quality affecting aquaculture.
3. To provide an understanding of managing stock levels in an aquaculture setting
4. To develop students' experience of collation, presentation and interpretation of data collated during applied study

963) Course Title: Aquaculture Rearing
Faculty:Dr.Sambid Swain

Course Objective:

1. To enable students to gain practical experience in industry-specific procedures.
2. To provide students with a good understanding of how the various aspects of water quality affecting aquaculture.
3. To provide an understanding of managing stock levels in an aquaculture setting
4. To develop students' experience of collation, presentation and interpretation of data collated during applied study

964) Course Title: Seed Production using Manual and Molecular Methods
Faculty:Dr. Prabhat Kumar Singh

Course Objective:

- To acquaint students with conventional and modern breeding methods and its viable application in varietal development
- To impart a comprehensive knowledge of seed production in vegetable and cereal crops with adequate practical training
- To apprise students with the legislative provisions and processes as well as the mechanisms of quality control and seed certification

965) Course Title: Breeding methods: Conventional and Molecular Approach
Faculty:Dr. Prabhat Kumar Singh

Course Objective:

- To acquaint students with conventional and modern breeding methods and its viable application in varietal development
- To impart a comprehensive knowledge of seed production in vegetable and cereal crops with adequate practical training
- To apprise students with the legislative provisions and processes as well as the mechanisms of quality control and seed certification

966) Course Title: Seed Production of Vegetable and Cereals Crops
Faculty:Dr. Prabhat Kumar Singh

Course Objective:

- To acquaint students with conventional and modern breeding methods and its viable application in varietal development
- To impart a comprehensive knowledge of seed production in vegetable and cereal crops with adequate practical training
- To apprise students with the legislative provisions and processes as well as the mechanisms of quality control and seed certification

967) Course Title: Seed Certification
Faculty:Dr. Prabhat Kumar Singh

Course Objective:

- To acquaint students with conventional and modern breeding methods and its viable application in varietal development
- To impart a comprehensive knowledge of seed production in vegetable and cereal crops with adequate practical training
- To apprise students with the legislative provisions and processes as well as the mechanisms of quality control and seed certification

968) Course Title: Hybridization Techniques
Faculty:Dr. Prabhat Kumar Singh

Course Objective:

- To acquaint students with conventional and modern breeding methods and its viable application in varietal development
- To impart a comprehensive knowledge of seed production in vegetable and cereal crops with adequate practical training
- To apprise students with the legislative provisions and processes as well as the mechanisms of quality control and seed certification

969) Course Title: Vegetable Seed Production
Faculty:Dr. Prabhat Kumar Singh

Course Objective:

- To acquaint students with conventional and modern breeding methods and its viable application in varietal development
- To impart a comprehensive knowledge of seed production in vegetable and cereal crops with adequate practical training
- To apprise students with the legislative provisions and processes as well as the mechanisms of quality control and seed certification

970) Course Title: Cultivar Purity and Seed Quality Testing
Faculty:Dr. Prabhat Kumar Singh

Course Objective:

- To acquaint students with conventional and modern breeding methods and its viable application in varietal development
- To impart a comprehensive knowledge of seed production in vegetable and cereal crops with adequate practical training
- To apprise students with the legislative provisions and processes as well as the mechanisms of quality control and seed certification

971) Course Title: Genetic Engineering & Genomics
Faculty:Dr. Pushpalatha Ganesh/Dr. RukminiMisra
Course Objective:
To impart basic knowledge of bioinformatics in *in silico* and genomics to the students studying agriculture.

972) Course Title: Computational Biology
Faculty:Dr. Pushpalatha Ganesh/Dr. RukminiMisra

Course Objective:
To impart basic knowledge of bioinformatics in *in silico* and genomics to the students studying agriculture.

973) Course Title: Genetic Engineering and its applications
Faculty:Dr. Pushpalatha Ganesh/Dr. RukminiMisra
Course Objective:
To impart basic knowledge of bioinformatics in *in silico* and genomics to the students studying agriculture.

974) Course Title: Plant Molecular Biology
Faculty:Dr. Pushpalatha Ganesh/Dr. RukminiMisra
Course Objective:
To impart basic knowledge of bioinformatics in *in silico* and genomics to the students studying agriculture.

975) Course Title: Molecular Genomics
Faculty:Dr. Pushpalatha Ganesh/Dr. RukminiMisra
Course Objective:
To impart basic knowledge of bioinformatics in *in silico* and genomics to the students studying agriculture.

976) Course Title: Plant Tissue Culture Technologies
Faculty:Dr. Pushpalatha Ganesh/Dr. RukminiMisra
Course Objective:
To impart basic knowledge of bioinformatics in *in silico* and genomics to the students studying agriculture.

977) Course Title: Techniques in Molecular Biology
Faculty:Dr. Pushpalatha Ganesh/Dr. RukminiMisra
Course Objective: To impart basic knowledge of bioinformatics in *in silico* and genomics to the students studying agriculture.

978) Course Title: Nutraceuticals
Faculty:Preetha Bhadra, Pradipta Banerjee

Course Objective:

1. To study the advantages of functional foods over conventional Medicine to avoid potential side-effects
2. To Study about dietary supplements
3. To Study about food gene interface
4. To distinguish between food, functional food, and supplements
5. To learn about Drug Designing,
6. To learn about detailed Protein structure, pharmacophore, basics of Docking and Discovery studio and application in Agriculture, Fisheries and others Sciences

979) Course Title: Introduction to Nutraceutical
Faculty:Preetha Bhadra, Pradipta Banerjee

Course Objective:

1. To study the advantages of functional foods over conventional Medicine to avoid potential side-effects
2. To Study about dietary supplements
3. To Study about food gene interface
4. To distinguish between food, functional food, and supplements
5. To learn about Drug Designing,
6. To learn about detailed Protein structure, pharmacophore, basics of Docking and Discovery studio and application in Agriculture, Fisheries and others Sciences

980) Course Title: Functional Food
Faculty:Preetha Bhadra, Pradipta Banerjee

Course Objective:

1. To study the advantages of functional foods over conventional Medicine to avoid potential side-effects
2. To Study about dietary supplements
3. To Study about food gene interface
4. To distinguish between food, functional food, and supplements
5. To learn about Drug Designing,
6. To learn about detailed Protein structure, pharmacophore, basics of Docking and Discovery studio and application in Agriculture, Fisheries and others Sciences

981) Course Title: Nutrigenetics
Faculty:Preetha Bhadra, Pradipta Banerjee

Course Objective:

1. To study the advantages of functional foods over conventional Medicine to avoid potential side-effects
2. To Study about dietary supplements
3. To Study about food gene interface
4. To distinguish between food, functional food, and supplements
5. To learn about Drug Designing,
6. To learn about detailed Protein structure, pharmacophore, basics of Docking and Discovery studio and application in Agriculture, Fisheries and others Sciences

982) Course Title: SMART Agriculture
Faculty:Sagar Maitr
Course Objective:

- To impart practical knowledge on production of cutflowers
- To impart knowledge on IoT based automation in polyhouse
- To enable students in handling Mobile Apps and drone in precision farming

983) Course Title: Protected Cultivation of Vegetable Crops
Faculty:Sagar Maitr
Course Objective:
1. To impart practical knowledge on production of cutflowers
2. To impart knowledge on IoT based automation in polyhouse
3. To enable students in handling Mobile Apps and drone in precision farming

984) Course Title: Protected Horticulture
Faculty:Domain

Course Objective:

- To impart practical knowledge on production of cutflowers
- To impart knowledge on IoT based automation in polyhouse
- To enable students in handling Mobile Apps and drone in precision farming

.

985) Course Title: Protected Cultivation of Vegetable Crops
Faculty:Sonyza Priyadarsinee Patra
Course Objective:

- To impart knowledge on agro-technique and management of different horticultural crops under protected environmental conditions.
- Student will be made aware of the technological changes that are occurring in this field along with pre and post-harvest technology.

986) Course Title: Food Processing
Faculty:Domain
Course Objective:
1. Acquaint the students with the idea about protected cultivation: structure, process and control
2. To study and field practice of different horticultural crops under protected structure
3. Develop knowledge regarding input-output relationship and marketing in farming

987) Course Title: Processing Technology of Legumes and Oilseeds
Faculty:Dr. Vivek Kumar
Course Objective:

- To impart knowledge on agro-technique and management of different horticultural crops under protected environmental conditions.
- Student will be made aware of the technological changes that are occurring in this field along with pre and post-harvest technology.

"988) Course Title: Processing Technology of Fruits, Vegetables,
Spices and Condiments
Faculty:Dr. Vivek Kumar
Course Objective:
• Impart an understanding of general process flow of various food products, physical principles of operation for various types of equipment and the impact of the processing on the physical, chemical and sensory properties of the food products
• Understand the concepts and principles of processing and packaging techniques and the effects of processing parameters on product safety and quality
• Gain insights into the scientific, regulatory, and consumer interests that interact in determining the safety of food
"

989) Course Title: Product Development and Packaging Technologies
Faculty:Dr. Kakani Grihalakshmi

Course Objective:

• Impart an understanding of general process flow of various food products, physical principles of operation for various types of equipment and the impact of the processing on the physical, chemical and sensory properties of the food products

• Understand the concepts and principles of processing and packaging techniques and the effects of processing parameters on product safety and quality

• Gain insights into the scientific, regulatory, and consumer interests that interact in determining the safety of food

990) Course Title: Food Standards and Regulations and HACCP Systems

Faculty:Dr. Kakani Grihalakshmi

Course Objective:

• Impart an understanding of general process flow of various food products, physical principles of operation for various types of equipment and the impact of the processing on the physical, chemical and sensory properties of the food products

• Understand the concepts and principles of processing and packaging techniques and the effects of processing parameters on product safety and quality

• Gain insights into the scientific, regulatory, and consumer interests that interact in determining the safety of food

991) Course Title: Sensory Evaluation and Nutritional Labelling of Foods

Faculty:Dr. Kakani Grihalakshmi

Course Objective:

- Impart an understanding of general process flow of various food products, physical principles of operation for various types of equipment and the impact of the processing on the physical, chemical and sensory properties of the food products
  • Understand the concepts and principles of processing and packaging techniques and the effects of processing parameters on product safety and quality
  • Gain insights into the scientific, regulatory, and consumer interests that interact in determining the safety of food

992) Course Title: AELP Project

Faculty:Dr. Kakani Grihalakshmi

Course Objective:

• Impart an understanding of general process flow of various food products, physical principles of operation for various types of equipment and the impact of the processing on the physical, chemical and sensory properties of the food products

• Understand the concepts and principles of processing and packaging techniques and the effects of processing parameters on product safety and quality

• Gain insights into the scientific, regulatory, and consumer interests that interact in determining the safety of food

993) Course Title: Agri Business Management
Faculty:Subhendu K. Mishra.

Course Objective:

- The domain aims to support the learners with the requisite knowledge, skills and attitudes for managerial and entrepreneurial decision making and implementation in the unique context of agribusiness
- The course will help in grooming students to make a career in the agri- business industry.

994) Course Title: Agri Food Markets and Value Chain Analysis
Faculty:Dr. Kakani Grihalakshmi

Course Objective:

- The domain aims to support the learners with the requisite knowledge, skills and attitudes for managerial and entrepreneurial decision making and implementation in the unique context of agribusiness
- The course will help in grooming students to make a career in the agri- business industry.

995) Course Title: Commodity and Food Storage
Faculty:Dr. K. Anil Kumar
Course Objective:
1. To gain knowledge on
2. Storage structures
3. Pests and diseases in storage and their management
4. Grain deterioration and their management
5. Safe storage of fruits and vegetables
6. Hands-on practice on safe storage techniques

996) Course Title: Soil and Water Conservation through Watershed

Faculty:Subhankar Debnath

Course Objective:

- Build skills in collecting, analyzing, and critically evaluating watershed data and documents from multiple sources
- Apply hydrological modelling along with Geospatial application to manage the watershed
- Improving livelihoods in rainfed areas through integrated watershed management
- Pursue research and develop capabilities to handle multi-disciplinary field projects

997) Course Title: R programming in Watershed Hydrology
Faculty:Subhankar Debnath

Course Objective:

- Build skills in collecting, analyzing, and critically evaluating watershed data and documents from multiple sources
- Apply hydrological modelling along with Geospatial application to manage the watershed
- Improving livelihoods in rainfed areas through integrated watershed management
- Pursue research and develop capabilities to handle multi-disciplinary field projects

998) Course Title: Agri Input Marketing
Faculty:Dr. Durga Prasad Padhy

Course Objective:

- Enable students to gain knowledge on agricultural marketing, challenges and prospects for improving agricultural marketing system.
- Provides an incisive analysis on agricultural input and output marketing with particular emphasis on marketing functions
- Gain skills to analyze Marketing Functions, Market Information and Intelligence
- Imparting knowledge of the marketing efficiency and agricultural prices
- Learn the Markets and Market Structure
- Provide the platform to the students of Marketing of Agricultural Inputs

999) Course Title: General Microbiology
Faculty:Ms.Monali Mishra

Course Objective:

- Enable students to gain knowledge on agricultural marketing, challenges and prospects for improving agricultural marketing system.
- Provides an incisive analysis on agricultural input and output marketing with particular emphasis on marketing functions
- Gain skills to analyze Marketing Functions, Market Information and Intelligence
- Imparting knowledge of the marketing efficiency and agricultural prices
- Learn the Markets and Market Structure
- Provide the platform to the students of Marketing of Agricultural Inputs

1000) Course Title: Systemic Bacteriology
Faculty:Ms.Monali Mishra

Course Objective:

- To learn opportunities in the basic principles of medical microbiology and infectious disease.
- To study mechanisms of infectious disease transmission, principles of aseptic practice, and the role of the human body's normal microflora.
- To understand the importance of pathogenic bacteria in human disease with respect to infections of the respiratory tract, gastrointestinal tract, urinary tract, skin and soft tissue

1001) Course Title: Cell & Molecular biology
Faculty:Ms.Monali Mishra
Course Objective:
By the end of the course, learners should have a knowledge of:
● The cell biology of all major groups of organisms, including microorganisms, plants and animals
● How genome organisation differs in the major groups of organisms
● The complex interactions between nucleus and cytoplasm that determine how cells function
● Basic concepts of how cells become specialised into different types in complex organisms
● How the cytoskeleton is organised and its role in cellular function

1002) Course Title: Public Health Microbiology
Faculty: Ms.Monali Mishra

Course Objective:

- To learn the occurrence, abundance and distribution of microorganism in the community and their role in the associated with Public health and also learn different methods for their detection and characterization.
- To understand the basic principles of environment microbiology and be able to apply these principles to understanding and solving environmental problems – Water pollution and waterborne diseases, Air pollution and airborne infections.

1003) Course Title: Electronic, Devices and System
Faculty: Dr. Murali and Mr. Satyanarayan Padhy

Course Objective:

- The course is designed to be a broad introduction to electronic systems for students from diverse engineering disciplines. Completing the course will provide the necessary foundation to understand the role, capabilities and constraints of electronics in contemporary engineering systems.
- This course develops a basic understanding of the fundamentals and principles of analog and digital circuits and electronic devices. This understanding is a critical step towards being able to design new electronic circuits or use them appropriately as part of a larger engineering system.

1004) Course Title: FundamentalsÃ, of Plant Biochemistry
Faculty:Dr. Raghu Gogada

Course Objective:
Understand the biochemistry plant defence mechanism, Identify the toxic compounds in plants, Describe the kinetics and characterisation of enzymes, Identify the detoxification mechanisms. To provide education that leads to comprehensive understanding of the principles and practices of biochemistry.

1005) Course Title: Organic Farming

Faculty: Dr Saurav Barman

Course Objective:

1.To impart traditional, innovative and scientific skills in organic farming.

2.To demonstrate low cost media preparation and impart eco-friendly inputs in Biofertilizer production.

Anita Patra

Dr. Anita Patra

Registrar, CUTM

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