SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

Vidya Nagar, Palissery, Karukutty, Kerala 683576

CRITERIA 1

CURRICULAR ASPECTS

1.2: Academic Flexibility

1.2.1/1.2.2 Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc.

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

Vidya Nagar, Palissery, Karukutty, Kerala 683576

BROCHURE

AND

COURSE PLAN

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

Vidya Nagar, Palissery, Karukutty, Kerala 683576

Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam

2022-23

Sl. No	Name of the Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam	Course code
1	Geospatial Data Processing & Analysis	CGA2223S01
2	Microsoft Data Fundamentals	CMF2223S02
3	Engineer Empower: Unleashing Your Professional Persona	CEP2223S03
4	Autodesk AutoCAD	CAA2223S04
5	Human rights and duties education	CHE2223S05
6	New trends in artificial intelligence	CNI2223S06
7	Air pollution and Control	NPT2223S01
8	Retrofitting and Rehabilitation of Civil Infrastructure	NPT2223S02

SCMS SCHOOL OF ENGINEERING & TECHNOLOGY KARUKUTTY ERNAKULAM 683 576

PRINCIPAL
SCMS SCHOOL OF ENGINEERING & TECHNOLOGY
VIDYANAGAR, PALISSERY, KARUKUTTY
ERNAKULAM, KERALA-683 576

RESOURCE PERSONS

- Dr. Sathish Kumar D, Associate Professor, Dept. of Civil Engineering, NIT Calicut
- Dr. Suresh Francis, Senior scientist, Kerala State Remote Sensing and Environment Centre (KSREC)
- Dr. Girish Gopinath, Head, Department of Climate Variability and Aquatic Ecosystems, KUFOS
- Mr. Jean Joy FRGS, GIS Consultant, Project Centre Ltd. UK
- Dr. Ratish Menon, Professor, Dept. of Civil Engineering, SSET
- Nisha L, Associate Professor, Dept. of Civil Engineering, SSET
- Dr. Praseeja A V, Assistant Professor, Dept. of Civil Engineering, SSET
- Ms. Merin Mathew, Assistant Professor, Dept. of Civil Engineering, SSET
- Ms. Meera Varghese, Assistant Professor, Dept. of Civil Engineering, SSET

SCMS
School of Engineering & Technology

WHEN

FEB 20 – MAR 06

15 DAYS PROGRAM
(6.00 – 8.00 PM DAILY)
ONLINE MODE
30 HOUR ADD ON COURSE

WHO CAN JOIN

Research Scholars,
Faculty members,
B. Tech and M. Tech
Students

Co-ordinators:
Dr. Praseeja A V
praseeja@scmsgroup.org
+91 85920 89108
Mr. Stifin Benny
stifinbenny@scmsgroup.org
+91 94972 83418

DEPT. OF CIVIL ENGINEERING,
SCMS SCHOOL OF ENGINEERING
AND TECHNOLOGY, KARUKUTTY
Presents

GEOSPATIAL DATA PROCESSING AND ANALYSIS

30 HOUR ADD ON COURSE

FEB 20- MARCH 6 2023

SESSION PLAN: 6PM-8PM

1. 20/02/23 Introduction to GIS, Coordinate system, Geometric Transformation, Data models
2. 21/02/23 Hands on : Introducing QGIS and Georeferencing
3. 22/02/23 Hands on : Digitizing and creation of shapefiles
4. 23/02/23 Hands on : Importing data into QGIS
5. 24/02/23 Hands on: Raster data analysis
6. 25/02/23 Hands on: Vector data analysis
7. 25/02/23 Hands on: Development of DEM
8. 27/02/23 Application of GIS in Environmental Engineering
9. 28/02/23 Introduction to Remote sensing
10. 01/03/23 Digital image processing
11. 02/03/23 Hands on : Digital image processing
12. 03/03/23 Geospatial technology in water resources management
13. 04/03/23 Hands on: Multicriteria Overlay analysis
14. 04/03/23 Hands on: Importing GIS data for water treatment/Drought mapping
15. 06/03/23 Role of granular spatial information in water management

ABOUT SSET

The SCMS School of Engineering & Technology (SSET), promoted by the SCMS Group of Educational Institutions, has been in the forefront of providing quality professional education in Engineering & Technology since 2001. The college is envisaged as a premier institution offering technology-related education to students with due emphasis on ethical values in preparing them to meet the growing challenges of the industry and needs of the society. SSET has established state of the art facilities on a sprawling 29-acre campus at Karukutty in Ernakulam District. SSET is one of the first ten colleges to be set up in the State under the private self-financing scheme.

The Department of Civil Engineering, spearheaded with highly competent, well qualified and experienced faculty, has been in existence since the inception of SSET in 2001. The Department offers UG programmes in Civil Engineering and Civil and Environment Engineering also two PG programmes namely Computer Aided Structural Engineering and Environmental Engineering under KTU. The Department is an approved research centre of KTU with seven full fledged laboratories supplemented with modern equipment. The MIKE Computational Laboratory with advanced modeling tools for water resources studies as an industry academic collaboration with Danish Hydraulic Institute is a unique facility provided by the department. The Department is actively engaged in testing and consultancy activities for various governmental as well as non-governmental organizations.

THE COURSE HIGHLIGHTS

1. Basics of Geographic Information System
2. Hands on training with QGIS software which covers:
   a. Georeferencing and Digitizing
   b. Data Importing
   c. Creation of shapefile
   d. Vector and Raster Data analysis
   e. Creating Digital Elevation Models
   f. Digital Image Processing
   g. Multicriteria Overlay analysis
3. Application of Geospatial technology in environmental engineering, water resource management, drought vulnerability assessment, public water distribution and land surveying.

GEOSPATIAL DATA PROCESSING & ANALYSIS

Course duration: 30 hours

Course Coordinator: Dr. Praseeja A V, CED, SSET

Course Description

The 30 hour add on course on GEOSPATIAL DATA PROCESSING & ANALYSIS intends to provide an Introduction to GIS, Coordinate system, Geometric Transformation, Data models and hands on training on application of QGIS software in Environmental engineering, water resource management, drought vulnerability assessment, public water distribution and land surveying.

Course Objectives

At the end of this course, you will be able to create awareness about the

- Basic of GIS
- Fundamentals and application of QGIS Software
- Application of Geospatial Technology in Environmental engineering, water resource management, drought vulnerability assessment, public water distribution and land surveying.

Course Outcomes

After completing the course, students will be able to:

- Understand the basics of Geospatial Information system
- Understand the Fundamentals and application of QGIS Software
- Apply Geospatial Technology in Environmental engineering, water resource management

Syllabus

Session	Date	Topic	Resource person
1	20/02/23	Introduction to GIS, Coordinate system, Geometric Transformation, Data models	Dr. Ratish Menon, Associate Professor Dept. of CE, SSET
2	21/02/23	Hands on : Introducing QGIS and Georeferencing	Ms. Meera Varghese, Assistant Professor Dept. of CE, SSET
3	22/02/23	Hands on : Digitizing and creation of shapefiles	Dr. Praseeja A V, Assistant Professor Dept. of CE, SSET
4	23/02/23	Hands on : Importing various data into QGIS	Ms. Merin Mathew, Assistant Professor Dept. of CE, SSET
5	24/02/23	Hands on: Raster data analysis	Dr. Ratish Menon, Associate Professor Dept. of CE, SSET
6	25/02/23	Hands on: Vector data analysis	Dr. Praseeja A V, Assistant Professor Dept. of CE, SSET
7	25/02/23	Hands on: Development of DEM	Ms. Merin Mathew, Assistant Professor Dept. of CE, SSET
8	27/02/23	Application of GIS in Environmental Engineering	Dr. Nisha L, Associate Professor Dept. of CE, SSET
9	28/02/23	Introduction to Remote sensing	Ms. Meera Varghese, Assistant Professor Dept. of CE, SSET
10	01/03/23	Digital image processing	Dr. Sathish Kumar D, Associate Professor, Dept. of CE, NITC

11	02/03/23	Hands on : Digital image processing	Dr. Sathish Kumar D, Associate Professor, Dept. of CE, NITC
12	03/03/23	Geospatial technology in water resources management	Dr. Girish Gopinath, Associate Professor, KUFOS
13	04/03/23	Hands on: Multicriteria Overlay analysis	Mr. Jean Joy, GIS Consultant, UK
14	04/03/23	Hands on: Importing GIS data for water treatment/Drought mapping	Ms. Devika & Ms. Ann Maria PG student, Dept. of CE, SSET
15	06/03/23	Role of granular spatial information in water management	Dr. Suresh Francis, Senior scientist, KSREC

Benefits:

At the end of this course, you will be able to create awareness about the

- Basic of GIS
- Fundamentals and application of QGIS Software
- Application of Geospatial Technology in Environmental engineering, water resource management, drought vulnerability assessment, public water distribution and land surveying.

Purpose of the course

The gap in syllabus for the subject CET 307 Hydrology and Water Resource Engineering on topics Application of GIS in plotting hydropgraphs, mass flow curves and reservoir planning was identified. An add on course titled GEOSPATIAL DATA PROCESSING & ANALYSIS for a duration of 30 hours is planned to overcome the gap in syllabus.

Assessment Pattern

Two assignments of 15 marks each

Final Assessment exam -50 marks, passed with a minimum of 20 marks

Viva-20 marks

Certificates will be awarded to students who completed the course with a minimum of 40 marks(total score) and a minimum of 20 marks in final exam.

Coordinator HOD PRINCIPAL

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

MICROSOFT DATA FUNDAMENTALS

CONDUCTED BY

Department of Computer Science and Engineering

17/4/2023-21/4/2023

Forenoon session:9am to 12pm(3hrs)
Afternoon session:1pm to 4pm(3hrs)
Total:30 hrs(6 hrs per day)

MICROSOFT DATA FUNDAMENTALS

Course duration: 30 hours

Course Coordinator: Ms.RoseBell

Course Description

A Course on DATA FUNDAMENTALS was organized by Department of Computer Science and Engineering.

Course Objectives

- To obtain programming skill development.
- To get introduced to concept of data base in Azure Microsoft enviornment
- To attain the knowledge of various applications of RDBMS in industry.

Course Outcomes

After completing the course, students will be able to:

- To solve the given problems using SQL language
- Design cloud based DBMS.
- They got familiarized with various applications in real life and industry.

Syllabus

MODULE 1: 6 Hours

- Introduction of Data fundamentals
- Structuted,Unstructured and Semi Structuted data
- Delimited text files
- JavaScript Object Notation (JSON)
- Extensible Markup Language (XML)
- Relational databases

MODULE 2: 6 Hours

- Transactional data workloads
- Microsoft cloud services for data
- Azure Database for open-source relational databases
- Azure Cosmos DB

MODULE 3: 6 Hours

- Azure Stream Analytic Introduction to classes & objects
- Relational tables
- Normalization
- SQL,DML,DDL,DCL

MODULE 4: 6 Hours

- SQL Server on Azure Virtual Machines
- Azure SQL Database Managed Instance
- Azure SQL Database Managed Instance
- Azure databases for open-source

MODULE 5: 6 Hours

- Benefits of Azure Database for MySQ
- Azure Database for MariaDB
- Azure Database for MariaDB
- Azure Database for PostgreSQL Flexible Server

Coordinator HOD PRINCIPAL

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

VALUE ADDED COURSE

ON

Engineer Empower: Unleashing Your Professional Persona

CONDUCTED BY

BASIC SCIENCES AND HUMANITIES DEPARTMENT AND PLACEMENT CELL SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

Forenoon session: 9:00 am-12:00pm (3 hours)

Afternoon session: 1:00 pm - 4:00 pm (3 hours)

Total: 30 hours (6 hours per day)

Course Dates: 20-6-2022, 21-6-2022, 27-6-2022, 28-6-2022, 4-7-2022

Engineer Empower: Unleashing Your Professional Persona

Course Objectives

- To train the students to meet the expectations of the industry.
- To build confidence in students and develop right attitude in them.
- To enhance their communication skills.

Course Outcomes

After completing the course, students will be able to

- Develop strong communication skills.
- Develop confidence in facing different situations in job place.
- Understand the requirements of the industry.

Syllabus

Module 1 – 6 hours
Goal setting and Time management-Communication skills

Module 2 – 6 hours
Project management essentials-Effective team work

Module 3 – 6 hours
Building professional network-Leveraging Linkedin

Module 4 – 6 hours
Continuous learning-Social development of yourself

Module 5 – 6 hours
Leadership skills-Business planning and funding options

Course coordinator HOD Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

Autodesk-AutoCAD

CONDUCTED BY

DEPARTMENT OF ELECTRICAL ENGINEERING

Forenoon session: 9:00 am-12:00pm (3 hours)

Afternoon session: 1:00 pm - 4:00 pm (3 hours)

Total: 30 hours (6 hours per day)

Course Dates:

16/02/2023,01/03/2023, 10/03/2023,13/03/2023,31/03/2023

Course duration: 30 hours

Course Coordinator: Jayalakshmi.S

Course Description

At the end of this course, students will be able to enrich their technical knowledge in the field of CAD and its applications

Course Objectives

- Learn Auto CAD
- Learn system design using AutoCAD

Course Outcomes

After completing the course, students will be able to:

- Enrich their technical knowledge in the field of CAD and its applications
- Develop electrical system design

Syllabus

Module 1

Screen layout, pull-down menus, screen icons, command line and dialogue boxes, status bar, toggles, file management

Module 2

Arc and ellipse, Rectangle Copy, offset,Move,trim, extend, scale,Status bar color,

Line type,Line Weight, Ltscale, Layer Property Manager

Module 3

Inquiry Commands, Dimension Up to Angular

Match Property, Qselect,Select Similar, Polyline edit, Block- Create,lnsert,Block Edit,copy

Module 4

Align, purge, Create view port & View port scale

Page Set up manager, Printing and plotting, Convert AutoCAD to pdf

Module 5

Electrical System Drafting Using AutoCAD

Course Coordinator

HOD

PRINCIPAL

SCMS School of Engineering & Technology

Department of Basic Science and Humanities
SCMS School of Engineering and Technology

Accredited by NBA CE, CS, ME

Value Added Course on
HUMAN RIGHTS AND DUTIES EDUCATION

Scan QR to Register

EXTERNAL COURSE INSTRUCTOR

Mr. Jose James
Assistant Professor& HoD
Dept. of Political Science
SH College, Chalakudy.

Instructor Bio

Jose James graduated in B A Political Science from S N College Cherthala (M G University) and post graduation from University College, Trivandrum (Kerala University). Then he qualified UGC NET in Political science and awarded JRF in Dec. 2014.

COURSE HIGHLIGHTS

Internal Course Instructors:

1. Mr. Akhil Baby
   Assistant Professor
   Dept. of BS&H
   SSET, Karukutty.
   Mobile : 9747799319

2. Ms. Rony Tresa Davis
   Assistant Professor
   Dept. of BS&H
   SSET, Karukutty.
   Mobile: 9656992815

Mode of Delivery : Online

Number of Hours : 30 Hours

Target Audience :
UG & PG students, SSET
(Limited Seats available)

Course Start Date: 19-03-23

Online Class Schedule:
2nd Saturdays and Sundays
04:00 pm to 06:00 pm (2 hours)
Course Fees: Rs.500/-

(Amount will be refunded to students who successfully complete the course)

Successful completion will be counted towards KTU Activity point

Brief Introduction on the course

"All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood". Article 1 of the United Nations Universal Declaration of Human Rights (UDHR). Human rights are commonly understood as "inalienable fundamental rights to which a person is inherently entitled simply because she or he is a human being." Human rights are thus conceived as universal (applicable everywhere) and egalitarian (the same for everyone).

The primary objective of this value-added course **"Human Rights and Duties Education"** is to create an awareness among students on the fundamentals of human rights. The course is designed to provide fundamental knowledge about human rights, their framework, problems with implementation, solutions to those problems, the rights from a national and international perspective, and various categories of human rights.

Course Outcomes:
1. To understand the meaning of Human Rights and their evolution.
2. To understand norms and regulations of Human Rights.
3. To explain the Constitution of India and its features.
4. To show national issues related to the violation of human rights.

Week –1	Inter-civilization approach to Human Rights	2Hrs
Week –2	Theoretical and developmental perspective	2Hrs
Week –3	Human Rights Movements and Universal Declaration of Human Rights	2Hrs
Week –4	Civil & Political Rights	2Hrs
Week –5	Economic, Social & Cultural Rights	2Hrs
Week –6	Rights against torture, discrimination & forced labor, Rights of the child	2Hrs
Week –7	Classification of Rights	2Hrs
Week –8	Classification of Rights (cont.)	2Hrs
Week –9	Human Rights norms in India and Implementation of Human Rights norms at the regional level	4Hrs
Week –10	Human Rights of Vulnerable Groups	2Hrs
Week –11	Implementation of human rights in India : NHRC	2Hrs
Week –12	Implementation of human rights in India : SHRC	2Hrs
Week –13	Implementation of human rights in India : Role of Courts and NGOs	4Hrs

Criteria for successful completion of the course

Student should have an attendance of 75% and submitted 80% of the assignments on time.

Assessment

After successful completion of the course, an assessment for 1hr out of a total of 25 marks will be conducted and based on the result the student will be awarded with a certificate.

Certificate will be awarded to students securing 40% & above in the final score

Value Added Course
in
"Human Rights and Duties Education"

"All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood". — Article 1 of the United Nations Universal Declaration of Human Rights (UDHR). Human rights are commonly understood as "inalienable fundamental rights to which a person is inherently entitled simply because she or he is a human being." Human rights are thus conceived as universal (applicable everywhere) and egalitarian (the same for everyone).

The Department of Basic Science and Humanities, planning to conduct a Value added course in **"Human Rights and Duties Education"**.

Course Objective:

The primary objective of this value-added course on **"Human Rights and Duties Education"** is to create an awareness among students on the fundamentals of human rights. The course is designed to provide fundamental knowledge about human rights, their framework, problems with implementation, solutions to those problems, the rights from a national and international perspective, and various categories of human rights.

Course Timings:

Course	**Human Rights and Duties Education**
Duration	30 hours
Mode	Online
Days	2nd Saturday and on all Sundays
Time	04:00 pm to 06:00 pm
Registration Fee	Rs. 500/-
Commencement of classes	19/02/2023

Course Tutors:

Mr. Arun Raveendran Assistant Professor Department of Political Science St. Stephen's College Uzhavoor	**Mr. Akhil Baby** Assistant Professor Department of Basic Science and Humanities SSET	**Ms. Rony Tresa** Assistant Professor Department of Basic Science and Humanities SSET

Course Outcome:

CO 1	To understand the meaning of Human Rights and their evolution.
CO 2	To understand norms and regulations of Human Rights.
CO 3	To explain the Constitution of India and its features.
CO 4	To show national issues related to the violation of human rights.

COURSE SYLLABUS (30 Hours)

Module – I: Evolution & Growth of Human Rights (6 hrs.)

a. Inter-civilization approach to Human Rights.

b. Theoretical Perspective

c. Developmental Prospective

d. Human Rights Movements

Module 2- Human Rights Norms (6hrs.)

a. Universal Declaration of Human Rights

b. Civil & Political Rights

c. Economic, Social & Cultural Rights

d. Rights against torture, discrimination & forced labour.

e. Rights of the child.

Module 3- Classification of Human Rights (8 hrs.)

a. Classification of Rights

(i). I generation rights

(ii). II generation rights

(iii). III generation rights

b. Human Rights norms in India

(i). Preamble of Indian Constitution

(ii). Fundamental rights and directive principles

(iii). Protection of Human Right Act Paper

Module 4- Special Issues relating to Violation of Human Rights and Redressal Mechanism (10hrs.)

a. Implementation of Human Rights norms at the regional level

(i) European Convention

(ii) American Convention

(iii) African Convention.

b. Human Rights of Vulnerable Groups

(i) Women

(ii) Child

(iii) Migrant Workers

(iv) Refugees

(v) Stateless persons

(vi) Disabled Persons

(vii) Indigenous Persons

(viii) Older Persons

(ix) Minorities

c. Implementation of human rights in India

(i) NHRC (ii) SHRC (iii) Role of Courts (iv) Role of NGOs.

Assessment

Two assignments of 15 marks each

Final Assessment exam -50 marks, passed with a minimum of 20 marks

Viva-20 marks

Certificates will be awarded to students who completed the course with a minimum of 40 marks (total score) and a minimum of 20 marks in final exam. Minimum 75% attendance is mandatory to get the certificate.

Coordinator

HOD

Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

NEW TRENDS IN ARTIFICIAL INTELLIGENCE

CONDUCTED BY

Department of Computer Science and Engineering

21/11/2022-25/11/2022

Forenoon session:9am to 12pm(3hrs)
Afternoon session:1pm to 4pm(3hrs)
Total:30hrs(6hrs per day)

NEW TRENDS IN ARTIFICIAL INTELLIGENCE

Course duration: 30 hours

Course Coordinator: Ms.RoseBell

Course Description

A Course on New trends in artificial intelligencewas organized by Department of Computer Science and Engineering.

Course Objectives

- To obtain programming skill development.
- To get introduced to various trends in Artificial intelligence
- To attain the knowledge of various applications of AI in industry.

Course Outcomes

After completing the course, students will be able to:

- To solve the given problems using AI
  They will get amiliarized with various applications in real life and industry.

Syllabus

MODULE 1: 6 Hours

- Introduction to neural networks and deep learning

MODULE 2: 6 Hours

Convolution neural networks, object detection and segmentation

MODULE 3: 6 Hours

- Recurrent neutral networks, sequential model

MODULE 4: 6 Hours

- Statistical decision making

MODULE 5: 6 Hours

- Future of AI in industry

Coordinator HOD PRINCIPAL

NPTEL SWAYAM course on Air Pollution and Control

Prof. Bhola Ram Gurjar
IIT Roorkee

About the Course:

The objective of the course is to impart the knowledge and understanding of causes and effects of air pollution and their controlling mechanisms. The course will provide a deeper understanding of air pollutants, pollution inventory and modelling. The course also imparts knowledge on the impacts of air pollution on different aspects such as policy, human health and various contemporary technological innovation for betterment of air quality.

About the Instructor: Dr. Bhola Ram Gurjar holds a PhD in the area of Environmental Risk Analysis from India's premier technological institution I.I.T. Delhi followed by Postdoctoral research at the Max Planck Institute for Chemistry (MPIC) in Mainz, Germany. He is a Professor of Environmental Engineering in Civil Engineering Department and a Joint Faculty in Centre of Excellence for Sustainable Transportation Systems (CTRANS) at I.I.T. Roorkee.

Intended Audience : UG and PG (including Pre-PhD)

Industry Support: Industries dealing with emissions and air pollution control may value this course.

Duration: 36 hours

Course layout

Week 1 : Air Pollution: Introduction and Impacts of air pollution on human health, vegetation, animals, building materials, structures, and atmosphere, soil and water bodies.
Week 2 : Sources, classification and formation/transformation of air pollutants: Meteorology and Atmospheric Stability.
Week 3 : Lapse Rate, Plume Behaviour, and Air Quality Monitoring, Air Quality Index (AQI)
Week 4 : Air Quality Modelling, Gaussian dispersion models: point, line and area source models
Week 5 : Emissions Inventory: Transport, Industrial, Agricultural, Residential and Commercial sectors

Week 6 : Application of Remote sensing/Satellite based data in emission inventory, Source apportionment using receptor modelling.
Week 7 : Indoor air pollution: sources, types and health impacts. Sampling, assessment and evaluation of Indoor air quality.
Week 8 : Global and regional environmental issues of air pollution: Ozone depletion, Climate change, Global warming, Acid rain.
Week 9 : Air pollution control devices, equipment and their design.
Week 10 : Air pollution emission standards, National and international policies, acts, rules and regulations.
Week 11 : Emerging technologies and strategies to mitigate air pollution, Current challenges and way forward.
Week 12 : Lab-based measurements of air pollutants.


RETROFITTING AND REHABILITATION OF CIVIL INFRASTRUCTURE

PROF. Sriman Kumar Bhattacharyya
Department of Civil Engineering
IIT Kharagpur
PROF. Swati Maitra
Department of Civil Engineering
IIT Kharagpur

INTENDED AUDIENCE : M.E/M.Tech/PhD students from Civil, Architecture, Construction Engineering background or equivalent specialization and BE/B.Tech students from similar background can take this course as elective

INDUSTRIES APPLICABLE TO : All civil engineering design and consultancy firms, construction companies, material manufacturers related to concrete technology will recognize this course for its practical applications

COURSE OUTLINE :

The major objective of this course is to give an in-depth understanding of the various methods of repair, retrofitting and rehabilitation techniques for masonry and concrete structures. The causes and types of deterioration, the evaluation of the existing condition of infrastructure, the materials for repair and retrofitting, the maintenance and strengthening techniques is covered in detail in this course. Seismic retrofitting and design of retrofitted structural components using recent techniques and materials have been included in the course. The course covers the challenging issues for efficient retrofitting and rehabilitation in order to extend the durability of existing structure in a sustainable manner.

ABOUT INSTRUCTOR :

Prof. Swati Maitra is an Assistant Professor in Ranbir & Chitra Gupta School of Infrastructure Design and Management, IIT Kharagpur. She obtained her PhD from IIT Kharagpur and Masters' from IIT Bombay in Civil Engineering. She is a recipient of awards like DAAD Fellowship by the German Academic Exchange Service and Bihar PWD Medal by the Indian Roads Congress. Dr. Maitra's research area includes sustainable concrete and cementitious materials, retrofitting and rehabilitation, concrete pavement analysis, design and performance evaluation, concrete overlay or whitetopping. She has published nearly 35 technical papers in international and national journals, book chapters and proceedings of conferences, seminars and workshops. Prof. Sriman Kumar Bhattacharyya is a Professor in Civil Engineering Department and presently the Deputy Director of IIT Kharagpur. He was a Former Director of CSIR-Central Building Research Institute (CBRI). Prof. Bhattacharyya's research area includes sustainable building materials, fluid-structure interaction, structural health monitoring, FRP-concrete composite system, structural restoration, numerical modelling and structural fire engineering. He has published about 250 technical papers in several international and national journals, book chapters, proceedings of international and national conferences, seminars and workshops. He has developed web-based and video-based NPTEL courses titled 'Finite element method in Engineering' and 'Strength of Materials', which are currently running. He has several patents based on his research. Prof. Bhattacharyya has received several prestigious awards like 'Distinguished Alumnus Award' by IIEST (BESU Shibpur), 'Concrete Technologist of the year' by Indian Concrete Institute, 'Telkom Best Lecturer Award' for the best teacher in Civil Engineering at the University of Durban-Westville, South Africa and many others. Dr. Swati Maitra and Prof. S. K. Bhattacharyya jointly teach the course Retrofitting and Rehabilitation of Infrastructure (ID60016) in IIT Kharagpur for the last 4 years.

Prof. Sriman Kumar Bhattacharyya is a Professor in Civil Engineering Department and presently the Deputy Director of IIT Kharagpur. He was a Former Director of CSIR-Central Building Research Institute (CBRI). Prof. Bhattacharyya's research area includes sustainable building materials, fluid-structure interaction, structural health monitoring, FRP-concrete composite system, structural restoration, numerical modelling and structural fire engineering. He has published about 250 technical papers in several international and national journals, book chapters, proceedings of international and national conferences, seminars and workshops. He has developed web-based and video-based NPTEL courses titled 'Finite element method in Engineering' and 'Strength of Materials', which are currently running. He has several patents based on his research. Prof. Bhattacharyya has received several prestigious awards like 'Distinguished Alumnus Award' by IIEST (BESU Shibpur), 'Concrete Technologist of the year' by Indian Concrete Institute, 'Telkom Best Lecturer Award' for the best teacher in Civil Engineering at the University of Durban-Westville, South Africa and many others. Prof. S. K. Bhattacharyya teach the course Retrofitting and Rehabilitation of Infrastructure (ID60016) in IIT Kharagpur for the last 4 years.

COURSE PLAN :

Week 1: Overview of Retrofitting and Rehabilitation of Civil Infrastructure

Week 2: Condition Evaluation and Testing

Week 3: General Repair and Strengthening of Concrete Structures

Week 4: Fiber Reinforced Polymer Composites (FRPC) and its Characteristics

Week 5: Retrofitting by FRP Composites

Week 6: Retrofitting by FRP Composites (continued…)

Week 7: Retrofitting by FRP Composites (continued…)

Week 8: Concrete Overlay for Pavement Rehabilitation

Week 9: Retrofitting of Masonry Structures

Week 10: Retrofitting of Building structures damaged due to seismic event

Week 11: Retrofitting of Special structures damaged due to seismic events

Week 12: Retrofitting of Steel Structures

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

Vidya Nagar, Palissery, Karukutty, Kerala 683576

Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam

2021-22

Sl. No	Name of the Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam	Course code
1	Soft skills for Engineers	CES2122S01
2	Liquid Waste Management Under SBM 2.0	CLW2122S02
3	3D Printing and Design	CPD2122SO3
4	Arduino Programming Using MATLAB/Simulink	CAM2122SO4
5	Cybersecurity Essentials	CCE2122S05
6	Microsoft AI	CMA2122S06
7	Ansys and Creo	CAC2122S07
8	Personality Development for Engineers	CPE2122S08
9	Internet of things	CIT2122S09
10	CNC Lathe	CCL2122S10
11	Essential Concepts in C Programming	CEP2122S11
12	Foundation Engineering	NPT2122S01
13	Glass in buildings: Design and Applications	NPT2122S02
14	Modern Construction Materials	NPT2122S03
15	Remote Sensing: Principles and Applications	NPT2122S04

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PRINCIPAL
SCMS SCHOOL OF ENGINEERING & TECHNOLOGY
VIDYANAGAR, PALISSERY, KARUKUTTY
ERNAKULAM, KERALA-683 576

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

VALUE ADDED COURSE

ON

Soft Skills for Engineers

CONDUCTED BY

Basic Science and Humanities Department, SSET

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 1:00 pm - 4:00 pm (3 hours)
Total: 30 hours (6 hours per day)

Course dates:
17/4/22, 24/4/22, 1/5/22, 8/5/22, 15/5/22, 22/5/22

Soft skills for Engineers

Course duration: 30 hours

Course Coordinator: Ms. Reshma R.

Course Description

The course on Education soft skills include the topics in communication skills required for a graduate student. The course will cover the topics - Decision Making & Problem Solving Skills, Exercise in Problem Solving Skills, Self-management and Professionalism Skills, Emotional Intelligence. The course will focus on developing self-motivation, raised aspirations and belief in one's own abilities, defining and committing to achieving one's goals etc. Through this course, the student will improve their confidence and enthusiasm for learning, responsibility – for one's self, learning self-reliance and independence.

Course Objectives

- Develop effective communication skills
- Develop effective presentation skills
- Develop all-round personality with a mature outlook to function effectively in different circumstances.

Course Outcomes

After completing the course, students will be able to:

- Learn how to improve Resilience – learning to keep going when things don't go according to plan, coping with the unfamiliar, managing disappointment and dealing with conflict
- Teamwork – learning to connect and work with others to achieve a set task
- Leadership – assessing the requirements of a task, identifying the strengths within the team, utilising the diverse skills of the group to achieve the set objective, awareness of risk/safety
- Communication – demonstrating clear briefing and listening skills, not being afraid to ask for help and support when necessary

Syllabus

Course Content:

Module 1

Communication Skills & Related Soft Skills: Barriers to Communication, Communication Styles Questionnaire, Negotiations Preparation Tool, Presenting to a Group Checklist, Quiz - Building Rapport

Module 2

Decision Making & Problem Solving Skills: Creativity, Critical Thinking, Decision Making, Problem Solving

Module 3

Exercise in Problem Solving Skills
Creativity Suggested Actions to Boost Creativity, Creativity Quotes, Critical Thinking Exercise - Critical Thinking Decision Making Expand all sections First Things First Introduction C

Module 4

Self-management and Professionalism Skills: Resourcefulness, Adaptability & Flexibility, Attitude, Character, Character Strengths, Compassion, Focus, Grit, Growth Mindset

Module 5

Emotional Intelligence: Overview of Emotional Intelligence, Emotional Intelligence & Career Impact, Can Emotional Intelligence Be Improved, The 4 Elements of Emotional Intelligence, Leadership & Emotional Intelligence, Who Could Benefit from EI Skill Enhancement, Other Soft Skills

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Reshma. R

Course Coordinator

HOD

Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

Add on Course on

Liquid Waste Management Under SBM 2.0

CONDUCTED BY

DEPARTMENT OF CIVIL ENGINEERING

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 12:30 pm - 3:30 pm (3 hours)
Total: 30 hours (6 hours per day)

Course Date:
23/5/2022-27/5/22

Add on **Course on**

Liquid Waste Management Under SBM 2.0

Course duration: 30 hours

Course Coordinator: Ratish Menon

Course Description

Types of Wastes-Liquid and Solid waste

Potential danger of waste generation in our society

Liquid waste management and treatment

Mobile treatment units for liquid waste disposal

Course Objectives

- **To impart knowledge about different types of wastes and their potential danger**
- **To deliver various treatment methods for treating solid wastes**
- **To deliver various treatment and disposal methods for liquid wastes**

Course Outcomes

After completing the course, students will be able to:

- Differentiate different types of solid and liquid wastes and their constituents
- Identify suitable methods to treat and dispose solid and liquid waste

Syllabus

Module 1 (6 hours)

Types of Wastes-Liquid and Solid waste

Module 2 (6 hours)

Potential danger of waste generation in our society

Module 3 (6 hours)

Liquid waste management and treatment

Module 4 (6 hours)

Mobile treatment units for liquid waste disposal

Module 5 (6 hours)

How to decrease pollution in our country in a sustainable manner

Course Coordinator

Dr. Ratish Menon

HOD

Dr. Nisha L

Principal

Dr. Praveensal C J

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

3D Printing and Design

CONDUCTED BY

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Forenoon session: 9:00 am-12:00pm (3 hours)

Afternoon session: 12:30 pm - 3:30 pm (3 hours)

Total: 30 hours (6 hours per day)

Course Date:

23/11/2021 - 27/11/2021

3D Printing and Design

Course duration: 30hrs

Course Coordinator: Dr. Parvathy M

Course Description

A five-day course on 3D Printing was organized for ECE students by Department of Electronics and Communication Engineering in association with IEDC SSET under the coordination of Dr. PARVATHY.M (Assoc. Professor, ECE Dept.). This Five-day course was conducted from 23rd November to 27th November 2021 in offline mode. Sixty-Nine students registered and participated for this workshop. The contents of this course was designed to meet the gap in syllabus for the subject ECT342 Embedded Systems.

Course Objectives:

To familiarize with the 3D printing technologies and to undergo Onshape software training to get ability to deal with real life issues.

Course Outcome:

At the end of this course, you will be able to create awareness about the

- State-of-the-Art of 3D printing Techniques
- Basic Components & Assembly of 3D Printing Techniques
- Selection of Materials for 3D Printing
- Mechanical and Metallurgical Properties of 3D Printed materials
- Creation of Different Shapes and Objects in Onshape Software

Syllabus:

Course Content:

Module 1

Introduction to 3D Printing

- 3D Printing- Key Elements and Definition
- 3D Printing versus Conventional Manufacturing
- Working Principle of 3D Printer
- Need of 3D Printing in Industrial Applications

- Post Processing Requirements and Techniques
- Sustainable Aspects of 3D Printing Technology

Module 2

Introduction to 3D Modelling

- Materials for 3D Printing
- 3D Part Design & Assembly
- Motion Animation

Module 3

Familiarization of Onshape Software

- Development of Engineering Drawing
- Surface Modelling

Module 4

Design Project

Program Schedule

Date	Session	Topic	Resource person
23.11.21	9:00 am-12:00 pm	Introduction to 3D Modelling	Mr. Nikhil Asok N(Asst. Professor, Dept. of ME)
	12.30 pm-3:30 pm	Introduction to 3D printing and Onshape Software	Dr. Parvathy M (Assoc. Professor, Dept. of ECE)
24.11.21	9:00 am-12:00 pm	3D Part Design	Mr. Nikhil Ashok (Asst. Professor, Dept. of ME)
	12.30 pm-3:30 pm	3D Part Design	Mr. Vinoj P G (Asst. Professor, Dept. of ECE)

25.11.21	9:00 am-12:00 pm	Assembling Techniques	Mr. Nikhil Asok N (Asst. Professor, Dept. of ME)
	12.30 pm-3:30 pm	Motion Animation	Mr. Nikhil Asok N (Asst. Professor, Dept. of ME)
26.11.21	9:00 am-12:00 pm	Development of Engineering Drawing	Mr. Nikhil Asok N (Asst. Professor, Dept. of ME)
	12.30 pm-3:30 pm	Surface Modelling, Demonstration of working of 3D Printerat Fab Lab	Mr. Vinoj P G (Asst. Professor, Dept. of ECE) & Ms. Smitha P C (Lab Instructor, Fab Lab)
27.11.21	9:00 am-12:00 pm	3D Printing Projects	Mr. Nikhil Asok N (Asst. Professor, Dept. of ME) & Mr.R Premanand (Lab- Instructor, CAD Lab)
	12.30 pm-3:30 pm		

Dr. Parvathy M
Course Coordinator

Ms. Anandhi V
HOD

Dr.Praveensal C J
Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

Arduino Programming Using MATLAB/Simulink

CONDUCTED BY

DEPARTMENT OF ELECTRICAL ENGINEERING

Forenoon session: 9:00 am-12:00pm (3 hours)

Afternoon session: 12:30 pm - 3:30 pm (3 hours)

Total: 30 hours (6 hours per day)

Course Date:

4/10/2021-8/10/2021

Arduino Programming Using MATLAB/Simulink

Course duration: 30 hours

Course Coordinator: Ms. Deepa.S

Course Description

Arduino IDE is a special software running on your system that allows you to write sketches for different Arduino boards. The Arduino programming language is based on a very simple hardware programming language called processing, which is similar to the C language

Course Objectives

- Learn programming in matlab
- Learn programming in Simulink
- Learn how to convert matlab programs into Arduino program
- Learn how to convert Simulink programs into Arduino programs

Course Outcomes

After completing the course, students will be able to:

- Convert matlab programs into Arduino programs
- Convert Simulink programs into Arduino programs
- Develop any control system using Arduino processors

Syllabus

Module 1 (6 hours)

Introduction to MATLAB : MATLAB programming environment, basic matlab functions, control loops, example programs

Module 2 (6 hours)

Introduction to SIMULINK : Simulink programming environment, basic building blocks, introduction to toolboxes, control system toolbox, rea time programming environment, setting parameters

Module 3(6 hours)

Introduction to Arduino : Different Arduino boards, capabilities and limitations, analog input, analog output, digital input, digital output, PWM output, simple programs

Module 4 (6 hours)

Arduino programming using matlab : Converting matlab programs into Arduino programs, analog input, analog ourput, digital input, digital output. Simple programs , LED blinking, nonstable and astable multivibrators

Module 5 (6 hours)

Arduino Programming using SIMULINK :Installing Arduino support package for Simulink, analog input, analog output, digital input, digital output, PWM output, control blocks, example programs using LED, speed control of small motors.

Coordinator HOD Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

CYBERSECURITY ESSENTIALS

CONDUCTED BY

Department of Computer Science and Engineering

Course Date: 09th September 2021 to 12th September and 18th 2021

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 1:00 pm - 4:00 pm (3 hours)
Total: 30 hours (6 hours per day)

CYBERSECURITY ESSENTIALS

Course duration: 30 hours

Course Coordinator: Ms.Sindhya K Nambiar

Course Description

A Course on Cybersecurity Essentials was organized by HackElite-Technical Club (Department of Computer Science and Engineering). This course was conducted from 9th to 12th September 2021 and 18th September 2021.

Course Objectives

- ☐ To identify and analyze various cybersecurity threats
- ☐ To develop deeper understanding of cybersecurity technologies
- ☐ To develop skills on ethical hacking

Course Outcomes

After completing the course, students will be able to:

- ☐ Students will possess a deep and comprehensive understanding of various cyber threats
- ☐ Students will be proficient in implementing cybersecurity measures
- ☐ Students will develop strong incident response capabilities for mitigating security incidents

Syllabus

Module 1 (6 hrs)

Structure in C

Module 2 (6 hrs)

Union in C Language

Module 3 (6 hrs)

File Input/Output

Module 4 (6 hrs)

Dynamic Memory Allocation

Module 5 (6 hrs)

C Pre-processor

Command Line Arguments

Course Coordinator

HOD

Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

Microsoft AI

CONDUCTED BY

Department of Computer Science and Engineering

Forenoon session: 9:00 am-12:00pm (3 hours)

Afternoon session: 12:30 pm - 3:30 pm (3 hours)

Total: 30 hours (6 hours per day)

Course Date: 14/12/2021-18/12/2021

Microsoft AI

Course duration: 30 hours

Course Coordinator: Ms. Susmi Jacob

Course Description

A Course on Microsoft AI was organized by HackElite-Technical Club (Department of Computer Science and Engineering). This course was conducted from 14th to 18th December 2020.

Course Objectives

- The goal is to acquire knowledge on intelligent systems and agents, formalization of knowledge, reasoning with and without uncertainty, machine learning and applications.
- The basic skill that the student is expected to acquire after the successful completion of the course is knowledge and application of basic principles and techniques of intelligent systems and their practical applications.

Course Outcomes

After completing the course, students will be able to:

- Understanding of the historical evolution of Artificial Intelligence
- Identification of the characteristics of an intelligent system/agent
- Formalize knowledge using probability
- Within each of the learning paradigms, identify and implement appropriate learning strategies.
- Formalize and design solutions to practical problems of current interest using the strategies introduced during the course

Syllabus

Module 1

- Python for AI & ML
- Applied Statistics

Module 2

- Supervised Learning
- Unsupervised Learning
- Ensemble Techniques
- Featurization, Model Selection & Tuning
- Recommendation Systems

Module 3

- Introduction to Neural Networks and Deep Learning
- **Computer Vision**
- Natural Language Processing

Module 4

- EDA
- Time Series Forecasting
- Pre Work for Deep Learning
- Model Deployment

Module 5

- Visualization using Tensor board
- GANs (Generative Adversarial Networks)
- Reinforcement Learning

Course Coordinator HOD Principal

SCMS SCHOOL OF ENGINEERJNG AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683S76

ADD ON COURSE

ON

Ansys and Creo

CONDUCTED BY

DEPARTMENT OF AUTOMOBILE ENGINEERING

Forenoon session: 9:00 am-12:00pm (3 hours)

Afternoon session: 12:30 pm - 3:30 pm (3 hours)

Total: 30 hours (6 hours per day)

Course Date:

4/11/2021-8/11/2021

Add on course on Ansys and Creo

Course duration: 30 hours

Course Coordinator: Mr. Amal P Dev

Course Description

This course is to give a basic knowledge and understanding about computer aided designing and analysis to be done before finalizing a design. This course will be helpful for students to acquire basic knowledge about Creo and ANSYS.

Course Objectives

- To provide working knowledge on CAD
- To train a solid modeling and assembly modeling software
- To train finite element analysis software

Course Outcomes

After completing the course, students will be able to:

- Gain working knowledge in CAD
- Gain Knowledge in doing simple structural analysis problems

Syllabus

Module 1

Introduction to CAD basics

Module 2

2D Sketch Drawing

Module 3

3D part Drawing

Module 4

Assembly Drawing

Course Coordinator

HOD

Principal

Value added course on

Personality Development for Engineers

CONDUCTED BY

BASIC SCIENCES AND HUMANITIES DEPARTMENT AND PLACEMENT CELL

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 12:30 pm - 3:30 pm (3 hours)
Total: 30 hours (6 hours per day)

Course Date:

1/6/21,10/9/21, 15/9/21, 17/9/21 and 22/9/21

Personality Development for Engineers

Course Objectives

- To train the students to meet the expectations of the industry
- To build confidence in students and develop right attitude in them
- To enhance their communication skills

Course Outcomes

After completing the course, students will be able to

- Develop strong communication skills
- Develop confidence in facing different situations in job place
- Understand the requirements of the industry

Syllabus

Module 1 – 6 hours

Career planning- Career mapping

Module 2 – 6 hours

Requirements of industry – Tackling of aptitude exams

Module 3 – 6 hours

Quantitative Aptitude - Logical Reasoning -Verbal reasoning

Module 4 – 6 hours

Personality development – Group discussion techniques

Module 5 – 6 hours

Speaking skills – Confidence building techniques – Mock Interviews

Course summary

Screenshot of the value added course on Personality development for Engineers

The value added course was organized by Basic Sciences and Humanities department and Placement cell on 1/6/21, 10/9/21, 15/9/21, 17/9/21 and 22/9/21 and 183 of students successfully completed the course

Course Coordinator HOD Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

INTERNET OF THINGS

CONDUCTED BY

Department of Computer Science and Engineering

Forenoon session: 9:00 am-12:00pm (3 hours)

Afternoon session: 12:30 pm - 3:30 pm (3 hours)

Total: 30 hours (6 hours per day)

Course Date:

18/10/2021-22/10/21

ADD ON COURSE ON INTERNET OF THINGS (30 HOURS)

Course Duration: 30 hours

Course Coordinator: Ms. Sindhya K Nambiar

Course Description

A five day IOTadd on coursewas organised for CS students by of Department of Computer Science and Engineering from 18/10/2021 to 22/10/2021 in online mode.

Course Objectives

- To learn why IOT is useful for the design of desktop and web applications.
- TTo design and program stand-alone IOT applications.

Course Outcomes

After completing the course, students will be able to:

- Use an integrated development environment to write, compile, run, and test simple object-oriented programs.
- Read and make elementary modifications to IOT programs that solve real-world problems.

Syllabus

Module 1 (6 hrs)
Introduction to IOT - History of IOT-Requirements and structure of IOT

Module 2 (6 hrs)
IOT enabling technologies- IOT architecture- Type Compatibility andConversion Implementing interfaces.

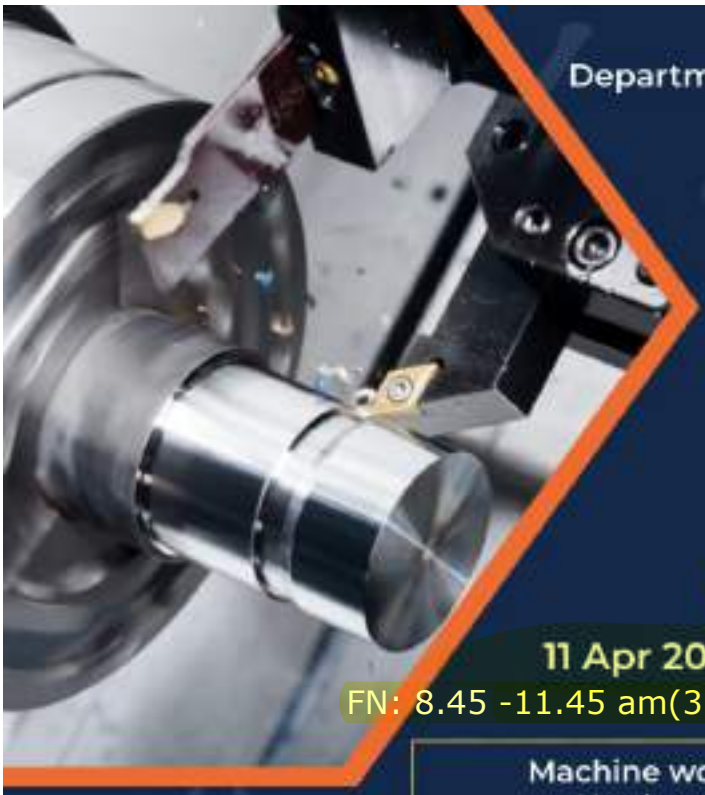
Module 3 (6 hrs)
IOT components- IOT networking protocols

Module 4 (6 hrs)
IOT services and applications-standards

Module 5 (6 hrs)

IOT Case studies

Course Coordinator HOD Principal



Department of Mechanical Engineering organises

ADD-ON COURSE

CNC LATHE SMARTTURN

11 Apr 2022 - 23 Apr 2022 (30 Hours)

FN: 8.45 -11.45 am(3hrs), AN: 12.30 -3.30 pm(3hrs)

Machine working, Safety precautions
Hardware and Software details
Control panel, control systems, power supply
Part programming and programming simulation
Machine operation
Program loading, simulation, program verification
Automated program execution

SSET SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY
Campus: Vidya Nagar, Karukutty, Ernakulam - 683576 Kerala
Website: www.scmsgroup.org/sset Tel: 0484 2882900/0484 2450330

Accredited by
NBA
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SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, ERNAKULAM - 683 582

DEPARTMENT OF MECHANICAL ENGINEERING

ASSOCIATION OF MECHANICAL ENGINEERS FOR RESEARCH AND INNOVATION (ARiME)

ADD-ON COURSE – [redacted] CNC Lathe Smartturn

The Department of Mechanical Engineering, SCMS School of Engineering and Technology conducted a five-day (30 hours) add-on course session on "[redacted] CNC Lathe Smartturn" for the students of third year Mechanical Engineering (2019-23 batch) in the month of April 2022.

Objective and outcomes of the course –

Computer Numerical Control (CNC) machining is a manufacturing process in which pre-programmed computer software controls the movement of tools during a cutting operation. CNC machines are vastly used for grinding, milling, turning and many more other machining operations. SSET is equipped with a CNC Lathe Smartturn machine at the Manufacturing Technology Lab.

This [illegible] course aimed at offering hands-on experience and impart practical knowledge on CNC lathe thereby providing them with the skills and knowledge required to operate and maintain a CNC lathe machine. The outcomes of the course can be summarized as below.

- To enable the students to differentiate the conventional machine operations with the CNC machine.
- To introduce students to the basics of CNC technology, including the principles of operation, the components of the system, and the programming language.
- To develop students understanding of the different cutting tools, work holding devices, and materials used in CNC lathe machining.
- To teach students how to create and edit CNC programs using industry-standard software.
- To teach students the importance of safety in CNC lathe machining and the procedures for handling hazardous materials.

The course was identified to fill the gap in syllabus for the course "MET307 Machine Tools and Metrology" during the 5th semester of the B.Tech program. In addition to familiarization with the working and programming of CNC lathe, the students will be able to differentiate the construction, accuracy and precision of the machining process, quality of the machined products, and overall productivity of the CNC machines compared to conventional machine tools.

Course contents and Schedule –

The five-day course was scheduled as follows:

Date and Day	Session	Topic
11 April 2022 Monday	Forenoon	Introduction to machine working, Safety precautions
	Afternoon	Basics of machine working
12 April 2022 Tuesday	Forenoon	Hardware details
	Afternoon	Software details
13 April 2022 Wednesday	Forenoon	Familiarization of control panel, control systems, power supply
	Afternoon	Part programming and programming simulation
16 April 2022 Saturday	Forenoon	Machine operation
	Afternoon	Program loading, simulation, program verification
23 April 2022 Saturday	Forenoon	Automated program execution
	Afternoon	Automated program execution and assessment test

After completion of the course participants were well versed in developing CNC lathe programs and executing them for simple as well as complex machining operations. A student's feedback was taken on the training program at the end of the last day, the sample is attached separately. The feedback on the workshop was taken from a total of 20 students. The course aided in the achievement of various programme outcomes, the summary of which is given in the table below. The weightage level of PO is based on the following criteria:

- Level 3 - Percentage of students agreed is greater than 90%
- Level 2 - Percentage of students agreed is greater than 80%
- Level 1 - Percentage of students agreed is greater than 70%

Question no.	Number of students agreed	Percentage of students agreed	Relevance to PO	PO level
1	20	100	-	-
2	20	100	-	-
3	20	100	-	-
4	18	90	5	3
5	19	95	10	3
6	16	80	12	2
7	15	75	9	1.5
8	15	75	6,7	1.5
9	17	85	11	2.5
10	16	80	1,2,3	2

Common comments/suggestions made by students are summarized below.

- Helpful session as it involved more of industrial applications.
- Looking forward for more hands-on sessions.
- Needed more and advanced practical sessions to machine complicated profiles.
- If possible, provide company certification for such sessions.

Overall PO attainment of the workshop is given in the below table.

PO	1	2	3	4	5	6	7	8	9	10	11	12
Attainment	2	2	2	-	3	1.5	1.5	-	1.5	3	2.5	2

Timings –

Forenoon session	– 08:45 am – 11:45 am (3 hours)
Afternoon session	– 12:30 pm – 03:30 pm (3 hours)
Total	– 30 hours (6 hours per day)

Venue – Manufacturing Technology Lab, ACI 01 classroom

Contents covered (an overview) –

Day 1 (FN session) - Introduction to machine working, Safety precautions – General instructions, Comparison of CNC and conventional lathe, Parts of CNC lathe, Machine working

Day 1 (AN session) - Basics of machine working – Drive units – AC and DC types, Transmission belting, Axes feed drives, Servomoter

Day 2 (FN session) - Hardware details – Chuck, Turrent, Slideways, Tail center, Cutting tools, Coolant supply

Day 2 (AN session) - Software details – Control panel, Switches, Programming codes

Day 3 (FN session) - Familiarization of control panel, control systems, power supply – Control panels, Control drives, Servomotor, Feedback drives

Day 3 (AN session) - Part programming and programming simulation – G-codes and M-codes

Day 4 (FN session) - Machine operation – Home position, tool offset, work offset, chuck open/close, tail center movement, turret position

Day 4 (AN session) - Program loading, simulation, program verification – Turning, Facing, Step turning with cycles, Grooving, Taper turning, Threading, Drilling

Day 5 (FN session) - Automated program execution – Machining and line-by-line verification

Day 6 (FN session) - Automated program execution and assessment – An assessment test was given to students to write down the part program of a simple component manufactured by CNC lathe. The question and part program are attached with the report.

The sessions were handled by the faculty members of Mechanical Engineering, the details of which are provided in the attendance sheet attached. Theory sessions were conducted for the entire students as a whole whereas practical sessions were conducted in groups of 10. Minimum criteria for certification were 80% attendance, i.e. 24 hours and 60% marks in the assessment test conducted at the end of the course. 45 students out of 56 (80.4%) completed the course successfully and e-certificates were handled over.

Students attending the Add course on CNC Lathe (30 hours) held from 11-23 April 2022

Faculty coordinator

Dr. Rag R. L
HOD, MED

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

Essential Concepts in C Programming

CONDUCTED BY

Department of Computer Science and Engineering

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 1:00 pm - 4:00 pm (3 hours)
Total: 30 hours (6 hours per day)

Course Dates:

22/6/2021,23/6/2021,24/6/2021,25/6/2021,26/6/21

Essential Concepts in C Programming

Course duration: 30 hours

Course Coordinator: Rosebell Paul

Course Description

A Course on essential concepts in C programming language was organized by HackElite-Technical Club (Department of Computer Science and Engineering).

Course Objectives

- To understand the fundamental concepts of the C programming language.
- To create and use functions to organize code effectively
- To implement decision-making constructs and loops.

Course Outcomes

After completing the course, students will be able to:

- Declare, initialize, and manipulate variables in C
- Create C programs that demonstrate control flow
- Debug and troubleshoot C code effectively.

Syllabus

Module 1 (6 hrs)

Variable in C Language

Module 2 (6 hrs)

Operators and Enums in C Language

Module 3 (6 hrs)

Decision Making of C Language

Module 4 (6 hrs)

Loop control in C Language

Module 5(6 hrs)

Control Flow in C Programming

Course Coordinator

HOD

Principal

GEOSYNTHETICS AND REINFORCED SOIL STRUCTURES

PROF. K. RAJAGOPAL
Department of Civil Engineering
Andhra University

INTENDED AUDIENCE : Two basic courses in geotechnical engineering at UG level that covers fundamentals of soil mechanics and designs of retaining walls, slope stability analysis and foundations is the required background for this course.

COURSE OUTLINE :

This course will dealt with the geosynthetics as construction materials in civil engineering projects. It will introduce the concept of geosynthetics, their manufacture and their behavior and their applications in different civil engineering designs. The support for the course will be in the form of pre-recorded videos, power point slides and supplementary reading materials given every week.

ABOUT INSTRUCTOR :

Prof. K. Rajagopal joined as an Adjunct Professor at Andhra University, Visakhapatnam after retirement from the services of IIT Madras (Department of Civil Engineering). He has more than 25 years of experience with teaching and research in geosynthetics and reinforced soil structures.

COURSE PLAN :

Week 1: Introduction to Geosynthetics

Types of geosynthetics and their applications

Manufacture of geosynthetics

Week 2: Strength of reinforced soils

Testing of Geosynthetics

Week 3: Different Types of Soil Retaining Structures

Construction Aspects of Geosynthetic Reinforced Soil Retaining Walls

Design Codes for Reinforced Soil Retaining Walls

Week 4: External Stability Analysis of Reinforced Soil Retaining Walls

Seismic Loads and Internal Stability Analysis of Reinforced Soil Walls

Testing Requirements for Reinforced Soil Retaining Walls

Week 5: Design of Reinforced soil Retaining walls - simple geometry

Design of reinforced soil retaining walls – sloped backfill soil

Design of reinforced soil retaining walls supporting a bridge abutment

Week 6: Stability analysis of soil slopes- Infinite slopes

Stability analysis of reinforced soil slopes resting on soft foundation soils

Stability analysis of reinforced soil slopes resting on strong foundation soil

Week 7: Stability analysis of reinforced soil slopes - bilinear wedge analysis

Design of Embankments supported on Load Transfer Platforms

Week 8: Reinforced soil for supporting shallow foundations

Week 9: Accelerated consolidation of soft clays using geosynthetics

Geosynthetic encased stone columns for load support

Week 10: Drainage application of geosynthetics

Filtration Applications of Geosynthetics

Week 11: Erosion control using geosynthetics

Natural geosynthetics and their applications

Week 12: Geosynthetics for construction of municipal and hazardous waste landfills


GLASS IN BUILDINGS : DESIGN AND APPLICATIONS

PROF. K.N. SATYANARAYANA
Department of Civil Engineering
IITM & Glass Academy

PROF. E. RAJASEKAR
Department of Civil Engineering
IITM & Glass Academy

TYPE OF COURSE : Rerun | Elective | UG
COURSE DURATION : 12 weeks (26 Jul'21 - 15 Oct'21)
INTENDED AUDIENCE : Any Interested Audience
EXAM DATE : 23 Oct 2021
PRE-REQUISITES : Elective for third Year Civil Engineering and fourth year Architecture students.
INDUSTRIES APPLICABLE TO : Structural Glass Industry/ Building Façade Industry

COURSE OUTLINE :

The field of Building Envelope Design & Construction has become a specialized field with several codes emphasizing energy efficiency to buildings both on mandatory and voluntary basis. Glass is one of the energy efficient materials that lend aesthetic and functional value to a building. Glass being extensively used in buildings, whereas the fields aligning including the right selection, analysis, design including facade design and consulting is tremendously facing lack of knowledge and competent professionals across the country.This course on 'Glass in Buildings: Design and Applications' will holistically cover the critical aspects of glass facade engineering and glass architecture & design

ABOUT INSTRUCTOR :

Prof. K N Satyanarayana, Civil Engineering,IIT Tirupathi

Dr. E. Rajasekar is an assistant professor at the Department of Architecture and Planning ,IIT Roorkee, India. He is an Architect with post-graduation in Building Technology and Construction Management and PhD on Thermal comfort and building performance from IIT Madras. He is a Shastri Indo - Canadian Institute Doctoral Fellow.He specializes in the field of building performance assessment focused on the thermal,acoustics and lighting parameters.He carries a rich research and industry experience in this field and has published more than 20 technical papers in peer-reviewed journals and conferences. He is a USGBC LEED accredited professional and a GRIHA certified professional.

COURSE PLAN :

Week 01 : Introduction – Glass the Building Material
Week 02 : Float Glass Manufacturing Process
Week 03 : Building Envelope Design
Week 04 : Glass Application on Facades and future of facades
Week 05 : Architectural Glass – The Basics
Week 06 : Fire Resistant Glazing
Week 07 : Acoustic Glass Solutions
Week 08 : Interior Glazing Applications
Week 09 : Introduction to National Building Code (NBC) 2016
Week 10 : Case Study – Design and selection of Glass and Glazing system – Safety and Structural Performance
Week 11 : Design and selection criteria for energy performance of Glass and Glazing system
Week 12 : Design and application of sealant

MODERN CONSTRUCTION MATERIALS

PROF. RAVINDRA GETTU
Department of Civil Engineering
IIT Madras

PRE-REQUISITES : Knowledge of civil engineering or architecture

INTENDED AUDIENCE : Core for post-graduates, Post-graduate and upper level undergraduate, BE/BTech/ME/MTech/BArch/MArch/MS/MPhil/Ph.D

INDUSTRIES APPLICABLE TO : Companies in the construction sector.

COURSE OUTLINE :
The aim of the course is to provide the scientific basis for the understanding and development of construction materials. It serves as a foundation course for post-graduate students interested in careers involving research, teaching and/or construction engineering, as well as marketing, decision making, innovation and specification related to construction materials. It can also be a capstone course for undergraduates finishing their studies in civil engineering and architecture.

ABOUT INSTRUCTOR :
Prof. Ravindra Gettu is a chair professor of civil engineering at IIT Madras. He has coordinated the introductory course at IITM and given lectures at other institutes on civil engineering for more than 10 years. He has a wide range of experience in research, education and consultancy. His specific area of expertise is construction materials.

COURSE PLAN :

Week 1**:** Prologue – Intro. to the course, Science,Engineering and Technology of Materials- 1&2, Atomic Bonding-1

Week 2**:** Atomic Bonding-2, Structure of Solids-1, Structure of Solids-2&3

Week 3**:** Movement of Atoms, Development of Microstructure-1,Development of Microstructure-2

Week 4**:** Surface Properties, Response to Stress-1, Response to Stress-2&3

Week 5**:** Failure Theories, Fracture Mechanics-1, Fracture Mechanics-2

Week 6**:** Rheology & Thermal properties, Review of Const. Materials & Criteria for Selection, Wood and Wood Products-1

Week 7**:** Wood and Wood Products-2, Wood and Wood Products-3, Polymers

Week 8**:** Fibre Reinforced Polymers-1&2, Metals-1, Metals-2

Week 9**:** Metals-3, Bituminous Materials-1, Bituminous Materials-2

Week 10**:** Concrete-1, Concrete-2, Concrete-3

Week 11**:** Concrete-4, Concrete-5, Glass - Guest Lecture

Week 12**:** Waterproofing Materials, Polymer Floor Finishes, Anchors

REMOTE SENSING: PRINCIPLES AND APPLICATIONS

PROF. ESWAR RAJASEKARAN
Department of Civil Engineering IIT Bombay

TYPE OF COURSE : Rerun | Elective | UG/PG
COURSE DURATION : 12 Weeks (24 Jan' 22 - 15 Apr' 22)
EXAM DATE : 24 Apr 2022

INTENDED AUDIENCE : Civil Engineering, Earth Science, Agriculture, Geoinformatics

COURSE OUTLINE :

Remote sensing (RS) is the technology that helps to gather information about objects and phenomena from a distance. There has been a radical transformation in the technology from the early application of 'image interpretation' to the paradigm of quantitative RS. The advancement in sensors and data processing algorithms have led to multiple applications of RS in various domains. To perform quantitative RS, one must understand the basic nature of RS sensors, the interaction between electromagnetic radiation and earth surface features and the assumptions and limitations of the algorithms applied. This course will enable the participants to learn about the necessary physical concepts involved in different phases of RS which will help in better appreciation of algorithms and existing datasets. The concepts will further be strengthened through explanation of selected applications.

ABOUT INSTRUCTOR :

Prof. Eswar is currently working as Assistant Professor in the Department of Civil Engineering, IIT Bombay. Previously he was working as Postdoctoral fellow in the NASA Jet Propulsion Laboratory, Pasadena, California from 2016-2018. Dr. Eswar completed his Bachelors in Geoinformatics from College of Engineering Guindy, Anna University, Chennai with University Gold Medal and Ph.D. from IISc, Bangalore. His primary research interests are thermal infrared remote sensing (TIR RS), mapping evapotranspiration and flux partitioning from RS, drought monitoring from RS datasets, spatial disaggregation of TIR data, applications of TIR RS in areas such as agriculture, water and urban studies.

COURSE PLAN :

Week 1**:** Introduction, electromagnetic radiation, basic laws

Week 2**:** Radiometry, Interaction of EMR with terrain features

Week 3**:** RS in visible and IR domain: Radiance to reflectance, atmospheric and topographic correction

Week 4**:** RS image acquisition, Different types of sensors, resolution concepts

Week 5**:** Resolution concepts, Spectral reflectance curves

Week 6**:** Spectral reflectance curves, Spectral indices

Week 7**:** Thermal infrared remote sensing

Week 8**:** Passive microwave radiometry

Week 9**:** Active microwave remote sensing: Imaging radar

Week 10**:** Platforms used for RS data acquisition and characteristics

Week 11**:** LIDAR, Common remote sensing datasets and data portals

Week 12**:** Applications of RS for land use and land cover monitoring, water resources management

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

Vidya Nagar, Palissery, Karukutty, Kerala 683576

Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam

2020-21

Sl. No	Name of the Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam	Course code
1	JAVA programming language	CJL2021S01
2	CATIA for Engineers	CCE2021S02
3	Health and Wellness	CHW2021S03
4	Analysis, Design and Detailing of RCC Structures	CAS2021S04
5	Analysis and Design of pavements	CAP2021S05
6	ARDUINO and TINKERCAD	CAT2021S06
7	System Modelling and Control Methods	CSM2021S07
8	C programming language 1.0	CCL2021S08
9	Sustainable Product Design and Development	CSD2021S09
10	Engineer's Evolution: Personal and Professional Growth	CEG2021S10
11	Geotechnical Engineering I	NPT2021S01

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ERNAKULAM, KERALA-683 576

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

JAVA - Programming Language

CONDUCTED BY

Department of Computer Science and Engineering

Forenoon session: 9:00 am-12:00pm (3 hours)

Afternoon session: 12:30 pm - 3:30 pm (3 hours)

Total: 30 hours (6 hours per day)

Course Date:

29th March to 02nd April, 2021

Java Programming

Course Duration: 30 hours

Course Coordinator: Ms. Sindhya K Nambiar

Course Description

A five day Java Programming Language add on course was organised for S8 CS students by HackElite - Technical club of Department of Computer Science and Engineering from 29/03/2021 to 02/04/2021 in online mode.

Course Objectives

- To learn why Java is useful for the design of desktop and web applications.
- To learn how to implement object-oriented designs with Java.
- To identify Java language components and how they work together in applications.
- To design and program stand-alone Java applications.

Course Outcomes

After completing the course, students will be able to:

- Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.
- Read and make elementary modifications to Java programs that solve real-world problems.

Syllabus

Module 1 (6 hrs)

Introduction

Class Fundamentals , Object & Object reference , Object Life time & Garbage Collection, Creating and Operating Objects , Constructor & initialization code block, Access Control, Modifiers, methods Nested , Inner Class &Anonymous Classes

,Abstract Class & Interfaces Defining Methods, Argument Passing Mechanism , MethodOverloading, Recursion, Dealing with Static Members.

Module 2 (6 hrs)

Use and Benefits of Inheritance in OOP, Types of Inheritance in Java, Inheriting Data members and Methods , Role of Constructors in inheritance , Overriding Super Class Methods ,Use of "super" , Polymorphism in inheritance ,Type Compatibility andConversion Implementing interfaces.

Module 3 (6 hrs)

Organizing Classes and Interfaces in Packages , Package as Access Protection , Defining Package, Making JAR Files for Library Packages Import and Static Designing GraphicalUser Interfaces in Java, Components and Containers, Basics of Components, TheCollection Framework : Collections of Objects , Collection Types, Sets , Sequence, Map, Understanding Hashing, Use of ArrayList & Vector.

Module 4 (6 hrs)

The Idea behind Exception ,Exceptions & Errors ,Types of Exception ,ControlFlow In Exceptions, JVM reaction to Exceptions ,Use of try, catch, finally, throw, throwsin Exception Handling ,In-built and User Defined Exceptions, Checked and Un-CheckedExceptions.

Understanding Threads, Needs of Multi-Threaded Programming, Thread Life-Cycle, Thread Priorities, Synchronizing Threads, Inter Communication of Threads, Critical Factor in Thread – Deadlock

Module 5 (6 hrs)

Web Application Basics, Architecture and challenges of Web Application, Introduction to servlet, Servlet life cycle, developing and Deploying Servlets, ExploringDeployment, Descriptor (web.xml), Handling Request and Response.

Course Coordinator HOD Principal

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ADD ON COURSE

ON

CATIA FOR ENGINEERS

CONDUCTED OY

DEPARTMENT OF AUTOMOBILE ENGINEERING

Forenoon session: 9:00 am-12:00pm (3 hours)

Afternoon session: 1:00 pm - 4:00 pm (3 hours)

Total: 30 hours (6 hours per day) Course Dates:

11/4/2021,12/4/2021,13/4/2021,14/4/2021,15/4/2021

Add on course on Catia

Course duration: 30 hours

Course Coordinator: Sujay K

Course Description

This course is to give a basic knowledge and understanding about computer aided designing before finalizing a design. This course will be helpful for students to acquire basic knowledge about Catia design software.

Course Objectives

- To provide working knowledge on CAD
- To train a solid modeling and assembly modeling software
- To train 3 D modeling using Catia

Course Outcomes

After completing the course, students will be able to:

- Gain working knowledge in CAD
- Gain knowledge in design problems using Catia.
- Gain knowledge to interpret design

Syllabus

Module 1

Introduction to CAD basics

Module 2

2D Sketch Drawing

Module 3

3D part Drawing

Module 4

Assembly Drawing

Course Coordinator

HoD

Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

VALUE ADDED COURSE

ON

HEALTH AND WELLNESS

CONDUCTED BY

DEPARTMENT OF BASIC SCIENCE AND HUMANITIES

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 1:00 pm - 4:00 pm (3 hours)
Total: 30 hours (6 hours per day)

Course Dates:
8/2/21, 15/2/21, 22/2/21, 8/3/21, 15/3/21, 22/3/21, 23/3/21

HEALTH AND WELLNESS

Course duration: 30 hours

Course Coordinator: Ms. Surya K. A

Course Description

Health education and health promotion builds on a social and cultural understanding of health and illness within your community. The approach to health education used in this study session aims to improve access to health-related information, knowledge and services that will give people more control over their own health and wellbeing.

Course Objectives

1. To help understand the importance of a healthy lifestyle
2. To familiarize students about physical and mental health
3. To create awareness of various life style related diseases
4. To provide understanding of stress management

Course Outcomes

After completing the course, students will be able to:

1. Students will be able increase self-awareness, self-care and well-being.
2. Students will be able to demonstrate an understanding of one's health issues/conditions, including prevention approaches, self-care practices, and appropriate intervention and treatment when needed.
3. Students will be able to describe Health & Wellness programs and services offered, how to access them,and their value to their well-being

Syllabus

Module 1 INTRODUCTION TO HEALTH & WELLNESS (**8 hrs)**

- Define and differentiate health and wellness.
- Importance of health and wellness Education.
- Local, demographic, societal issues and factors affecting health and wellness.
- Diet and nutrition for health & wellness.
- Essential components of balanced diet for healthy living with specific reference to the role ofcarbohydrates, proteins, fats, vitamins & minerals.

Module 2: FACTORS AFFECTING HEALTH **(8 hrs)**

- Malnutrition, under nutrition and over nutrition.
- Processed foods and unhealthy eating habits.
- Body systems and common diseases.
- Sedentary lifestyle and its risk of disease

Module 3 Factors affecting mental health **(6 hrs)**

- Stress, anxiety, and depression.
- Identification of suicidal tendencies
- Substance abuse (Drugs, Cigarette, Alcohol), de-addiction, counselling and rehabilitation

Module 4 MANAGEMENT OF HEALTH AND WELLNESS. **(8 hrs)**

- Healthy foods for prevention and progression of Cancer, Hypertension, Cardiovascular, andmetabolic diseases (Obesity, Diabetes, Polycystic Ovarian Syndrome).
- Types of Physical Fitness and its Health benefits
- Modern lifestyle and hypo-kinetic diseases; prevention and management through exercise
- Spirituality and mental health.
- Role of Yoga, asana and meditation in maintaining health and wellness.
- Role of sleep in maintenance of physical and mental health

SUGGESTED BOOKS:

- Physical Activity and Health by Claude Bouchard, Steven N. Blair, William L. Haskell.
- Mental Health Workbook by Emily Attached & Marzia Fernandez, 2021.
- Lifestyle Diseases: Lifestyle Disease Management, by C. Nyambichu & Jeff Lumiri, 2018.

SURYA K A
Course Coordinator

Dr Sreelekha Menon
HOD

Dr Praveen Sal C J
Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

Analysis, Design and Detailing of RCC Structure

CONDUCTED BY

DEPARTMENT OF CIVIL ENGINEERING

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 1:00 pm - 4:00 pm (3 hours)
Total: 30 hours (6 hours per day)

Course Dates:
3/8/2020,4/8/2020,5/8/2020,6/8/2020,7/8/2020

Analysis, Design and Detailing of RCC Structures

Course duration: 30 hours

Course Coordinator: Deeraj A D

Course Description

Importance of planning, Analysis and design and detailing

Modelling building geometry in ETABS software, applying loads and analysis and Design of Beam and column using ETABS

Design of isolated footing manually and preparing the detailing in AutoCAD

Preliminary Selection of foundation and Bearing capacity calculation

Course Objectives

- To impart knowledge about planning, design and Detailing of RCC structures
- To model building geometry in ETABS software, applying loads and analysis and Design of Beam and column using ETABS
- To design of isolated footing manually and preparing the detailing in AutoCAD
- To study about preliminary Selection of foundation and Bearing capacity calculation

Course Outcomes

After completing the course, students will be able to:

- plan, design and detail RCC structures
- model building geometry in ETABS software
- design isolated footing manually and prepare the detailing in AutoCAD

Syllabus

Module 1 (6 hours)

Planning, manual designing and Detailing of RCC Structures

Module 2 (6 hours)

Modeling and analysis of RCC structures using ETABS software

Module 3 (6 hours)

Design of isolated footing manually and preparing the detailing in AutoCAD

Module 4 (6 hours)

Preliminary Selection of foundation and Bearing capacity calculation

Module 5 (6 hours)

Detailed Selection of foundation and Bearing capacity calculation

Assessment Pattern

Assignment – 30 marks
Examination – 50 marks
Viva – 20 marks

Course Coordinator HOD Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

Analysis and Design of pavements

CONDUCTED BY

DEPARTMENT OF CIVIL ENGINEERING

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 1:00 pm - 4:00 pm (3 hours)
Total: 30 hours (6 hours per day)

Course Dates:
12/10/2020,13/10/2020,14/10/2020,15/10/2020,16/10/2020

Analysis and Design of pavements

Course duration: 30 hours

Course Coordinator: Y K REMYA

Course Description

Types of pavements and comparison of flexible and rigid pavements

Construction of flexible pavements and rigid pavements using MORTH specifications

Manual Analysis methods for analyzing flexible and rigid pavements

Software tools for analysis for pavements

Design of flexible and rigid pavements

Course Objectives

- To give an idea about different types of pavements and comparison of flexible and rigid pavements
- To demonstrate the construction of flexible and rigid pavements
- To analyze flexible and rigid pavements by manual methods
- To introduce various software tools for analyzing pavements
- To Design flexible pavements using IRC method

Course Outcomes

After completing the course, students will be able to:

- To analyze flexible and rigid pavements for different traffic conditions
- model flexible and rigid pavements in ABAQUS software
- design flexible and rigid pavements using IRC codes

Syllabus

Module 1 (6 hours)

Types of pavements and comparison of flexible and rigid pavements

Module 2 (6 hours)

Construction of flexible pavements and rigid pavements using MORTH specifications

Module 3 (6 hours)

Manual Analysis methods for analyzing flexible and rigid pavements

Module 4 (6 hours)

Software tools for analysis for pavements

Module 5 (6 hours)

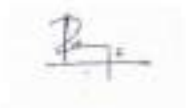
Design of flexible and rigid pavements

Assessment Pattern

Assignment – 30 marks

Examination – 50 marks

Viva – 20 marks



Course Coordinator

HOD

Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

ARDUINO and TINKERCAD

CONDUCTED BY

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 1:00 pm - 4:00 pm (3 hours)
Total: 30 hours (6 hours per day)

Course Dates:
10/5/2021,11/5/2021,12/5/2021,13/5/2021,14/5/2021

ARDUINO and TINKERCAD

COURSE PERIOD: 30 Hours

Course Content:

- Basics of electronics, Electronic Components
- How to prototype circuits with a breadboard
- Arduino programming language and IDE
  Program Basic Arduino examples
- Prototype circuits and connections to the Arduino
- Programming the Arduino microcontroller
- Connecting the Arduino microcontroller to a serial terminal to understand communication and stand-alone use

Benefits:

At the end of this course, you will be able to create awareness about the

- Basic electronic concepts, breadboard and electronic components
- How Arduino platform works in terms of the physical board and libraries and theIDE
- To develop skills to design and implement various smart system applications.

ARDUINO and TINKERCAD

Course duration: 30 hours

Course Coordinator: Ms. Parvathi R

Course Description

A five-day Add on course on Arduino & Tinkercad was organized for ECE students by Department of Electronics and Communication Engineering in association with IEDC SSET under the coordination of Ms. Parvathi R (Asst. Professor, ECE Dept.). This Five-day course was conducted from May 10th-14th 2021 in online mode. Sixty-Nine students registered and participated for this course. The contents of this course was designed to meet the gap in syllabus for the subject ECT 342 Embedded Systems.

Program Schedule

Date	Session	Topic	Resource person
10.5.21	9:00 am-12:00 pm	Introduction to MC & Arduino board- PR	Mr. Vinoj P.G (Asst. Prof, ECE), Ms. Parvathi R (Asst. Prof, ECE)
	12.30 pm-3:30 pm	Arduino Programming	Mr. Vinoj P.G (Asst. Prof, ECE)
11.5.21	9:00 am-12:00 pm	Interfacing with Arduino	Dr. Parvathy M (Assoc. Prof, ECE)
	12.30 pm-3:30 pm	RF Transceiver- TSA	Ms. Srilekshmi M (Asst. Prof, ECE)

12.5.21	9:00 am-12:00 pm	Motor Control Interfacing	Ms. Tini Susan Abraham (Asst. Prof, ECE)
	12.30 pm-3:30 pm	IR Sensors	Mr. Vinoj P.G (Asst. Prof, ECE)
13.5.21	9:00 am-12:00 pm	Interfacing Arduino with TINKERCAD- VPG, PR, SM	Ms. Parvathi R (Asst. Prof, ECE)
	12.30 pm-3:30 pm	Motor Control interfacing in TINKERCAD- PM	Ms. Parvathi R (Asst. Prof, ECE)
14.5.21	9:00 am-12:00 pm	Arduino Projects	Mr. Vinoj P.G (Asst. Prof, ECE)
	12.30 pm-3:30 pm		

Coordinator

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VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

System Modelling and Control Methods

CONDUCTED BY

DEPARTMENT OF ELECTRICAL ENGINEERING

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 1:00 pm - 4:00 pm (3 hours)
Total: 30 hours (6 hours per day)

Course Dates:
13/7/2020,14/7/2020,15/7/2020,16/7/2020,17/7/2020

System Modelling and Control Methods

Course duration: 30 hours

Course Coordinator: Jayalakshmi.S

Course Description

An add on course titled System modelling and Control methods for a duration of 30 hours is planned to conduct for S7,S5 and S3 students

Course Objectives

- Smart power flow and control methods
- Guidance and navigation control
- System modelling

Course Outcomes

After completing the course, students will be able to:

- Develop any control system using modelling
- Understand the concepts of guidance and navigation control

Syllabus

Module 1 (6 hours)

Introduction, Class Mechanics, Introduction to Modeling, Guidance and navigation control

Module 2 (6 hours)

System model representation, Mechanical Systems

Module 3 ((6 hours)

System model representation, Electrical Systems

Module 4 (6 hours)

System Response, Introduction to feedback

Module 5 ((6 hours)

Smart power flow and control methods, A novel control methods for DC-DC converters

Course Coordinator HOD Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

C-Programming Language 1.0

CONDUCTED BY

Department of Computer Science and Engineering

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 1:00 pm - 4:00 pm (3 hours)
Total: 30 hours (6 hours per day)

Course Dates: 5/4/2021, 6/4/2021, 7/4/2021, 8/4/2021, 9/4/2021

C-Programming language 1.0

Course duration: 30 hours

Course Coordinator: Gayatri S Warrier

Course Description

This coursewas conducted from 05th to 09th April 2021.

Course Objectives

- To obtain programming skill development.
- To get introduced to concept of functions in C
- To attain the knowledge of various applications of C language in industry.

Course Outcomes

After completing the course, students will be able to:

- To solve the given problems using C language
- Design codes using functions in C
- They got familiarized with various applications in real life and industry.

Syllabus

Module 1 (6 hrs)

- Defining Structure and Data Types
- Storage Classes
- Input/output Statements
- Operators and Expressions

Module 2 (6 hrs)

- Decision making and Looping
- Arrays

Module 3 (6 hrs)

- Strings
- Defining and Calling Functions

Module 4 (6 hrs)

- Pointers
- Dynamic Memory allocation

Module 5 (6 hrs)

- File handling functions

Course Coordinator

HOD

Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

NOTICE

The Department of Mechanical Engineering is organising an **ADD-ON course** (online mode) for S6 Mechanical Engineering Students (2017 admission) on "Sustainable Product Design and Development" from 27th July to 01st Aug, 2020.

The contents of the course are as follows.

Introduction to sustainable development and engineering
Sustainability standards and sustainable development goals
Current ecological scenario
UNSDGs and its relevance
Biomimicry and product development
Life cycle assessment of a product
Sustainable materials
Product design and development
Role of IPR in product development, Environmental laws and disclosure regulations
Product development using waste material

The course will be of **30 hours** (6 hours for Days 1-4 and 3 hours for Days 5 and 6). A certificate will be provided to students who have successfully completed the course. No registration fee for the course.

Click on the below link for registration. Register by 20th July 2020.

Registration link - *https://forms.gle/mbCkZKYKstFGVeM9A*

Dr. Venu P
Head of the Department
Mechanical Engineering

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY
VIDYA NAGAR, KARUKUTTY, ERNAKULAM - 683 582
DEPARTMENT OF MECHANICAL ENGINEERING

ASSOCIATION OF MECHANICAL ENGINEERS FOR RESEARCH AND INNOVATION (ARiME)

ADD-ON COURSE – Sustainable Product Design and Development

The Department of Mechanical Engineering, SCMS School of Engineering and Technology conducted a six-day (30 hours) add-on course session on "Sustainable Product Design and Development" for the students of third year Mechanical Engineering (2017-21 batch) in the months of July-August 2020. The session was conducted online due to the Covid-19 pandemic situation.

Objective of the course –

With a burgeoning population and the ensuing drain on all resources on Earth, sustainability is quickly becoming more imperative than ever. Engineering with sustainability should therefore be improved the world over. This course emphasized what sustainability is, how we are using it now in the product design and how we may use it in the future products. It also highlighted how new entrepreneurs are wising up with new sustainable products and the different avenues for research within this vast field. The course aimed in creating motivational impetus in students and thereby developing interest and engaging them in life-long learning in the context of sustainable product design and development.

The course was identified to fill the gap in syllabus for the courses "BE103 Introduction to Sustainable Engineering" and "BE102 Design and Engineering" during the 1st and 2nd semesters of the B.Tech program.

Course contents and Schedule –

The six-day course was scheduled as follows:

Date and Day	Session	Topic
27 July 2020 Monday	Forenoon	Introduction to sustainable development and engineering
	Afternoon	Sustainable product design
28 July 2020 Tuesday	Forenoon	Design considerations – Part 1
	Afternoon	Design considerations – Part 2
29 July 2020 Wednesday	Forenoon	Biomimicry and product development
	Afternoon	Life cycle assessment of a product – a practical approach
30 July 2020 Thursday	Forenoon	Sustainable materials and manufacturing
	Afternoon	Product design and development – basic steps
31 July 2020 Friday	Forenoon	Role of IPR in product development Environmental laws and disclosure regulations
03 August 2020 Monday	Forenoon	Product development using waste material - discussion

Timings –

Forenoon session – 09:00 am – 12:00 pm (3 hours)

Afternoon session – 01:00 pm – 04:00 pm (3 hours)

Total – 30 hours (6 hours per day)

Venue – Google Meet (Online mode)

The course was handled by external resource person and internal faculty members. A great percentage of the sessions were handled by the faculty members of Mechanical Engineering, SSET the details of which are provided. Minimum criteria for certification were combined marks of attendance with submission and presentation of the assignment. The assignment composed of demonstrating the working model of a mechanism made by waste materials and presenting the same. 98 students out of 108 registered students (90.5%) completed the course successfully and e-certificates were handled over. List of registered students and certified students are attached separately. Sample certificate is also attached.

Resource person / faculty handled the sessions –

Session	Topic	Resource person / faculty
1	Introduction to sustainable development and engineering	Mr. Anup Kumar, MED, SSET
2	Sustainable product design	Mr. Sanju A C, MED, SSET
3	Design considerations – Part 1	Mr. Sajith E, MED, SSET
4	Design considerations – Part 2	Mr. Anup Kumar, MED, SSET
5	Biomimicry and product development	Dr. Rag R L, HOD, MED, St. Thomas Institute for Science and Technology, Trivandrum
6	Life cycle assessment of a product	Mr. Anup Kumar, MED, SSET
7	Sustainable materials and manufacturing	Mr. Jenson Joseph, MED, SSET Mr. Dhanesh S, MED, SSET
8	Product design and development – basic steps	Mr. Sanju A C, MED, SSET
9	Role of IPR in product development Environmental laws and disclosure regulations	Ms. Anjana Girish, Asst. Prof., Inter University Centre for Intellectual Property Rights, CUSAT Ms. Safy Abraham, CED, SSET
10	Product development using waste material - discussion	Dr. Venu P, HOD, MED, SSET Mr. Anup Kumar, MED, SSET

Contents covered (an overview) –

Day 1 (FN session) - Introduction to sustainable development and engineering - Sustainability and sustainable engineering, 3 pillars of sustainable product development, UNSDGs

Day 1 (AN session) - Sustainable product design - New product design and sustainable new product design, Steps in product design, Golden rules for sustainable product design, Sustainability Dynamics Model

Day 2 (FN session) - Design considerations - Design for Functionality and Usability of a product

Day 2 (AN session) - Design considerations - Design for Assembly, Disassembly, Maintenance, Consideration for reuse, recycling and remanufacturing

Day 3 (FN session) - Biomimicry and product development - Innovations inspired from nature, Bio-inspired technology

Day 3 (AN session) - Life cycle assessment - Scope and goal, Conducting LCA of a product, Methods for increasing energy efficiency

Day 4 (FN session) - Sustainable materials and sustainable manufacturing – Properties, applications, methods of production

Day 4 (AN session) - Role of IPR in product development - Industrial design, copyright, patents, criteria for patentability

Day 5 (FN session) - Environmental laws and disclosure regulations - Environment acts and protocols, Environmental legislations for product development

Day 6 (FN session) - Product development using waste material - An activity was given to the students to construct a working model of Tomlinson surface meter using waste materials available at their home and present the same. The core intension was to observe the type of waste materials produced at their homes and how they can utilize these materials to develop something useful. Moreover, the presentation on the working of model would add on to their communication skills.

Venu P
HOD, MED

Value added course on

Engineer's Evolution: Personal and Professional Growth

CONDUCTED BY

BASIC SCIENCES AND HUMANITIES DEPARTMENT AND PLACEMENT CELL

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 1:00 pm - 4:00 pm (3 hours)
Total: 30 hours (6 hours per day)

Course Dates:
4/9/20, 16/9/20, 18/9/20, 21/9/20, 23/9/20,24/9/20

Engineer's Evolution: Personal and Professional Growth

Course Objectives

- To enhance self-awareness and adaptability as they relate to engineering career goals.
- To foster innovation and creativity in engineering problem-solving
- To create a personal and professional development plan for ongoing growth

Course Outcomes

After completing the course, students will be able to

- Develop leadership and teamwork skills within engineering contexts
- Navigate ethical challenges and make principled decisions in engineering practice
- Understand the importance of lifelong learning and professional development in engineering.

Syllabus

Module 1 – 6 hours

Introduction to Engineer's Evolution - The evolving role of engineers in society, The importance of personal and professional growth in engineering.

Module 2 – 6 hours

Self-Awareness and Adaptability - Understanding personal strengths and weaknesses, Embracing change and adaptability in engineering

Module 3 – 6 hours

Innovation and Creativity in Engineering- The role of innovation in engineering, Creativity techniques for problem-solving, Engineering innovation in real-world applications

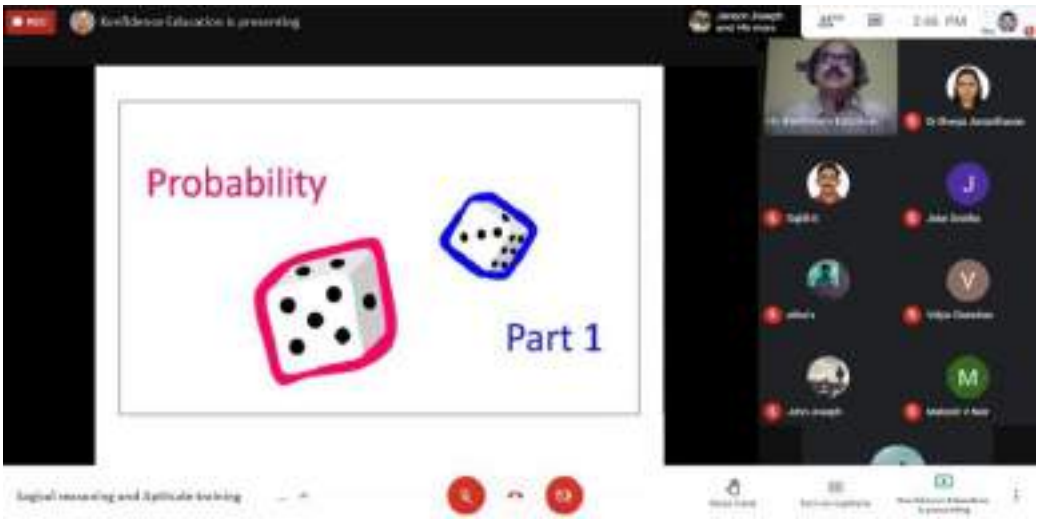
Module 4 – 6 hours

Life long Learning Personality development – The importance of continuous learning in engineering, Professional development opportunities and resources, Building a professional network in engineering

Module 5 – 6 hours

Career Planning and Goal Setting – Resume building and interview skills– Mock Interviews

Course summary



Screenshot of the value added course on Engineer's Evolution: Personal and Professional Growth (30 hours)

The value added course was organized by Basic Sciences and Humanities department and Placement cell on 14/9/20, 16/9/20, 18/9/20, 21/9/20, 23/9/20 and 24/9/20 and 229 of students successfully completed the course.

Course Coordinator HOD Principal

GEOTECHNICAL ENGINEERING- 1

PROF. DEVENDRA NARAIN SINGH
Department of Civil Engineering
IIT Bombay

PRE-REQUISITES : Engineering Geology

INTENDED AUDIENCE : Civil Engineering

INDUSTRIES APPLICABLE TO : All companies that deal with the Civil infrastructure development

COURSE OUTLINE :

Geotechnical Engineering-1 deals with the fundamental aspects of soil starting from its origin to various engineering applications. The course discusses the basic classification, characterization, hydraulic and mechanical properties of soils in depth. The expected outcome of the course is to make the students familiarize with soil and to showcase its behavior during various engineering applications such as foundation, retaining wall etc.

ABOUT INSTRUCTOR :

Prof. Devendra Narain Singh is an Institute Chair Professor in Department of Civil Engineering at Indian Institute of Technology Bombay. He obtained his Bachelors, Masters and Ph. D degrees from Indian Institute of Technology Kanpur. His research focuses are geomaterial characterization, contaminant-geomaterial interaction, sensors for soil moisture measurement, modelling of heat migration through soils, utilization of industrial by-products, municipal solid waste management and other fields associated with Environmental Geotechnics. He guided 36 Ph. Ds and 35 Master students and several are on-going. He is the editor-in-chief for the journal Environmental Geotechnics, ICE (UK).

COURSE PLAN :

Week 1**:** Origin of Soils and Rocks, Rock cycle

Week 2**:** Basic relationships, Index properties of aggregates

Week 3**:** Soil structure, Soil classification

Week 4**:** Soil compaction

Week 5**:** Soil-water Statics

Week 6**:** Flow through soils, Quick sand condition

Week 7**:** Permeability and methods for its determination

Week 8**:** Flow-nets, Stresses in soil from surface loads

Week 9**:** Boussinesq theory

Week 10**:** New marks chart, Contact pressures

Week 11**:** Consolidation of soils

Week 12**:** Settlement of compressible soil layers

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Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam

2019-20

Sl. No	Name of the Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam	Course code
1	Introduction to swarm robotics	CIR1920S01
2	Get introduced with flavours of programming with C++	CGC1920S02
3	Software Engineering using Agile method	CSM1920S03
4	Blockchain enabling revolution	CBR1920S04
5	Plastic Waste Management	NPT1920S01

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Add on course

ON

Introduction to Swarm Robotics

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 12:30 pm - 3:30 pm (3 hours)
Total: 30 hours (6 hours per day)

CONDUCTED BY

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Course dates : 5/3/2020-9/3/2020

ELIGIBILITY: U.G STUDENTS

COURSE PERIOD: 30 Hours

Syllabus

Introduction to Fritzing

Introduction to Robotics

MC and Arduino board programming

Interfacing with Arduino Motor control interfacing with Arduino

IR sensors interfacing with Arduino

RF interfacing with Arduino

Arduino projects carried out at SCMS Centre for Robotics ,SSET

Benefits:

At the end of this course, you will be able to create awareness about the

- Overview of Swarm Robotics
- Design Arduino board
- Program Arduino Board
- Device control
- Sensor Interfacing
- Simulation using Tinkercad

Course outcome

- Understanding Swarm Intelligence, Interfacing Sensors, Wireless Communication and Arduino Programming
- Understanding Machine to Machine Communication
- Development of Autonomous Robots which send signals to communicate with each other
- Arduino Programming to receive signals from other Robots and behave accordingly
- Introduction to structure and programming of micro controllers
- Practical experience for participants with DC motors, Radio Frequency Modules, Micro controllers, Infrared Sensors, etc



Ms. Parvathi R	Dr.Saira Joseph	Dr.Praveensal C J
Course Coordinator	HOD	Principa

Introduction to Swarm Robotics

Course duration: 30 hours

Course Coordinator: Ms. Parvathi R

Program Schedule

Date	Session	Topic	Resource person
05.03.20	9:00 am-12:00 pm	Introduction to Fritzing	Dr.Saira Joseph (HOD, ECE)
	1pm to 4pm	Introduction toRobotics	Mr. Vinoj P.G (Asst. Prof, ECE)
06.03.20	9:00 am-12:00 pm	MC and Arduino board programming	Dr. Parvathy M (Assoc. Prof, ECE), Mr. Vinoj P.G (Asst. Prof, ECE)
	1pm to 4pm	MC and Arduino board programming	Ms. Srilekshmi M (Asst. Prof, ECE), Ms. Parvathi R (Asst. Prof, ECE)

07.03.20	9:00 am-12:00 pm	Motor control Interfacing with Arduino	Ms. Parvathi R (Asst. Prof, ECE)
	1pm to 4pm	IR Sensors Interfacing Arduino	Mr. Vinoj P.G (Asst. Prof, ECE)
08.03.20	9:00 am-12:00 pm	RF interfacing with Aurdino	Tini Susan Abhraham (Asst. Prof, ECE)
	1pm to 4pm	Arduino Projects	Ms. Parvathi R (Asst. Prof, ECE)
09.03.20	9:00 am-12:00 pm	Arduino Projects	Mr. Vinoj P.G (Asst. Prof, ECE), Ms. Srilekshmi M (Asst. Prof, ECE),
	1pm to 4pm		

coordinator

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ADD ON COURSE

ON

GET INTRODUCED WITH THE FLAVOURS OF PROGRAMMING THROUGH C++

CONDUCTED BY

Department of Computer Science and Engineering

13/1/2020-17/1/2020

Forenoon session:9am to 12pm(3hrs)
Afternoon session:1pm to 4pm(3hrs)
Total:30hrs(6hrs per day)

GET INTRODUCE WITH THE FLAVOURS OF PROGRAMMING THROUGH C++

Course duration: 30 hours

Course Coordinator: Ms.RoseBell

Course Description

A Course on GET INTRODUCE WITH THE FLAVOURS OF PROGRAMMING THROUGH C++
was organized by HackElite-Technical Club (Department of Computer Science and Engineering). This course was conducted from 13th to 17th January 2020.

Course Objectives

- To obtain programming skill development.
- To get introduced to concept of functions in C++
- To attain the knowledge of various applications of C++ language in industry.

Course Outcomes

After completing the course, students will be able to:

- To solve the given problems using C++ language
- Design codes using functions in C++
- They got familiarized with various applications in real life and industry.

Syllabus

MODULE 1: 13-01-2020 Monday

- Introduction of c++ program
  - How C++ differs from C , Variables Declaration
  - Optional Parameters
  - Reference Variables , Operator overloading
  - Basics of Console Input and Output
  - Constant Pointers
  - Dynamic Memory Allocation

MODULE 2: 14-01-2020 Tuesday

- How C++ differ from c
- Function overloading
- Basic of console input and output

MODULE 3: 15-01-2020 Wednesday

- Overview of OOPS Principles
- Introduction to classes & objects
- Creation & destruction of objects√Data Members

MODULE 4: 16-01-2020 Thursday

- Introduction and benefits.
- Access Specifier.
- Base and Derived class Constructors
- Types of Inheritance

MODULE 5: 17-01-2020 Friday

- Introduction to Exception.
- Benefits of Exception handling√
- Try and catch block.
- Throw statement. Pre-defined exceptions in C++.
- Writing custom Exception class.

Course Coordinator

Hod

Principal

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ADD ON COURSE

ON

Software Engineering using Agile Method

CONDUCTED BY

Department of Computer Science and Engineering

19th to 23rd August, 2019

Forenoon session:9am to 12pm(3hrs)

Afternoon session:1pm to 4pm(3hrs)

Total:30hrs(6hrs per day)

Software Engineering using Agile Method.

Course duration: 30 hours

Course Coordinator: Ms. Arshey M

Course Description

A Course on Software Engineering using Agile Method was organized by HackElite-Technical Club (Department of Computer Science and Engineering). This course was conducted from 19th to 23rd August 2019.

Course Objectives

1) To demonstrate the ability to participate effectively in agile practices/process for software development.

2) To explain the purpose behind common agile practices.

3) To apply agile principles and values to a given situation.

4) To identify and address most common problems encountered in adopting agile methods.

Course Outcomes

After completing this course, you will be able to:

1) Demonstrate the ability to participate effectively in agile practices/process for software development.

2) Explain the purpose behind common agile practices.

3) Ability to apply agile principles and values to a given situation.

4) Ability to identify and address most common problems encountered in adopting agile methods.

Syllabus

Module 1

Agile Fundamentals

In this module, we will learn about agile mindset, the core behind many agile methods. How agile methods are different than traditional methods and when to use agile methods.

Module 2

Requirements and Planning

In this module we will learn about user stories and agile estimation and planning techniques.

Module 3

Scrum

In this module we will learn about Scrum which is one of the most popular agile framework. We will learn about scrum practices and the purpose behind these practices.

Module 4

XP and Course Wrap-up

In this module, we will compare Scrum to XP and learn about some of the engineering practices from XP.

Module 5

To apply agile mindset and finally review different frameworks available to implement agile.

Assessment Pattern

Two assignments of 15 marks each
Final Assessment exam -50 marks, passed with a minimum of 20 marks
Viva-20 marks
Certificates will be awarded to students who completed the course with a minimum of 40 marks(total score) and a minimum of 20 marks in final exam.

A minimum of 75% attendance is mandatory for the course.

Coordinator

HOD

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ADD ON COURSE

ON

BLOCKCHAIN ENABLING REVOLUTION

CONDUCTED BY

Department of Computer Science and Engineering

27th August to 31st August, 2019

Forenoon session:9am to 12pm(3hrs)
Afternoon session:1pm to 4pm(3hrs)
Total:30hrs(6hrs per day)

BLOCKCHAIN ENABLING REVOLUTION

Course duration: 30 hours

Course Coordinator: Ms Arshey

Course Description

A Course on Blockchain Enabling Revolution was organized by Department of Computer Science and Engineering. This 'course' was conducted from 27th to 31st August 2019.

Course Objectives

- You'll learn the core structure and technical mechanisms of Bitcoin, Ethereum, Hyperledger, and Multichain Blockchain platforms
- To provide conceptual understanding of how blockchain technology
- Used to innovate and improve business processes.

Course Outcomes

After completing the course, students will be able to:

- Theoretical knowledge of the main concepts and properties of blockchain technologies.
- Acquaintance with white papers of different blockchain-based projects.
- Experience in analysis of practical cases of blockchain application.

Syllabus

MODULE 1 : 27-08-2019

- Introduction to Blockchain
- Introduction to cryptography & cryptocurrencies
- Digital Money
- Distributed Ledgers

MODULE 2 : 28-08-2019

- Blockchain Consensus: network models
- Requirements for the consensus protocols
- Consensus protocols for Permissioned Blockchains

MODULE 3 : 29-08-2019

- Hyperledger Fabric
- Benefits of Hyperledger Fabric
- Characteristics of Hyperledger Fabric
- Decomposing the consensus process

MODULE 4 : 30-08-2019

- Ethereum and decentralized applications
- Ethereum: Decentralized Apps, EVM, and the Ethereum blockchain
- Programming in solidity

MODULE 5 : 31-08-2019

- Scalability in Blockchain
- Payment channels and state channels
- Quiz and Assessment

Assessment Pattern

Two assignments of 15 marks each .
Final Assessment exam -50 marks, passed with a minimum of 20 marks
Viva-20 marks
Certificates will be awarded to students who completed the course with a minimum of 40 marks (total score) and a minimum of 20 marks in final exam. Minimum 75% attendance is mandatory to get the certificate.

Course Coordinator HOD Principal

PLASTIC WASTE MANAGEMENT

PROF. BRAJESH KUMAR DUBEY
Department of Civil Engineering
IIT Kharagpur

PRE-REQUISITES : Basic Environmental Science, Basic Differential Equations, Basic Chemistry

INTENDED AUDIENCE : Civil and Chemical Engineering BTech programs, Environmental Engineering and Environmental Science Masters and Doctoral Programs

INDUSTRIES APPLICABLE TO : AECOM, Ramky, Environmental Resource Management (ERM),SENES/ARCADIS. Waste Management related companies, Govt. Agencies

COURSE OUTLINE :

This course will focus on:1. Introduction of Plastic pollution as a global problem today.2. What is Plastic Waste? The Magnitude of the problem on global scale and in Indian context. Plastic in Ocean and impact on sea life and economy.3. What is the nature and complexity of this problem and what could be the best way to manage the plastic waste and how to mitigate the risk from plastic waste.4. Plastic Waste Management Rules 2016, Recent Plastic Bans and the use of Extended Producer Responsibilities (EPR) concepts in managing Plastic waste in India.5. Best Practices of Managing Plastic Waste from around the World including use of Plastic waste in road (experience from Indian context and other countries)6. Way forward – how to manage this waste stream applying state of the art technologies

ABOUT INSTRUCTOR :

Prof. Brajesh Kr. Dubey has his bachelors degree in Civil Engineering (Hons) from Indian Institute of Technology (IIT) Kharagpur, India and PhD in Environmental Engineering Sciences, University of Florida, Gainesville, Florida, USA. He is presently Associate Professor (Integrated Waste Management and Sustainable Engineering) in the Division of Environmental Engineering and Management at Indian Institute of Technology (IIT), Kharagpur, India. Dr. Dubey has more than 17 years of research, teaching, training and industrial outreach experience in the areas of Integrated Solid and Hazardous Waste Management, and Sustainable Engineering and Application of Life Cycle Assessment techniques. He also works in the area of Life Cycle Analysis and Sustainable Engineering. He has been teaching courses in the area of Solid Waste Management, Hazardous Waste Management, Life Cycle Analysis and Environmental Risk Assessment among other courses for nearly a decade. He has taught at several universities in USA, Canada, New Zealand, China and India. He has also conducted training programs in the Integrated Waste Management areas including that for Electronics Waste. Dr. Dubey has authored/co- authored more than 200 publications in his area of expertise and have presented at several national and international conferences. He has worked as Waste Management Expert for UN agencies and World Bank.

COURSE PLAN :

Week 1: Plastics – What it is? Types, Uses and Global Statistics

Week 2: Plastic Waste – Sources, Production, Global and Indian Context

Week 3: Plastic Waste Management Rules 2016 (India) and Global Rules and Regulations

Week 4: Plastic Bans including China Sword Policy implication on global plastic waste management

Week 5: Impact of Plastics on Marine Life, Effect on Wildlife, Human Health and Environment

Week 6: Plastic Waste Management Practices – Use of Plastic waste in roads, issues and challenges

Week 7: Possible Alternate Materials to Plastics –Greener Alternatives

Week 8: Plastics Resource Recovery and Circular Economy.

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Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam

2018-19

Sl. No	Name of the Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam	Course code
1	Object Oriented Programming	COP1819S01
2	Android application development	CAD1819S02
3	Pathway to Engineering Success: Personality Development	CPD1819S03
4	Civil Engineering Softwares	CCS1819S04
5	Wastewater treatment and Recycling	NPT1819S01

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ADD ON COURSE

ON

Object Oriented Programming

CONDUCTED BY

Department of Computer Science and Engineering

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 12:30 pm - 3:30 pm (3 hours)
Total: 30 hours (6 hours per day)

Date:

28/1/2019-1/2/2019

Course on Object Oriented Programming

Course duration: 30hours

Course Coordinator: Ms Gayathry S Warrier

Course Description

This course introduces advanced programming skills and focuses on the core concepts of object-oriented programming and design using a high-level language, either Python or Java. Object-oriented programming represents the integration of software components into a large-scale software architecture. Software development in this way represents the next logical step after learning coding fundamentals, allowing for the creation of sprawling programs.

Course Objectives

- To obtain programming skill development.
- To get introduced to concept of functions in java
- To attain the knowledge of various applications of java language in industry.

Course Outcomes

After completing the course, students will be able to:

- To solve the given problems using java language
- Design codes using functions in java
- They got familiarized with various applications in real life and industry.

Syllabus

Module 1 (6 hrs)

- Object Oriented Programming
- Abstraction
- objects and classes
- Encapsulation- Inheritance

Module 2 (6 hrs)

- Inheritance
- Super classes- sub classes
- Protected member
- constructors in sub classes- the Object class

Module 3 (6 hrs)

- Exceptions
- exception hierarchy
- throwing and catching exceptions

Module 4 (6 hrs)

- Multi-threading and multitasking
- Thread life cycle

Module 5 (6 hrs)

- Basics of event handling

Course Coordinator HOD Principal

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ADD ON COURSE

ON

Android Application Development

CONDUCTED BY

Department of Computer Science and Engineering

Forenoon session: 9:00 am-12:00pm (3 hours)
Afternoon session: 12:30 pm - 3:30 pm (3 hours)
Total: 30 hours (6 hours per day)

Date:
21/2/19, 26/2/19, 27/2/19, 28/2/19, 1/3/19

Add on Course On Android Application Development

Development Course duration: 30hours

Course Coordinator: Ms.Rosebell Paul

Course Description

Android software development is the process by which applications are created for devices running the Android operating system. Google states that "Android apps can be written using Kotlin, Java, and C++ languages" using the Android software development kit (SDK), while using other languages is also possible.

Course Objectives

- To obtain programming android app development.
- To get introduced to concept of functions in app devolopment
- To attain the knowledge of various applications devolopment language in industry.

Course Outcomes

After completing the course, students will be able to reach the best possible chance to reach any career goals you set. Once you get started, within no time, you'll land your dream job, have that promotion, or create a successful business of your own in the field of Android

Syllabus

Module 1 (6 hrs)

- Open Handset Alliance
- Use Android for mobile app development
- Android Marketplaces
- Android Development Environment setup

Module 2 (6 hrs)

- Linux Kernel
- Libraries

● Android Runtime

● Application Framework

Module 3 (6 hrs)

● Fundamental Android UI Design

● Introducing Layouts

● Creating new Layouts

● Drawable Resources

Module 4 (6 hrs)

● Creating a splash screen

● Android Activity Lifecycle,

Module 5 (6 hrs)

● SQLite: Open Helper and create database

● Threads running on UI thread (runOnUiThread)

● Worker thread

● Handlers & Runnable

● AsynTask (in detail)

● Examples

Course Coordinator

HOD

Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

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VALUE ADDED COURSE

ON

Pathway to Engineering Success: Personality Development

CONDUCTED BY

BASIC SCIENCES AND HUMANITIES DEPARTMENT AND PLACEMENT CELL SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

Forenoon session: 9:00 am-12:00pm (3 hours)

Afternoon session: 1:00 pm - 4:00 pm (3 hours)

Total: 30 hours (6 hours per day)

Course dates :1/8/18, 29/8/18, 3/9/18, 4/9/18 and 13/9/18

Pathway to Engineering Success: Personality Development

Course Objectives

- To develop leadership qualities and apply them in engineering contexts.
- To improve emotional intelligence and self-awareness.
- To create a personal development plan for ongoing growth.

Course Outcomes

After completing the course, students will be able to

- Demonstrate effective communication and interpersonal skills.
- Work collaboratively in diverse teams and understand the value of teamwork.
- Understand ethical principles and their importance in engineering practice.

Syllabus

Module 1 – 6 hours

Introduction to Personality Development -The importance of personality development in engineering, Assessing personal strengths and weaknesses.

Module 2 – 6 hours

Teamwork and Collaboration - Characteristics of effective teams, Team dynamics and conflict resolution. Leadership Development - Leadership styles and qualities

Module 3 – 6 hours

Quantitative Aptitude - Logical Reasoning -Verbal reasoning

Module 4 – 6 hours

Time Management and Goal Setting – Time management techniques, Setting SMART goals, Creating a personal development plan

Module 5 – 6 hours

Effective Communication Skills – Verbal and non-verbal communication, Public speaking and presentation skills, Confidence building techniques – Mock Interviews

Course summary

The value added course was organized by Basic Sciences and Humanities department and Placement cell on 1/8/18,29/8/18,3/9/18, 4/9/18 and 13/9/18 and 331 of students successfully completed the course.

Course Coordinator HOD Principal

SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

VIDYA NAGAR, KARUKUTTY, KERALA - 683576

ADD ON COURSE

ON

CIVIL ENGINEERING SOFTWARES

CONDUCTED BY

DEPARTMENT OF CIVIL ENGINEERING

Forenoon session: 9:00 am-12:00pm (3 hours)

Afternoon session: 12:30 pm - 3:30 pm (3 hours)

Total: 30 hours (6 hours per day)

Course Date:

18-2-2019 to 22-2-2019

ADD ON COURSE: “CIVIL ENINEERING SOFTWARES”

Course duration: 30hrs

Course Coordinator: Ms. Devi Sreenivas

Course Description

A 30 hrs add on course on Civil Engineering softwares was organized by Civil Engineering Department on 18th February 2019 to 22nd February 2019. The course aims to the familiarization of Civil Engineering Softwares like BIOWIN, ETABS, PLAXIS, ABACUS, MATLAB, etc. which will help the students to improve the software skills and helps to do the project work effectively. The contents of this course was designed to meet the gap in curriculum.

Course Objectives:

To familiarize with the softwares used to solve Civil Engineering issues.

Course Outcome:

At the end of this course, you will be able to create awareness about the

- Advanced Microsoft Office Skills in Excel, Word, PowerPoint, Outlook, Teams and Access
- Structural engineering softwares Etabs and Abacus
- Environmental Engineering softwares like BIOWIN, GIS, LCA, etc.
- Geotechnical Engineering Softwares like Plaxis and Geo slope
- Transportation Engineering related softwares like IITPave and Truckmaker

Syllabus:

Course Content:

Module 1

Microsoft Office Skills in Excel, Word, PowerPoint, Outlook, Teams and Access

Module 2

Familiarization of Structural Engineering Softwares

- ETABS
- ABAQUS

Module 3

Familiarization of Environmental Engineering Softwares

- BIOWIN
- GIS
- LCA

Module 4

Familiarization of Geotechnical Engineering Softwares

- PLAXIS
- GEO-SLOPE

Module 5

Familiarization of Geotechnical Engineering Softwares

- IITPave
- TruckMaker

Coordinator

HOD

PRINCIPAL

WASTEWATER TREATMENT AND RECYCLING

PROF. MANOJ KUMAR TIWARI
Department of Civil Engineering
IIT Kharagpur

INTENDED AUDIENCE : The course will be beneficial for B.Tech/M.Tech/B.Sc/M.Sc/Research Scholars/Faculty members from different institutions. In addition, we will strongly encourage engineers/professionals working in any area related to waste management should consider taking advantage from this unique application orientated course. Regulators (SPCB, CPCB and MOEF professionals) and policy makers will also benefit from this course.

PRE-REQUISITES : Environmental Sciences, Introduction to Environmental Engineering

INDUSTRIES APPLICABLE TO : Larsen and Tourbo, Tata Group of Industries, Ramky Group of Industries, IF&LS Environment

COURSE OUTLINE :

This course has emphasises on Integrated Solid Waste Management aspects within the broad subject area of Integrated Waste Management for a Smart City. The issues of Municipal Solid Waste (MSW) management, Construction and Demolition (C&D) Waste and Electronic Waste Management will be covered in this course. The topics will include: generation rates and waste composition; Integrated waste management issues, collection, recovery, reuse, recycling, energy-from-waste, and landfilling; Biological treatment of the organic waste fraction - direct land application, composting, and anaerobic digestion. The environmental impact of waste management and its relationship on the big picture sustainable development and smart city development will be discussed. A major focus of this course will be the role of MSW management within the various initiatives of the Govt. of India including: Swachh Bharat Mission, Smart Cities as well as Make in India. The challenges of waste management for smart cities will also be discussed taking case studies from the first list of 20 smart cities identified in the first phase for this program. This will be followed by overview of the Construction and Demolition (C&D) Waste and Electronic Waste (E-Waste) management issues in India in general and for the smart cities in particular. The new rules with respect of C&D Waste and E-Waste Management will be covered. The challenges of managing these waste streams effectively will be discussed.

ABOUT INSTRUCTOR :

Prof. Manoj Kumar Tiwari [Ph.D. (IIT Kanpur)] is a Civil Engg. graduate with specialization in Environmental Engg. and holds expertise in water and wastewater treatment, water distribution systems, water pricing, and contaminant fate and transport. He is a recipient of prestigious Fulbright Fellowship. Dr. Tiwari has co- authored several papers in apex international journals, and has presented his research in various top ranked conferences across the globe. Dr. Tiwari has over 8 years of teaching experience with both UG as well as PG level courses has designed several new courses at IIT Kharagpur for Master's programme in Water Engineering and Management.

COURSE PLAN :

Week 1 : Introduction: General outline; Introduction to wastewater; Various sources and types of wastewater; Need of wastewater management; Concept of wastewater treatment and recycling

Week 2 : Wastewater Generation and Characteristics: Wastewater generation and quantity estimation; Water quality parameters and standards (COD, BOD, DO, Solids, Nutrients, metals and emerging contaminants); Sources specific wastewater physical and chemical characteristics

Week 3 : Natural Attenuation of Pollutants in Wastewater: Concept of natural attenuation; Wastewater discharge in rivers; Attenuation of pollutants on land application.

Week 4 : Treatment Philosophy: Objectives of wastewater treatment; Concept of mass balance; kinetics and equilibrium processes; Reactors tanks; Continuously mixed tank
reactors; Plug-flow reactors Introduction to primary, secondary and tertiary treatment;
Week 5 : Preliminary and Primary Treatment Processes: Screening; Grit removal; Equalization tank; Sedimentation theory; Rectangular and circular sedimentation tanks
Week 6 : Secondary Treatment Processes: Biological treatment of wastewater; Microbial ecology and growth kinetics; Types of microorganisms; Aerobic and anaerobic processes; Suspended and attached growth systems; Activated sludge process; Tricking filters and Rotating biological contactors
Week 7 : Secondary Treatment Processes - Anaerobic: Anaerobic treatment; Anaerobic decomposition of organic matter; Fluidized bed systems; Upflow anaerobic sludge blanket systems; Biogas production and collection; other reactor configurations
Week 8 : Sludge Management: The quantity and characteristics of sewage sludge; Sludge dewatering, drying, and thickening; Sludge digestion; Aerobic and anaerobic sludge stabilization; Composting
Week 9 : Tertiary (Advanced) Treatment Processes: Need and Objectives of advanced treatment; Nutrient (N and P) removal; Chemical treatment processes; Advanced oxidation processes; Adsorption and Ion-exchange; Membrane processes
Week 10 : Current Treatment Approaches: Conventional systems; Integrated treatment systems; Advanced reactor configurations; SBR, MBR and MBBR; Application and case studies
Week 11 : Wastewater Recycling: Scope and demands; Types and stages of recycling; Recycling requirements; Designated reuse criteria; centralized vs decentralized recycling systems.
Week 12 : Technology Selection and Decision Making: Research trends in wastewater treatment and recycling; Choice modelling and decision making; Risks and challenges; Socio-economic perspectives; Case studies

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Minutes of the meeting

Curriculum development committee

Agenda	: Finalising the add-on courses for the Academic year 2022-23
Venue/Date	: Principal's Office on 17/5/2022 at 9:30 am
Chaired by	: Dr. Anitha G. Pillai, Principal, SSET
Members Present :	
Dr. Nisha L.	: HoD, Department of Civil Engineering
Dr. Rag R. L.	: HoD, Department of Mechanical Engineering
Dr. Varun G. Menon	: HoD, Department of Computer Science Engineering
Ms. Anandhi V.	:HoD, Department of Electronics and Communication Engineering
Dr. Sreelekha Menon	: HoD, Department of Basic Sciences and Humanities
Dr. Jayanand B.	: HoD, Department of Electrical and Electronics Engineering
Dr. Jenson Joseph	: HoD, Department of Automobile Engineering

Minutes

• The Principal Dr. Anitha G. Pillai welcomed the members of the curriculum development committee. The principal informed the members about the importance of curriculum enrichment to meet the expectations of the students and to make them role ready.

• The committee discussed the need for students to undergo internships as well field visits to achieve the designated activity points as suggested by APJ Abdul Kalam Technological University in the curriculum for B.Tech.

• The committee members discussed merits of each course proposed to be as Add-on/Value-added/Certificate course. The committee members took the suggestions from the feedback of stakeholders, before finalising the list of add on course to be offered for the year 2022-23.

• The following list of 6 Add-on/Value-added/Certificate courses had been approved by the curriculum development committee for the academic year 2022–2023 during the meeting.

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Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam

2022-23

Sl. No	Name of the Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam	Course code	Organizing Department
1	Add on course on Geospatial Data Processing & Analysis	CGA2223S01	Civil Engineering
2	Add on course on Microsoft Data Fundamentals	CMF2223S02	Computer Science Engineering
3	Value added course on Engineer Empower: Unleashing Your Professional Persona	CEP2223S03	Basic Sciences and Humanities
4	Add on course on Autodesk AutoCAD	CAA2223S04	Electrical and Electronics Engineering
5	Value added course on Human rights and duties education	CHE2223S05	Basic Sciences and Humanities
6	Add on course on New trends in artificial intelligence	CNI2223S06	Computer Science Engineering

The meeting concluded at 11:30 am.

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Minutes of the meeting

Curriculum development committee

Agenda	: Finalising the add-on courses for the Academic year 2021-22
Venue/Date	: Principal's Office on 18/5/2021 at 9:00 am
Chaired by	: Dr. Praveensal C. J., Principal, SSET
Members Present :	
Dr. Nisha L.	: HoD, Department of Civil Engineering
Dr. Rag R. L.	: HoD, Department of Mechanical Engineering
Dr. Varun G. Menon	: HoD, Department of Computer Science Engineering
Ms. Anandhi V.	:HoD, Department of Electronics and Communication Engineering
Dr. Sreelekha Menon	: HoD, Department of Basic Sciences and Humanities
Dr. Jayanand B.	: HoD, Department of Electrical and Electronics Engineering
Dr. Jenson Joseph	: HoD, Department of Automobile Engineering

Minutes

• The Principal Dr. Praveensal C. J., welcomed the members of the curriculum development committee. The principal informed the members about the importance of curriculum enrichment to meet the expectations of the students and to make them role ready.

• The committee discussed the need for students to undergo internships as well field visits to achieve the designated activity points as suggested by APJ Abdul Kalam Technological University in the curriculum for B.Tech.

• The committee members discussed merits of each course proposed to be as Add-on/Value-added/Certificate course. The committee members took the suggestions from the feedback of stakeholders, before finalising the list of add on course to be offered for the year 2021-22.

• The following list of 11 Add-on/Value-added/Certificate courses had been approved by the curriculum development committee for the academic year 2021–2022 during the meeting.

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DR. PRAVEENSAL C.J.
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Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam

2021-22

Sl. No	Name of the Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam	Course code	Organizing Department
1	Education: Soft skills	CES2122S01	Basic Sciences and Humanities
2	Liquid Waste Management Under SBM 2.0	CLW2122S02	Civil Engineering
3	3D Printing and Design	CPD2122SO3	Electronics and Communication Engineering
4	Arduino Programming Using MATLAB/Simulink	CAM2122SO4	Electrical and Electronics Engineering
5	Cybersecurity Essentials	CCE2122S05	Computer Science Engineering
6	Microsoft AI	CMA2122S06	Computer Science Engineering
7	Ansys and Creo	CAC2122S07	Automobile Engineering
8	Personality Development for Engineers	CPE2122S08	Basic Sciences and Humanities
9	Internet of things	CIT2122S09	Computer Science Engineering
10	CNC Lathe	CCL2122S10	Mechanical Engineering
11	Essential Concepts in C Programming	CEP2122S11	Computer Science Engineering

The meeting concluded at 11:00 am.

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Minutes of the meeting

Curriculum development committee

Agenda	: Finalising the add-on courses for the Academic year 2020-21
Venue/Date	: Principal's Office on 20/5/2020 at 10.00 am
Chaired by	: Dr. Praveensal C. J., Principal, SSET
Members Present :	
Dr. Anitha G. Pillai	: HoD, Department of Civil Engineering
Dr. Venu P.	: HoD, Department of Mechanical Engineering
Dr. Vinod P.	: HoD, Department of Computer Science Engineering
Dr. Saira Joseph	:HoD, Department of Electronics and Communication Engineering
Dr. Mini Tom	: HoD, Department of Basic Sciences and Humanities
Dr. Nandakumar	: HoD, Department of Electrical and Electronics Engineering
Dr. Manoj Kumar B.	: HoD, Department of Automobile Engineering

Minutes

• The Principal Dr. Praveensal C. J., welcomed the members of the curriculum development committee. The principal informed the members about the importance of curriculum enrichment to meet the expectations of the students and to make them role ready.

• The committee discussed the need for students to undergo internships as well field visits to achieve the designated activity points as suggested by APJ Abdul Kalam Technological University in the curriculum for B.Tech.

• The committee members discussed merits of each course proposed to be as Add-on/Value-added/Certificate course. The committee members took the suggestions from the feedback of stakeholders, before finalising the list of add on course to be offered for the year 2020-21.

• The following list of 10 Add-on/Value-added/Certificate courses had been approved by the curriculum development committee for the academic year 2020–2021 during the meeting.

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Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam

2020-21

Sl. No	Name of the Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam	Course code	Organizing Department
1	JAVA programming language	CJL2021S01	Computer Science Engineering
2	CATIA for Engineers	CCE2021S02	Automobile Engineering
3	Health and Wellness	CHW2021S03	Basic Sciences and Humanities
4	Analysis, Design and Detailing of RCC Structures	CAS2021S04	Civil Engineering
5	Analysis and Design of pavements	CAP2021S05	Civil Engineering
6	ARDUINO and TINKERCAD	CAT2021S06	Electronics and Communication Engineering
7	System Modelling and Control Methods	CSM2021S07	Electrical and Electronics Engineering
8	C programming language 1.0	CCL2021S08	Computer Science Engineering
9	Sustainable Product Design and Development	CSD2021S09	Mechanical Engineering
10	Engineer's Evolution: Personal and Professional Growth	CEG2021S10	Basic Sciences and Humanities

The meeting concluded at 11:00 am.

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Minutes of the meeting

Curriculum development committee

Agenda	: Finalising the add-on courses for the Academic year 2019-20
Venue/Date	: Principal's Office on 28/5/2019 at 10.00 am
Chaired by	: Dr. Praveensal C. J., Principal, SSET
Members Present :	
Dr. Anitha G. Pillai	: HoD, Department of Civil Engineering
Dr. Venu P.	: HoD, Department of Mechanical Engineering
Dr. Vinod P.	: HoD, Department of Computer Science Engineering
Dr. Saira Joseph	:HoD, Department of Electronics and Communication Engineering
Dr. Mini Tom	: HoD, Department of Basic Sciences and Humanities
Dr. Nandakumar	: HoD, Department of Electrical and Electronics Engineering
Dr. Manoj Kumar B.	: HoD, Department of Automobile Engineering

Minutes

• The Principal Dr. Praveensal C. J., welcomed the members of the curriculum development committee. The principal informed the members about the importance of curriculum enrichment to meet the expectations of the students and to make them role ready.

• The committee discussed the need for students to undergo internships as well field visits to achieve the designated activity points as suggested by APJ Abdul Kalam Technological University in the curriculum for B.Tech.

• The committee members discussed merits of each course proposed to be as Add-on/Value-added/Certificate course. The committee members took the suggestions from the feedback of stakeholders, before finalising the list of add on course to be offered for the year 2019-20.

• The following list of 4 Add-on/Value-added/Certificate courses had been approved by the curriculum development committee for the academic year 2019-2020 during the meeting.

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Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam

2019-2020

Sl. No	Name of the Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam	Course code	Organizing Department
1	Introduction to swarm robotics	CIR1920S01	Electronics and Communication Engineering
2	Get introduced with flavours of C++	CGC1920S02	Computer Science Engineering
3	Software Engineering using Agile method	CSM1920S03	Computer Science Engineering
4	Blockchain enabling revolution	CBR1920S04	Computer Science Engineering

The meeting concluded at 11:00 am.

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Minutes of the meeting

Curriculum development committee

Agenda	: Finalising the add-on courses for the Academic year 2018-19 :
Venue/Date	Principal's Office on 2/5/2018 at 10.00 am
Chaired by	: Dr. Praveensal C. J., Principal, SSET
Members Present :	
Dr. Anitha G. Pillai	: HoD, Department of Civil Engineering
Dr. Venu P.	: HoD, Department of Mechanical Engineering
Dr. Vinod P.	: HoD, Department of Computer Science Engineering
Dr. Saira Joseph	:HoD, Department of Electronics and Communication Engineering
Dr. Mini Tom	: HoD, Department of Basic Sciences and Humanities
Dr. Nandakumar	: HoD, Department of Electrical and Electronics Engineering
Dr. Manoj Kumar B.	: HoD, Department of Automobile Engineering

Minutes

• The Principal Dr. Praveensal C. J., welcomed the members of the curriculum development committee. The principal informed the members about the importance of curriculum enrichment to meet the expectations of the students and to make them role ready.

• The committee discussed the need for students to undergo internships as well field visits to achieve the designated activity points as suggested by APJ Abdul Kalam Technological University in the curriculum for B.Tech.

• The committee members discussed merits of each course proposed to be as Add-on/Value-added/Certificate course. The committee members took the suggestions from the feedback of stakeholders, before finalising the list of add on course to be offered for the year 2018-19.

• The following list of 4 Add-on/Value-added/Certificate courses had been approved by the curriculum development committee for the academic year 2018-2019 during the meeting.

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Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam

2018-2019

Sl. No	Name of the Add on /Certificate/Value added programs and Online MOOC programs like NPTEL, Swayam	Course code	Organizing Department
1	Object Oriented Programming	COP1819S01	Computer Science Engineering
2	Android application development	CAD1819S02	Computer Science Engineering
3	Pathway to Engineering Success: Personality Development	CPD1819S03	Basic Sciences and Humanities
4	Civil Engineering Softwares	CCS1819S04	Civil Engineering

The meeting concluded at 11:00 am.

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