



Stella Mary's College of Engineering

Aruthenganvilai, Azhikal Post, Kanyakumari dist.

CERTIFICATE COURSES – SYLLABUS

| S.No | Program | Course Code | Course Name | Year of Introduction | Page No. |
|------|-------------------|-------------|---------------------------|----------------------|----------|
| 1 | Civil Engineering | CECP-02 | AUTO CAD-3D | 2016-2017 | 1 |
| | | CECP-03 | TOTAL STATION | 2016-2017 | 6 |
| | | CECP-04 | RIVET ARCHITECTURE | 2016-2017 | 10 |
| 2 | CSE | VAC03 | WEB PROGRAMMING | 2018-2019 | 16 |
| | | VAC08 | PYTHON PROGRAMMING | 2018-2019 | 20 |
| | | VAC09 | ADVANCED JAVA PROGRAMMING | 2018-2019 | 24 |
| 3 | ECE | VAC05 | MAT LAB-CONTROL SYSTEMS | 2016-2017 | 30 |
| | | VAC06 | VERILOG LANGUAGE | 2016-2017 | 33 |
| | | VAC07 | EMBEDDED IN C PROGRAMMING | 2017-2018 | 36 |
| 4 | EEE | VCMB004 | MATLAB | 2016-2017 | 39 |
| | | VCLW006 | LABVIEW | 2016-2017 | 43 |
| | | VCEG008 | ENERGY AUDITING | 2016-2017 | 47 |

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| 5 | Mechanical Engineering | VACM01 | AUTODESK AUTOCAD | 2016-2017 | 50 |
| | | VACM01 | CNC PROGRAMMING- LATHE AND MILLING | 2016-2017 | 56 |
| | | VACM06 | NON DESTRUCTIVE TESTING (NDT) | 2016-2017 | 59 |
| 6 | IT | VAC04 | SCRIPTING LANGUAGE | 2016-2017 | 63 |



STELLA MARY'S COLLEGE OF ENGINEERING

Aruthenganvillai, Kallukatti Junction, Azhikal (Po), Kanyakumari District-629202

DEPARTMENT OF CIVIL ENGINEERING

VALUE ADDED COURSE

2016-2017(EVEN)

COURSE CODE /COURSE NAME: CECP 02/AUTOCADD 3D

COURSE IN-CHARGE : Mrs.K.KAVITHA

CLASS:S4/ II YEAR CE(2015-2019)

COURSE DESCRIPTION:

This course explores the three-dimensional viewing and construction capabilities of AutoCAD. Topics covered include a review of point coordinate entry and the user coordinate system (UCS). Spherical and cylindrical coordinate entry, 3D viewing techniques, 3D geometry construction, solid modeling surface meshes, and regions are also introduced. The use of multiple viewports for 3D constructions and a standard engineering layout are covered. The creation of presentation graphics using bitmap files, shading, and rendering is also discussed.

SYLLABUS:


Chapter 1. Using rectangular 3D coordinates, the right-hand rule of drawing, displaying 3D views, 3D construction techniques, constructing wireframe objects, and constructing solid primitives. Spherical coordinates, cylindrical coordinates, 3D polylines, working with the UCS, constructing accurate intersections, and guidelines for working with 3D models.

Chapter 2. Understanding viewports, creating viewports, drawing in multiple viewports, regenerating viewports, and creating a standard engineering layout. PLAN command options, dynamically changing a 3D view, and shading a 3D model.

Chapter 3. Overview of solid modeling, constructing solid primitives, creating composite solids, and working with regions. Creating solid model extrusions, creating solid model revolutions, and using the EXTRUDE and REVOLVE commands as construction tools.

Chapter 4. Changing properties, aligning objects in 3D, 3D rotating, 3D mirroring, creating 3D arrays, filleting solid objects, chamfering solid objects, constructing details and features on solid models, and removing details and features.

Chapter 5. Lights, creating scenes, rendering models, and rendering preferences and statistics. Creating surface finishes with materials; granite, marble, and wood; assigning materials to objects; using maps; mapping textures to objects; and material libraries.


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COURSE PLAN :AUTOCADD 3D

| S.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode |
|-------|-----------------------------------|-------------------------------------|---|---------------------------|
| 1 | 1 | 1 | Using rectangular 3D coordinates, the right | PPT/ Model based learning |
| 2 | 1 | 2 | Hand rule of drawing, displaying 3D views, 3D construction techniques | PPT/ Model based learning |
| 3 | 1 | 3 | Constructing wireframe objects, and constructing solid primitives. | PPT/ Model based learning |
| 4 | 1 | 4 | Spherical coordinates, cylindrical coordinates | PPT/ Model based learning |
| 5 | 1 | 5 | 3D polylines, working with the UCS. | PPT/ Model based learning |
| 6 | 1 | 6 | constructing accurate intersections | PPT/ Model based learning |
| 7 | 1 | 7 | Guidelines for working with 3D models | PPT/ Model based learning |
| 8 | 1 | 8 | Understanding viewports, creating viewports. Drawing in multiple viewports. | PPT/ Model based learning |
| 9 | 1 | 9 | Regenerating viewports, and creating a standard engineering layout. | PPT/ Model based learning |
| 10 | 1 | 10 | PLAN command options, dynamically changing a 3D view, and shading a 3D model. | PPT/ Model based learning |
| 11 | 1 | 11 | Overview of solid modeling | PPT/ Model based learning |
| 12 | 2 | 13 | constructing solid primitives, creating composite solids | PPT/ Model based learning |
| 13 | 2 | 15 | Working with regions. | PPT/ Model based learning |

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|----|---|----|---|---------------------------|
| 14 | 1 | 16 | Creating solid model extrusions | PPT/ Model based learning |
| 15 | 1 | 17 | Creating solid model revolutions | PPT/ Model based learning |
| 16 | 1 | 18 | Using the EXTRUDE and REVOLVE commands as construction tools. | PPT/ Model based learning |
| 17 | 1 | 19 | Changing properties | PPT/ Model based learning |
| 18 | 1 | 20 | aligning objects in 3D | PPT/ Model based learning |
| 19 | 1 | 21 | 3D rotating | PPT/ Model based learning |
| 20 | 2 | 23 | 3D mirroring | PPT/ Model based learning |
| 21 | 1 | 24 | Creating 3D arrays | PPT/ Model based learning |
| 22 | 1 | 25 | Filleting solid objects. | PPT/ Model based learning |
| 23 | 1 | 26 | Chamfering solid objects | PPT/ Model based learning |
| 24 | 1 | 27 | Constructing details and features on solid models | PPT/ Model based learning |
| 25 | 1 | 28 | Removing details and features | PPT/ Model based learning |
| 26 | 2 | 30 | Lights | PPT/ Model based learning |
| 27 | 1 | 31 | Creating scenes | PPT/ Model based learning |
| 28 | 1 | 32 | rendering models | PPT/ Model based learning |
| 29 | 1 | 33 | Rendering preferences and statistics. | PPT/ Model based learning |
| 30 | 2 | 35 | Creating surface finishes with materials | PPT/ Model based learning |

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| 31 | 1 | 36 | Granite, marble, and wood; | PPT/ Model based learning |
| 32 | 2 | 38 | Assigning materials to objects; using maps | PPT/ Model based learning |

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STELLA MARY'S COLLEGE OF ENGINEERING

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DEPARTMENT OF CIVIL ENGINEERING

VALUE ADDED COURSE

2016-2017(ODD)

COURSE CODE /COURSE NAME:CECP 03/ TOTAL STATION

COURSE IN-CHARGE :Mr.T.Ragin

CLASS: S5/III CE(2014-2018)

COURSE DESCRIPTION:

A total station is a electronic/ optical instrument used for surveying and building construction. It is an electronic transit theodolite integrated with electronic distance measurement (EDM) to measure both vertical and horizontal angles and the slope distance from the instrument to a particular point, and an on-board computer to collect data and perform triangulation calculations. It is mainly used by land surveyors and civil engineers, either to record features as in topographic survey. They are also used by archaeologists to record excavations and by police, crime scene investigations,, private accident reconstructions and insurance companies to make measurements of scenes.

SYLLABUS:

UNIT 1-Introduction to Total Station

What is Total Station -Comparison and Performance-Advantages and disadvantages - Components of Categories of Total Station Total Station Specifications- Total Station Field equipment -Standard and optimal accessories and their function-Parts of the instrument and explanation of key functions.

UNIT 2- Instrument's checking and Calibration

Precaution to be taken while using total Station instrument - Equipment abuse - Instrument Maintenance and checking - Instrument repair and adjustment - Calibrations.

UNIT 3-Set up and Orientation of Total Station

Setting Up the Total Station - Centering - Leveling - Configuration of instrument - Selection of measurement units - Correction factors and constants - Atmospheric correction for high precision distance and coordinates measurements - Orientation of Total Station - Occupied Station /Back sighted Station entries - Azimuth calculation

UNIT 4- Phases of Total Station Survey

Planning/Reconnaissance - Control Survey - Data Acquisition in the Field - Data Downloading and Processing - Data Editing - Data Examination - Out Put / Printing Map

UNIT 5-Measurement with Total Station

Angle and Distance Measurement -Coordinate Measurement - Remote Elevation Measurement (REM) - Missing Line Measurement (MLM) - Offset Measurement - Setting Out/Construction layout - Resection Measurement - Traverse Style Measurement - Area Calculation

UNIT 6-Topographic Survey using Total Station

Topographic data acquisition method - Feature Coding during Topographic survey - Types of Feature Codes - Understanding Feature Codes - Adding / Deleting Codes.

UNIT 7-Sources of Error

Personal Errors - Instrumental Errors - Natural Errors

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COURSE PLAN: TOTAL STATION

| S.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode |
|-------|-----------------------------------|-------------------------------------|---|---------------------------|
| 1 | 1 | 1 | What is Total Station - Comparison and Performance- Advantages and disadvantages - | PPT/ Model Based Learning |
| 2 | 2 | 3 | Components of Categories of Total Station Total Station Specifications - Total Station | PPT/ Model Based Learning |
| 3 | 2 | 5 | Field equipment -Standard and optimal accessories and their function-Parts of the instrument and explanation of key functions | PPT/ Model Based Learning |
| 4 | 2 | 7 | Precaution to be taken while using total Station instrument - | PPT/ Model Based Learning |
| 5 | 1 | 8 | Equipment abuse - Instrument Maintenance and checking . | PPT/ Model Based Learning |
| 6 | 1 | 9 | Instrument repair and adjustment - Calibrations | PPT/ Model Based Learning |
| 7 | 2 | 11 | Setting Up the Total Station - Centering - Leveling - Configuration of instrument | PPT/ Model Based Learning |
| 8 | 2 | 13 | Selection of measurement units - Correction factors and constants | PPT/ Model Based Learning |
| 9 | 2 | 15 | Atmospheric correction for high precision distance and coordinates measurements | PPT/ Model Based Learning |
| 10 | 2 | 17 | Orientation of Total Station - Occupied Station /Back sighted Station entries - Azimuth calculation | PPT/ Model Based Learning |
| 11 | 2 | 19 | Planning/Reconnaissance - Control Survey - Data Acquisition in the Field | PPT/ Model Based Learning |

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|----|---|----|--|--------------------------|
| 12 | 3 | 22 | Data Downloading and Processing - Data Editing - Data Examination - Out Put / Printing Map | PPT/Model Based Learning |
| 13 | 3 | 25 | Angle and Distance Measurement -Coordinate Measurement | PPT/Model Based Learning |
| 14 | 4 | 29 | Remote Elevation Measurement (REM) - Missing Line Measurement (MLM) | PPT/Model Based Learning |
| 15 | 4 | 33 | Offset Measurement - Setting Out/Construction layout - Resection Measurement - Traverse Style Measurement - Area Calculation | PPT/Model Based Learning |
| 16 | 3 | 36 | Topographic data acquisition method | PPT/Model Based Learning |
| 17 | 3 | 39 | Feature Coding during Topographic survey - Types of Feature Codes - Understanding Feature Codes - Adding / Deleting Codes | PPT/Model Based Learning |
| 18 | 1 | 40 | Personal Errors - Instrumental Errors - Natural Errors | PPT/Model Based Learning |

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DEPARTMENT OF CIVIL ENGINEERING

VALUE ADDED COURSE

2016-2017(EVEN)

COURSE CODE /COURSE NAME: CECP 04/REVIT ARCHITECTURE

COURSE IN-CHARGE : Ms.C.SHIBANI

CLASS:S6/ III YEAR CE(2014-2018)

COURSE DESCRIPTION:

Revit is a single application built for **Building Information Modeling** with features for architectural design, MEP (mechanical, electrical and plumbing) and structural engineering and construction. While there are many differences between **Revit** and **AutoCAD**, both programs are often used within the **same** organization. Both **AutoCAD** and **Revit** are widely used CAD software to create 2D drawings such as floor plans, elevations, details, etc.; 3D models and objects: construction documents, and rendered images.

SYLLABUS

CHAPTER – 1:INTRODUCTION

- 1.1:Introduction to BIM
- 1.2: Introduction to Revit Architecture
- 1.3: Special Features of Revit Architecture
- 1.4: Understanding Revit Elements
- 1.5: Working in one model with many views

CHAPTER -2: TERMS OF TECHNOLOGY

- 2.1: Understanding different versions of Revit
- 2.2: Recent files and Application Menu
- 2.3: Using Ribbon & Quick Access Toolbar(QAT)
- 2.4: Using Properties Palette
- 2.5: Modifying Properties & Professional Palette
- 2.6: Using Project Browser
- 2.7: Navigation Views (Zoom, Pan, and Rotate)

CHAPTER-3: WORKING WITH PROJECT

- 3.1: Creating a new project from file
- 3.2: Accessing Multiuser Projects using work share
- 3.3: Configure Project Settings
- 3.4: Adding Levels
- 3.5: Adding Grids
- 3.6: Referring Layout with temporary dimensions
- 3.7: Adding Columns

CHAPTER-4: MODELLING WALLS, DOORS AND WINDOWS

- 4.1: Adding Walls
- 4.2: Using snaps
- 4.3: Wall Properties and Types
- 4.4: Locating Walls
- 4.5: Using Modifying Tools
- 4.6: Adding Doors and Windows
- 4.7: Using Constraints
- 4.8: Adding Plumbing Fixtures and other components
- 4.9: Using Autodesk Seek
- 4.10: Wall Joints

CHAPTER 5: MODELLING ROOF, CEILING & FLOOR

- 5.1: Working with Footprint Roofs
- 5.2: Working with Ceilings

- 5.3: Working with Floors
- 5.4: Working with Extrusion Roofs
- 5.5: Attaching Walls to Roofs

CHAPTER -6: WORKING WITH STAIRS

- 6.1: Working with Stairs
- 6.2: Adding Railings to Stairs
- 6.3: Working with Component based Stairs
- 6.4: Adding Extensions to Railings

CHAPTER-7: WORKING WITH COMPLEX WALLS


- 7.1: Creating Custom Basic Wall Type
- 7.2: Understanding Stacked Walls
- 7.3: Adding Curtain Walls
- 7.4: Adding Curtain Grids, Mullians and Panels
- 7.5: Creating Wall Sweeps and Reveals

CHAPTER-8: VIEWS, VISIBILITY & GRAPHIC CONTROLS

- 8.1: Using Object tiles
- 8.2: Working with Visibility & Graphics
- 8.3: Using View Templates
- 8.4: Hiding and Isolating objects in a model
- 8.5: Understanding View Range
- 8.6: Displaying Objects Above and Below in Plan Views
- 8.7: Using Line Work Tool
- 8.8: Using Cutaway Views
- 8.9: Using Sketchy Lines

CHAPTER-9: DOCUMENTATION

- 9.1: Understanding the Tags
- 9.2: Adding Schedule Views
- 9.3: Modifying Schedule Views
- 9.4: Creating Key Schedule
- 9.5: Using Images in the Schedule
- 9.6: Adding Sheets
- 9.7: Working with Place Order Sheets
- 9.8: Aligning Views with Guide Grid
- 9.9: Outputting Sheets to DWF file
- 9.10: Exporting to AutoCAD



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COURSE PLAN:

| S.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode |
|-------|-----------------------------------|-------------------------------------|--|---------------------------|
| 1 | 1 | 1 | Introduction to BIM, Introduction to Revit Architecture | PPT |
| 2 | 1 | 2 | Special Features of Revit Architecture, Understanding Revit Elements | Experiential Learning |
| 3 | 1 | 3 | Working in one model with many views | PPT/ Model based learning |
| 4 | 1 | 4 | Understanding different versions of Revit, Recent files and Application. | PPT/ Model based learning |
| 5 | 1 | 5 | Menu, Using Ribbon & Quick Access Toolbar(QAT) | PPT/ Model based learning |
| 6 | 1 | 6 | Using Properties Palette, Modifying Properties & Professional Palette | PPT/ Model based learning |
| 7 | 1 | 7 | Using Project Browser, Navigation Views (Zoom, Pan, and Rotate) | PPT/ Model based learning |
| 8 | 1 | 8 | Creating a new project from file Accessing Multiuser Projects using work share | PPT/ Model based learning |
| 9 | 1 | 9 | Configure Project Settings, Adding Levels, Adding Grids | PPT/ Model based learning |
| 10 | 1 | 10 | Referring Layout with temporary dimensions, Adding Columns | PPT/ Model based learning |
| 11 | 1 | 11 | Adding Walls, Using snaps Wall Properties and Types | PPT/ Model based learning |
| 12 | 2 | 13 | Locating Walls, Using Modifying Tools, Adding Doors and Windows | PPT/ Model based learning |

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|----|---|----|--|---------------------------|
| | | | | |
| 13 | 2 | 15 | Using Constraints, Adding Plumbing Fixtures and other components | PPT/ Model based learning |
| 14 | 1 | 16 | Using Autodesk Seek, Wall Joints | PPT/ Model based learning |
| 15 | 1 | 17 | Working with Footprint Roofs | PPT/ Model based learning |
| 16 | 1 | 18 | Working with Ceilings, Working with Floors | PPT/ Model based learning |
| 17 | 1 | 19 | Working with Extrusion Roofs Attaching Walls to Roofs | PPT/ Model based learning |
| 18 | 1 | 20 | Working with Stairs | PPT/ Model based learning |
| 19 | 1 | 21 | Adding Railings to Stairs | PPT/ Model based learning |
| 20 | 2 | 23 | Working with Component based Stairs | PPT/ Model based learning |
| 21 | 1 | 24 | Adding Extensions to Railings | PPT/ Model based learning |
| 22 | 1 | 25 | Creating Custom Basic Wall Type | PPT/ Model based learning |
| 23 | 1 | 26 | Understanding Stacked Walls | PPT/ Model based learning |
| 24 | 1 | 27 | Adding Curtain Wall | PPT/ Model based learning |
| 25 | 1 | 28 | Adding Curtain Grids, Mullians and Panels | PPT/ Model based learning |
| 26 | 2 | 30 | Creating Wall Sweeps and Reveals | PPT/ Model based learning |

| | | | | |
|----|---|----|--|---------------------------|
| 27 | 1 | 31 | Using Object tiles | PPT/ Model based learning |
| 28 | 1 | 32 | Working with Visibility & Graphics, Using View Templates | PPT/ Model based learning |
| 29 | 1 | 33 | Hiding and Isolating objects in a model, Understanding View Range | PPT/ Model based learning |
| 30 | 2 | 35 | Displaying Objects Above and Below in Plan Views, Using Line Work Tool | PPT/ Model based learning |
| 31 | 1 | 36 | Using Cutaway Views, Using Sketchy Lines | PPT/ Model based learning |
| 32 | 2 | 38 | Understanding the Tags, Adding Schedule Views, Modifying Schedule Views | PPT/ Model based learning |
| 33 | 1 | 39 | Creating Key Schedule, Using Images in the Schedule Adding Sheets, Working with Place Order Sheets | PPT/ Model based learning |
| 34 | 1 | 40 | Aligning Views with Guide Grid, Outputting Sheets to DWF file Exporting to AutoCAD | PPT/ Model based learning |


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STELLA MARY'S COLLEGE OF ENGINEERING

Aruthenganvillai, Kallukatti Junction, Azhikal (po), Kanyakumari district-629202

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VALUE ADDED COURSE

2018-2019(EVEN)

COURSE CODE /COURSE NAME: VAC03/WEB PROGRAMMING

COURSE STAFF-INCHARGE: Ms.S.Geetha

CLASS:S4 CSE

COURSE DESCRIPTION:

The course introduces the basic concepts of the World Wide Web, and the principles and tools that are used to develop Web applications. The course will provide an overview of Internet technology and will introduce you to current Web protocols, client side and server side programming, communication and design. This course provides an introduction of web-development techniques that use HTML, CSS and JavaScript as a web development essentials including database connectivity (JDBC) .HTML is the programming language used to develop home pages on the Internet. This course covers the most current tools available for developing HTML documents and posting pages on the World Wide Web. This course covers the basics of HTML5. Skill development in web programming including mark-up and scripting languages. Introduction to structure and object oriented programming design. Course includes use of XHTML and JavaScript programming languages.

SYLLABUS:

WEB PROGRAMMING:

Introduction to WWW -Internet Standards- Introduction to WWW and WWW Architecture - Internet Protocols - Overview of HTTP - HTTP request – response - Generations of dynamic web pages- Introduction to HTML and HTML5 -TML Tags, - Formatting and Fonts ,Commenting- Code, Anchors, Backgrounds, Images, Hyperlinks, Lists, Tables, Frames, HTML Forms-cascading Style Sheet - The need for CSS - Introduction to CSS - Basic syntax and structure , -Inline Styles ,Embedding Style Sheets Linking External, Style Backgrounds, Manipulating Text, Margins and Padding -Positioning using CSS- Introduction to JavaScript - Introduction, Core features, Data types and Variables, Operators, Expressions ,Functions, Objects.

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COURSE PLAN : WEB PROGRAMMING

| S.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode | Assessments (Periodical Tests/Quiz/Assignments) |
|-------|-----------------------------------|-------------------------------------|----------------------------------|-------------------------------|---|
| 1 | 1 | 1 | Introduction to WWW | PPT | (Periodical Tests/Quiz/Assignments) |
| 2 | 1 | 2 | Internet Standards | Model /Project based learning | (Periodical Tests) |
| 3 | 1 | 3 | Internet Protocols | Model /Project based learning | (Periodical Tests) |
| 4 | 1 | 6 | Overview of HTTP | Model /Project based learning | (Periodical Tests) |
| 5 | 2 | 8 | HTTP request – response | Model /Project based learning | (Periodical Tests) |
| 6 | 2 | 10 | Generations of dynamic web pages | Model /Project based learning | (Assignments) |
| 7 | 1 | 11 | Introduction to HTML and | Model /Project based learning | (Periodical Tests) |
| 8 | 2 | 13 | HTML5 | Model /Project based learning | (Assignments) |
| 9 | 1 | 14 | TML Tags, - Formatting and Fonts | Model /Project based learning | (Periodical Tests) |
| 10 | 1 | 15 | Commenting- Code, Anchors | Model /Project based learning | (Periodical Tests/Quiz/Assignments) |
| 11 | 2 | 17 | Backgrounds, Images, | Model /Project based learning | (Periodical Tests) |
| 12 | 2 | 19 | Hyperlinks, Lists | Model /Project based learning | (Assignments) |
| 13 | 2 | 21 | Tables, Frames | Model /Project based learning | (Periodical Tests) |
| 14 | 2 | 23 | HTML Forms | Model /Project based learning | (Assignments) |
| 15 | 2 | 25 | cascading Style Sheet | Model /Project based learning | (Periodical Tests) |
| 16 | 1 | 26 | The need for CSS | Model /Project based learning | (Periodical Tests) |
| 17 | 1 | 27 | Introduction to CSS | PPT | (Periodical Tests) |
| 18 | 2 | 29 | Basic syntax and structure | Model /Project based learning | (Assignments) |

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| 19 | 2 | 31 | Inline Styles .Embedding Style Sheets | PPT | (Periodical Tests/Quiz/Assignments) |
| 20 | 2 | 33 | Linking External | PPT | (Periodical Tests/Quiz/Assignments) |
| 21 | 2 | 35 | Style Backgrounds | PPT | (Periodical Tests/Quiz/Assignments) |
| 22 | 1 | 36 | Core features | PPT | (Periodical Tests/Quiz/Assignments) |
| 23 | 1 | 37 | Data types and Variables | PPT | (Periodical Tests/Quiz/Assignments) |
| 24 | 1 | 38 | Operators, | PPT | (Periodical Tests/Quiz/Assignments) |
| 25 | 2 | 40 | Expressions ,Functions, Objects | PPT | (Periodical Tests/Quiz/Assignments) |
| <p>Note: Delivery Mode- 1. Participative Learning- Interaction between Staff and Student during lecture(Seminar/Quiz etc..)</p> <p>2. Flipped Class room – Discussion on Content circulated through Google Classroom</p> <p>3. Experiential Learning- Lab or Field based demonstrative learning</p> <p>4. Model/Project based learning- Demonstration done using models/Projects</p> | | | | | |

HOD/CSE

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CLASS: II YEAR CSE(2017-2021)

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VALUE ADDED COURSE

2018-2019(ODD)

COURSE CODE /COURSE NAME: VAC 03/PYTHON PROGRAMMING

COURSE STAFF-INCHARGE: Dr.F.R.Shiny Malar

CLASS: S3/II CSE

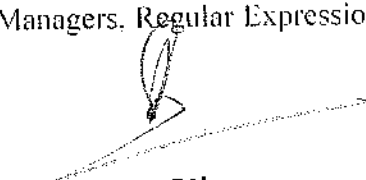
COURSE DESCRIPTION:

The course introduces Python language with a simple syntax, and a powerful set of libraries. It is an interpreted language, with a rich programming environment, including a robust debugger and profiler. While it is easy for beginners to learn, it is widely used in many scientific areas for data exploration. This course is an introduction to the Python programming language for students without prior programming experience. We cover data types, control flow, object-oriented programming, and graphical user interface-driven applications. The examples and problems used in this course are drawn from diverse areas such as text processing, simple graphics creation and image manipulation, HTML and web programming, and genomics.

SYLLABUS:

PYTHON PROGRAMMING

Introduction-Functions, Booleans and Modules- Sequences, Iteration and String Formatting- Dictionaries, Sets, and Files-Exceptions, Testing, Comprehensions- Advanced Argument Passing, Lambda -functions as objects-Object Oriented Programming- More OO -- Properties, Special methods- Iterators, and Generators-Decorators, Context Managers, Regular Expressions, and Wrap Up.


PRINCIPAL
STELLA MARY'S COLLEGE OF ENGINEERING
ARUTHENGANVILAI,
AZHIKAL POST - 629 202
KANYAKUMARI DISTRICT

CLASS: II YEAR CSE(2017-2021)

| S.NO | Roll.No | Reg.No | Student Name |
|------|-----------|--------------|------------------------|
| 1 | 17RUCS001 | 963517104001 | Abilash. S |
| 2 | 17RUCS004 | 963517104002 | Ajoy Shamily. L |
| 3 | 17RUCS005 | 963517104003 | Anisha. N |
| 4 | 17RUCS006 | 963517104004 | Antony Reyman. A |
| 5 | 17RUCS007 | 963517104005 | Anu Sneka. T |
| 6 | 17RUCS008 | 963517104006 | Arockia Akasini. S |
| 7 | 17RUCS009 | 963517104007 | Asha. A |
| 8 | 17RUCS010 | 963517104008 | Bavithra. S |
| 9 | 17RUCS011 | 963517104009 | Bejo Selsheya. G |
| 10 | 17RUCS012 | 963517104010 | Bibin.S |
| 11 | 17RUCS013 | 963517104011 | Dharani. R.M |
| 12 | 17RUCS014 | 963517104012 | Dharsini. S |
| 13 | 17RUCS016 | 963517104014 | Harishharan. M |
| 14 | 17RUCS017 | 963517104015 | Jenishka. V |
| 15 | 17RUCS018 | 963517104016 | Jenusha. L |
| 16 | 17RUCS019 | 963517104017 | Jeya Reshma. A |
| 17 | 17RUCS020 | 963517104018 | Mary Helen Shanuthi. S |
| 18 | 17RUCS021 | 963517104019 | Mersha. B |
| 19 | 17RUCS023 | 963517104021 | Misma. M |
| 20 | 17RUCS024 | 963517104022 | Mofi.A |
| 21 | 17RUCS025 | 963517104023 | Poonkodi.R |
| 22 | 17RUCS026 | 963517104024 | Prabisha.L.G |
| 23 | 17RUCS027 | 963517104025 | Pragathees.S.T |
| 24 | 17RUCS028 | 963517104026 | Renold. A |
| 25 | 17RUCS029 | 963517104027 | Rinu Rija. A |
| 26 | 17RUCS031 | 963517104029 | Sahaya Arul Stebila.T |
| 27 | 17RUCS032 | 963517104030 | Sajitha.C |
| 28 | 17RUCS033 | 963517104031 | Saranya.J |
| 29 | 17RUCS034 | 963517104032 | Subiya.S |
| 30 | 17RUCS035 | 963517104033 | Synul Sohail. H |
| 31 | 17RUCS036 | 963517104034 | Vignesh.M |
| 32 | 17RUCS002 | 963517104035 | Abishek.A.J |
| 33 | 17LUCS001 | 963517104301 | Anusha. A |
| 34 | 17LUCS002 | 963517104302 | Asha. M |
| 35 | 17LUCS003 | 963517104303 | Dhamodaran.N |
| 36 | 17LUCS005 | 963517104305 | Sree Lal.S |
| 37 | 17TUCS001 | 963517104701 | Kezia Sam |


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KANYAKUMARI DISTRICT

COURSE PLAN: PYTHON PROGRAMMING

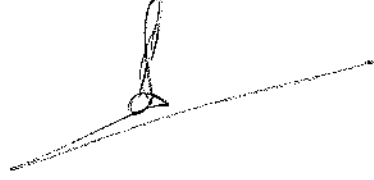
| S.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode | Assessments (Periodical Tests/Quiz/Assignments) |
|-------|-----------------------------------|-------------------------------------|---------------------------------|------------------------------|---|
| 1 | 1 | 1 | Introduction | PPT | (Periodical Tests/Quiz/Assignments) |
| 2 | 1 | 2 | Functions | PPT | (Periodical Tests) |
| 3 | 2 | 4 | Functions | Model/Project based learning | (Periodical Tests) |
| 4 | 2 | 6 | Booleans and Modules | Model/Project based learning | (Periodical Tests) |
| 5 | 1 | 7 | Sequences | PPT | (Periodical Tests) |
| 6 | 2 | 9 | Iteration and String Formatting | PPT | (Assignments) |
| 7 | 2 | 11 | Dictionaries | PPT | (Periodical Tests) |
| 8 | 1 | 12 | Sets | PPT | (Periodical Tests) |
| 9 | 2 | 14 | Files-Exceptions | Model/Project based learning | (Periodical Tests/Quiz/Assignments) |
| 10 | 1 | 15 | Testing | PPT | (Periodical Tests) |
| 11 | 2 | 17 | Comprehensions | PPT | (Periodical Tests) |
| 12 | 2 | 19 | Advanced Argument Passing | Model/Project based learning | (Periodical Tests) |
| 13 | 2 | 21 | Lambda | Model/Project based learning | (Periodical Tests) |
| 14 | 2 | 23 | functions as objects | PPT | (Periodical Tests) |
| 15 | 2 | 25 | Object Oriented Programming | PPT | (Periodical Tests/Quiz/Assignments) |
| 16 | 1 | 26 | More OO | Interfaces | (Periodical Tests/Quiz/Assignments) |
| 17 | 1 | 27 | Properties | PPT | (Periodical Tests/Quiz/Assignments) |
| 18 | 2 | 29 | Special methods | Model/Project based learning | (Periodical Tests/Quiz/Assignments) |

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| | | | | | |
|--|---|----|---------------------|-------------------------------|-------------------------------------|
| 19 | 2 | 31 | Iterators | PPT | (Periodical Tests/Quiz/Assignments) |
| 20 | 1 | 32 | Iterators | PPT | (Periodical Tests/Quiz/Assignments) |
| 21 | 2 | 34 | Generators | PPT | (Periodical Tests/Quiz/Assignments) |
| 22 | 1 | 35 | Decorators | PPT | (Periodical Tests) |
| 23 | 2 | 37 | Context Managers | PPT | (Periodical Tests) |
| 24 | 2 | 39 | Regular Expressions | Model /Project based learning | (Periodical Tests/Quiz/Assignments) |
| 25 | 1 | 40 | Wrap Up | PPT | (Periodical Tests/Quiz/Assignments) |
| Note: Delivery Mode- <ol style="list-style-type: none"> 1. Participative Learning- Interaction between Staff and Student during lecture(Seminar/Quiz etc..) 2. Flipped Class room – Discussion on Content circulated through Google Classroom 3. Experiential Learning- Lab or Field based demonstrative learning 4. Model/Project based learning- Demonstration done using models/Projects | | | | | |


 HoD/CSE

Mrs. A. ANN ROMALT, M.E., MBA., Ph.D.,
 Head of the Department
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 Aruthankovil, Azhikkal Post
 Kanyakumari District - 629 202





STELLA MARY'S COLLEGE OF ENGINEERING

Aruthenganvillai, Kallukatti Junction, Azhikal (Po), Kanyakumari District-629202

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VALUE ADDED COURSE

2018-2019(ODD)

COURSE CODE /COURSE NAME: VAC 09/ADVANCED JAVA PROGRAMMING

COURSE IN-CHARGE: Mr.C.Bastin Rogers


CLASS: SE,S7/III CSE,IV CSE

COURSE DESCRIPTION:

This course of study builds on the skills gained by students in Java Fundamentals or Java Foundations to help advance Java programming skills. Students will design object-oriented applications with Java and will create Java programs using hands-on, engaging activities. This course provides basic foundation in Java syntax, which is the first step towards becoming a successful Java developer. To learn how computers make decisions and how Java keeps track of information through variables and data types. To create conditional statements, functions, and loops to process information and solve problems. To learn to use Java IDE (Integrated Development Environment) that professional developers use, to build, compile, and debug your code.

SYLLABUS:

Introduction-The Java Environment-Basic Language Elements-Object Oriented Programming-Extending Classes and Inheritance-Package-Exception Handling-Array & String –Thread-GUI Programming-Event Handling-Database Programming using JDBC-Java Server Technologies Servlet



PRINCIPAL
STELLA MARY'S COLLEGE OF ENGINEERING
ARUTHENGANVILAI,
AZHICKAL POST - 629 202
KANYAKUMARI DISTRICT

CLASS: III YEAR CSE (2016-2020)

| sl. No | Roll No | Reg.No. | Name of the Student |
|--------|-----------|--------------|----------------------|
| 1 | 16RUCS001 | 963516104001 | Abi Jenifa J P |
| 2 | 16RUCS002 | 963516104002 | Abisha T |
| 3 | 16RUCS003 | 963516104003 | Abisha Mano M V |
| 4 | 16RUCS004 | 963516104004 | Addly Daniel D |
| 5 | 16RUCS005 | 963516104005 | Adithyan V S |
| 6 | 16RUCS006 | 963516104006 | Aiswarya B |
| 7 | 16RUCS007 | 963516104007 | Akshai R |
| 8 | 16RUCS009 | 963516104009 | Ancy A |
| 9 | 16RUCS010 | 963516104010 | Archana Vijayan |
| 10 | 16RUCS011 | 963516104011 | Artheya R S |
| 11 | 16RUCS012 | 963516104012 | Aswin C |
| 12 | 16RUCS013 | 963516104013 | Athira Mol M S |
| 13 | 16RUCS014 | 963516104014 | Benisha B |
| 14 | 16RUCS015 | 963516104015 | Breetha. M |
| 15 | 16RUCS016 | 963516104016 | Catherin Sethi Raj K |
| 16 | 16RUCS017 | 963516104017 | Frast Eltsin N |
| 17 | 16RUCS018 | 963516104018 | Hari Krishnan |
| 18 | 16RUCS019 | 963516104019 | Jashlin Melba J |
| 19 | 16RUCS020 | 963516104021 | Joel J David |
| 20 | 16RUCS021 | 963516104022 | Jomon cletus |
| 21 | 16RUCS022 | 963516104023 | Kalpana K |
| 22 | 16RUCS023 | 963516104024 | Kavin. S |
| 23 | 16RUCS025 | 963516104026 | Mahibha D |
| 24 | 16RUCS026 | 963516104027 | Manju M |
| 25 | 16RUCS027 | 963516104028 | Manju S |
| 26 | 16RUCS028 | 963516104029 | Minisha P M |
| 27 | 16RUCS029 | 963516104030 | Monisha M |
| 28 | 16RUCS030 | 963516104031 | Muhammed Rafi K |
| 29 | 16RUCS031 | 963516104032 | Nithya M |
| 30 | 16RUCS032 | 963516104033 | Nivetha S |


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| | | | |
|----|-----------|--------------|-------------------------|
| 31 | 16RUCS033 | 963516104034 | Pooja S |
| 32 | 16RUCS034 | 963516104035 | Prabha S |
| 33 | 16RUCS035 | 963516104036 | Prathapan. P |
| 34 | 16RUCS036 | 963516104037 | Premiha Theepthi Mol. M |
| 35 | 16RUCS037 | 963516104038 | Priyanka Lidiya. P |
| 36 | 16RUCS039 | 963516104040 | Sahaya Bismi S |
| 37 | 16RUCS040 | 963516104041 | Sahaya Steni. G |
| 38 | 16RUCS041 | 963516104042 | Sangeetha. G |
| 39 | 16RUCS042 | 963516104043 | Saranya. K |
| 40 | 16RUCS043 | 963516104044 | Saranya S |
| 41 | 16RUCS044 | 963516104045 | Sheriba T |
| 42 | 16RUCS045 | 963516104046 | Sherlin S |
| 43 | 16RUCS046 | 963516104047 | Sujeena. M |
| 44 | 16RUCS047 | 963516104048 | Sumesh X |
| 45 | 16RUCS048 | 963516104049 | Thilaka D |
| 46 | 16RUCS049 | 963516104050 | Vijaya Saranya V |
| 47 | 16RUCS050 | 963516104051 | Vinith R |
| 48 | 16RUCS051 | 963516104052 | Youvansiya Suruthi J |


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 AZHICKAL POST - 629 202
 KANYAKUMARI DISTRICT

CLASS: IV YEAR CSE (2015-2019)

| Sl. No | Roll No | Reg.No. | Name of the Student |
|--------|-----------|--------------|---------------------|
| 1 | 15RUCS001 | 963515104001 | ABISHA ANTO |
| 2 | 15RUCS002 | 963515104002 | AROCKIA AJIN. A |
| 3 | 15RUCS003 | 963515104003 | ARUN KUMAR. S |
| 4 | 15RUCS004 | 963515104004 | ASORE R |
| 5 | 15RUCS005 | 963515104005 | ASWINI PRIYA. J |
| 6 | 15RUCS007 | 963515104007 | BHUVANESHWARN. S |
| 7 | 15RUCS008 | 963515104008 | BRINTHA. S |
| 8 | 15RUCS009 | 963515104009 | DELSIKA JIII. T |
| 9 | 15RUCS010 | 963515104010 | DENO COWSIKA. D |
| 10 | 15RUCS011 | 963515104011 | GODWIN BEO M |
| 11 | 15RUCS012 | 963515104012 | JEYA BRINTHA. M.R |
| 12 | 15RUCS013 | 963515104013 | MARY MONISHA.G |
| 13 | 15RUCS015 | 963515104015 | RAMESH DANIEL. S |
| 14 | 15RUCS016 | 963515104016 | RAMESH. T |
| 15 | 15RUCS017 | 963515104017 | RANJINI. S.M |
| 16 | 15RUCS018 | 963515104018 | REJI YOVAN. R |
| 17 | 15RUCS019 | 963515104019 | RUBINI. A |
| 18 | 15RUCS020 | 963515104020 | SAHAYA SAJITHA. T |
| 19 | 15RUCS021 | 963515104021 | SANTHIYA. S |
| 20 | 15RUCS022 | 963515104022 | SANTHOSH KANNAN. S |
| 21 | 15RUCS023 | 963515104023 | SARANYA. K.V. |
| 22 | 15RUCS024 | 963515104024 | SATHYAKALA. S.L |
| 23 | 15RUCS025 | 963515104025 | SHERLIN VIVITHA. W |
| 24 | 15RUCS026 | 963515104026 | SNEHA. D |
| 25 | 15RUCS027 | 963515104027 | SORNA REVATHI. M |
| 26 | 15RUCS028 | 963515104028 | VINU. S |
| 27 | 16LUCS001 | 963515104301 | JEMISHA HELMI.A |


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 ARUTHIENGANVILAI,
 AZHICKAL POST - 629 202
 KANYAKUMARI DISTRICT

COURSE PLAN: ADVANCED JAVA PROGRAMMING

| S.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode | Assessments (Periodical Tests/Quiz/Assignments) |
|-------|-----------------------------------|-------------------------------------|--|-------------------------------|---|
| 1 | 1 | 1 | Introduction- | PPT | (Periodical Tests/Quiz/Assignments) |
| 2 | 2 | 3 | The Java Environment | PPT | (Periodical Tests) |
| 3 | 1 | 4 | Basic Language Elements | Model /Project based learning | (Periodical Tests) |
| 4 | 2 | 6 | Object Oriented Programming- | Model /Project based learning | (Periodical Tests) |
| 5 | 2 | 8 | Object Oriented Programming- Example program | PPT | (Periodical Tests) |
| 6 | 2 | 10 | Extending Classes and Inheritance | PPT | (Periodical Tests/Quiz/Assignments) |
| 7 | 2 | 12 | Extending Classes and Inheritance- Example program | Model /Project based learning | (Periodical Tests/Quiz/Assignments) |
| 8 | 2 | 14 | Package | PPT | (Periodical Tests) |
| 9 | 2 | 16 | Exception Handling- | PPT | (Periodical Tests/Quiz/Assignments) |
| 10 | 1 | 17 | Array | PPT | (Periodical Tests/Quiz/Assignments) |
| 11 | 2 | 19 | Array-Example | Model /Project based learning | (Periodical Tests/Quiz/Assignments) |
| 12 | 2 | 21 | String | PPT | (Periodical Tests/Quiz/Assignments) |
| 13 | 1 | 22 | String-Example | Model /Project based learning | (Periodical Tests) |
| 14 | 2 | 24 | Thread | PPT | (Periodical Tests) |
| 15 | 1 | 25 | Thread-Example | Model /Project based learning | (Periodical Tests/Quiz/Assignments) |
| 16 | 2 | 27 | GUI Programming | PPT | (Periodical Tests) |
| 17 | 2 | 29 | GUI Programming-Example | Model /Project based learning | (Periodical Tests) |

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 AZHICKAL POST - 629 202
 KANYAKUMARI DISTRICT

| | | | | | |
|--|---|----|----------------------------------|------------------------------|--------------------|
| 18 | 2 | 31 | Event Handling | PPT | (Periodical Tests) |
| 19 | 2 | 33 | Event Handling-Example | Model/Project based learning | (Periodical Tests) |
| 20 | 2 | 35 | Database Programming using JDBC | PPT | (Periodical Tests) |
| 21 | 2 | 37 | JDBC-Program | Model/Project based learning | (Periodical Tests) |
| 22 | 2 | 39 | Java Server Technologies Servlet | Model/Project based learning | (Periodical Tests) |
| 23 | 1 | 40 | Servlet-Example | Model/Project based learning | (Periodical Tests) |
| Note: Delivery Mode- <ol style="list-style-type: none"> 1. Participative Learning- Interaction between Staff and Student during lecture(Seminar/Quiz etc..) 2. Flipped Class room – Discussion on Content circulated through Google Classroom 3. Experiential Learning- Lab or Field based demonstrative learning 4. Model/Project based learning- Demonstration done using models/Projects | | | | | |



HoD/CSE

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PRINCIPAL

STELLA MARY'S COLLEGE OF ENGINEERING
ARUTHENGAVILAL,
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KANYAKUMARI DISTRICT



Stella Mary's College of Engineering
Aruthenganvilai, Kallukattijunction, Azhikal post-629202, Kanyakumari district

Department of Electronics and Communication Engineering

CERTIFICATE PROGRAMME

Value Added Course on MATLAB – CONTROL SYSTEMS

Course handled by: M.L.Ashly Baby AP/ECE

Course handled to: III year ECE

Academic year:

Syllabus:

Introduction To Mat lab- Tools for analysing- Tools for tuning- Transfer functions and State-Space models- Creation of Matrices- Matrix multiplication- Eigen Values- Inverse of matrix- Rank, joint and Cofactor of matrix- Indexing of array- Linear using Mat lab- Find Zeros and Poles- Find Gain of Transfer function- Find transfer functions- Unit step response, unit impulse response, ramp function- Bode Plot- NY Quist plot- Root locus- State transition matrix, state equations ,PID Controller- PI,PD Controller

Course Description

Control System Toolbox™ provides algorithms and apps for systematically analysing, designing, and tuning linear control systems. You can specify your system as a transfer function, state-space, zero-pole-gain, or frequency-response model. Apps and functions, such as step response plot and Bode plot, let you analyse and visualize system behaviour in the time and frequency domains. You can tune compensator parameters using interactive techniques such as Bode loop shaping and the root locus method. The toolbox automatically tunes both SISO and MIMO compensators, including PID controllers. Compensators can include multiple tuneable blocks spanning several feedback loops. You can tune gain-scheduled controllers and specify multiple tuning objectives, such as reference tracking, disturbance rejection, and stability margins. You can validate your design by verifying rise time, overshoot, settling time, gain and phase margins, and other requirements.


Mr. N. MICHAEL FRANKLIN, M.E.,
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Dr. R. Suresh Kumar, M.E., Ph.D
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ARUTHENGANVILAI, AZHICKAL POST-629 202
KANYAKUMARI DISTRICT

COURSE PLAN:Mat lab-Control Systems

| Sl.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode | Assessments (Periodical Tests/Quiz/Assignments) |
|--------|-----------------------------------|-------------------------------------|--|---------------|---|
| 1 | 1 | 1 | Introduction To Mat lab | PPT | (Periodical Tests/Quiz/Assignments) |
| 2 | 2 | 3 | Tools for analyzing | PPT | (Periodical Tests) |
| 3 | 3 | 6 | Tools for tuning | PPT | (Periodical Tests) |
| 4 | 4 | 10 | Transfer functions and State-Space models | PPT | (Periodical Tests) |
| 5 | 2 | 12 | Creation of Matrices | PPT | (Periodical Tests) |
| 6 | 3 | 15 | Matrix multiplication | PPT | (Assignments) |
| 7 | 2 | 17 | Eigen Values | PPT | (Periodical Tests) |
| 8 | 1 | 18 | Inverse of matrix | PPT | (Periodical Tests) |
| 9 | 3 | 21 | Rank, a djoint and Cofactor o f matrix | PPT | (Periodical Tests/Quiz/Assignments) |
| 10 | 2 | 23 | Indexing of array | PPT | (Periodical Tests) |
| 11 | 2 | 25 | Linear using Mat lab | PPT | (Periodical Tests) |
| 12 | 2 | 27 | Find Zeros and Poles | PPT | (Periodical Tests) |
| 13 | 2 | 29 | Find Gain of Transfer function | PPT | (Periodical Tests) |
| 14 | 3 | 32 | Find transfer functions | PPT | (Periodical Tests) |
| 15 | 1 | 33 | Unit step response, unit impulse response, ramp function | PPT | (Periodical Tests/Quiz/Assignments) |
| 16 | 1 | 34 | Bode Plot | PPT | (Periodical Tests/Quiz/Assignments) |
| 17 | 1 | 35 | NY Quist plot | PPT | (Periodical Tests/Quiz/Assignments) |
| 18 | 1 | 36 | Root locus | PPT | (Periodical Tests/Quiz/Assignments) |
| 19 | 2 | 38 | State transition matrix, stateequations, ID Controller | PPT | (Periodical Tests/Quiz/Assignments) |
| 20 | 2 | 40 | PI,PD Controller | PPT | (Periodical Tests/Quiz/Assignments) |

Note: **Delivery Mode- 1. Participative Learning- Interaction between Staff and Student during lecture (Seminar/Quiz etc..)**
2. Flipped Class room – Discussion on Content circulated through Google Classroom
3. Experiential Learning- Lab or Field based demonstrative learning
4. Model /Project based learning- Demonstration done using models/Projects



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Dr. R. Suresh Prem Kumar, M.E., Ph.D
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KANYAKUMARI DISTRICT



STELLA MARY'S COLLEGE OF ENGINEERING

ARUTHENGANVILLAI, AZHIKAL (PO), KANYAKUMARI DISTRICT-629202

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE PROGRAM

COURSE CODE /COURSE NAME: VAC06/ Verilog Language

COURSE IN-CHARGE: Mrs. A. ~~Code~~brindh

CLASS: III YEAR ECE

COURSE DESCRIPTION:

This Course will provide an overview of the Verilog With the following Objectives.

1. Explain design, Test and implementation Of Digital Hardware.
2. Explain the Hierarchy and Modeling of structures.
3. Introduces Syntax, Lexical Conversions, Data Types and Memory.
4. Explain How to Write RTL Verilog Code for Synthesis.
5. In-depth Understanding of Gate level Modeling.
6. Explains the concepts of Delay, testbenches, Timing checks etc.

SYLLABUS

Introduction – Verilog and VHDL- Introduction to VLSI CMOS Circuits- Overview of digital Design with Verilog with Verilog HDL- Hierarchical Modeling- Concepts-Basic Concepts-Modules and Ports- Gate level Modeling- Gate level modeling in various combinational circuits- Gate level modeling in various sequential circuits- Dataflow flow modeling- Dataflow flow modeling in Combinational circuits- Dataflow flow modeling in sequential circuits- Behavioral modeling in Combinational circuits- Behavioral modeling in Sequential circuits- Tasks and functions- Useful Modeling Techniques-Timing and delays-switch model modeling- switch model modeling in Cmos Circuits- Logic Synthesis With verilog HDL- Test bench

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Dr. R. Suresh Prasad, M.E., Ph.D
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STELLA MARY'S COLLEGE OF ENGINEERING
ARUTHENGANVILAI, AZHIKAL POST-629 202
KANYAKUMARI DISTRICT

COURSE PLAN: Verilog Language

| Sl.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode | Assessments (Periodical Tests/Quiz/Assignments) |
|--------|-----------------------------------|-------------------------------------|--|---------------|---|
| 1 | 1 | 1 | Introduction – Verilog and VHDL | PPT | (Periodical Tests/Quiz/Assignments) |
| 2 | 2 | 3 | Introduction to VLSI in CMOS Circuits | PPT | (Periodical Tests) |
| 3 | 3 | 6 | Overview of digital Design with Verilog with Verilog HDL | PPT | (Periodical Tests) |
| 4 | 3 | 8 | Hierarchical Modeling | PPT | (Periodical Tests) |
| 5 | 1 | 9 | Concepts-Basic Concepts-Modules and Ports | PPT | (Periodical Tests) |
| 6 | 1 | 10 | Gate level Modeling | PPT | (Assignments) |
| 7 | 5 | 15 | Gate level modeling in various combinational circuits | PPT | (Periodical Tests) |
| 8 | 5 | 20 | Gate level modeling in various sequential circuits | PPT | (Periodical Tests) |
| 9 | 1 | 21 | Dataflow flow modeling- | PPT | (Periodical Tests/Quiz/Assignments) |
| 10 | 4 | 25 | Dataflow flow modeling in Combinational circuits | PPT | (Periodical Tests) |
| 11 | 4 | 29 | Dataflow flow modeling in sequential circuits | PPT | (Periodical Tests) |
| 12 | 3 | 33 | Behavioral modeling in Combinational circuits | PPT | (Periodical Tests) |
| 13 | 1 | 34 | Behavioral modeling in Sequential circuits | PPT | (Periodical Tests) |
| 14 | 1 | 35 | Tasks and functions | PPT | (Periodical Tests) |
| 15 | 1 | 36 | Useful Modeling Techniques-Timing and delays | PPT | (Periodical Tests/Quiz/Assignments) |
| 16 | 1 | 37 | switch model modeling | PPT | (Periodical Tests/Quiz/Assignments) |
| 17 | 1 | 38 | switch model modeling in Cmos Circuits | PPT | (Periodical Tests/Quiz/Assignments) |
| 18 | 1 | 39 | Logic Synthesis With Verilog HDL | PPT | (Periodical Tests/Quiz/Assignments) |
| 19 | 1 | 40 | Test bench | PPT | (Periodical Tests/Quiz/Assignments) |

Note: Delivery Mode- 1. Participative Learning- Interaction between Staff and Student during lecture (Seminar/Quiz etc..)
2. Flipped Class room – Discussion on Content circulated through Google Classroom
3. Experiential Learning- Lab or Field based demonstrative learning
4. Model /Project based learning- Demonstration done using models/Projects

Mr. N. MICHAEL FRANKLIN, M.E.,
Head of the Department,
Department of Electronics & Communication Engineering,
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Dr. R. Suresh Premji Kumar, M.E., Ph.D
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STELLA MARY'S COLLEGE OF ENGINEERING

ARUTHENGANVILLAI, AZHIKAL (PO), KANYAKUMARI DISTRICT-629202

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE PROGRAM

COURSE CODE /COURSE NAME: VAC07/ Embedded in C Programming

COURSE IN-CHARGE :Mr.R.Selvakumar

CLASS: IVYEAR ECE

COURSE DESCRIPTION:

The Embedded System is a Controlled and Controller Programmed And Controlled by a real time operating(RTOS) with a Dedicated Function With a larger Mechanical or Electrical system(RTOS).with a dedicated Function within a larger mechanical or electrical system, often with a larger with real-time computing constrains. It is embedded as part of complete devices often with real-time computing constraints. it is embedded as part of a complete devices often including hardware and mechanical parts. Embedded systems control many devices in Common use today .Ninety eight percent of all microprocessor manufactured is used in system.

SYLLABUS:

Introduction to c language- Introduction to embedded system- Characteristics of an Embedded System- Characteristics of an Embedded System- Sensor- ADC and DAC, Actuator- Memory devices- Processors and its types- General purpose processors-8085-Instruction set and architecture-8085-Programming- 8086-Instruction set and architecture-8086 Programming- ARM-architecture, Instruction set- ARM-programming- Kit -demo for ARM- Compilers and assemblers-Keil- Debugging tools- Flash Magic


Mr. N. MICHAEL FRANKLIN, M.E.,

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Dr. R. Suresh Kumar, M.E., Ph.D

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COURSE PLAN : Embedded C language

| Sl.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode | Assessments (Periodical Tests/Quiz/ Assignments) |
|--------|-----------------------------------|-------------------------------------|---|-------------------------------|--|
| 1 | 1 | 1 | System | PPT | (Periodical Tests/Quiz/ Assignments) |
| 2 | 1 | 2 | Introduction of embedded system | Blackboard | (Periodical Tests) |
| 3 | 1 | 3 | Characteristics of an Embedded System | Blackboard | (Periodical Tests) |
| 4 | 1 | 4 | Basic block diagram of an embedded system | Blackboard | (Periodical Tests) |
| 5 | 1 | 5 | Sensor | Blackboard | (Periodical Tests) |
| 6 | 1 | 6 | ADC and DAC, Actuator | Blackboard | (Assignments) |
| 7 | 1 | 7 | Memory devices | PPT | (Periodical Tests) |
| 8 | 1 | 8 | Processors and its types | PPT | (Periodical Tests) |
| 9 | 1 | 9 | General purpose processors | Blackboard | (Periodical Tests/Quiz/ Assignments) |
| 10 | 1 | 10 | 8085-Instruction set and architecture | Blackboard | (Periodical Tests) |
| 11 | 1 | 11 | 8085-Programming | Blackboard | (Periodical Tests) |
| 12 | 1 | 12 | 8086-Instruction set and architecture | PPT | (Periodical Tests) |
| 13 | 1 | 13 | 8086-Programming | Blackboard | (Periodical Tests) |
| 14 | 1 | 14 | ARM-architecture, Instruction set | PPT | (Periodical Tests) |
| 15 | 1 | 15 | ARM-programming | Blackboard | (Periodical Tests/Quiz/ Assignments) |
| 16 | 3 | 19 | Kit –demo for ARM | Model /Project based learning | (Periodical Tests/Quiz/ Assignments) |
| 17 | 1 | 21 | Compilers and assemblers | PPT | (Periodical Tests/Quiz/ Assignments) |
| 18 | 2 | 23 | Keil | Experiential Learning | (Periodical Tests/Quiz/ Assignments) |
| 19 | 2 | 25 | Debugging tools | PPT | (Periodical Tests/Quiz/ Assignments) |
| 20 | 2 | 27 | Flash Magic | Experiential Learning | (Periodical Tests/Quiz/ Assignments) |

| | | | | | |
|----|---|----|-------------------------------|-------------------------------|-------------------------------------|
| 21 | 1 | 28 | Microcontrollers | PPT | (Periodical Tests/Quiz/Assignments) |
| 22 | 1 | 29 | 8051-architecture | PPT | (Periodical Tests) |
| 23 | 1 | 30 | 8051-Programming | Black Board | (Periodical Tests) |
| 24 | 1 | 31 | Embedded C-Intro | Black Board | (Periodical Tests/Quiz/Assignments) |
| 25 | 2 | 33 | I/O ports and their functions | Black Board | (Periodical Tests/Quiz/Assignments) |
| 26 | 1 | 34 | Hardware connections | Model /Project based learning | (Periodical Tests/Quiz/Assignments) |
| 27 | 1 | 35 | Program-LED blinking | Experiential Learning | Lab based-program assignments) |
| 28 | 1 | 36 | Program-Serial port interface | Experiential Learning | Lab based-program assignments |
| 29 | 1 | 37 | DAC and ADC-program | Experiential Learning | Lab based-program assignments |
| 30 | 1 | 38 | Program-LCD interface | Experiential Learning | Lab based-program assignments |
| 31 | 1 | 39 | Program-Keybord interface | Experiential Learning | Lab based-program assignments |
| 32 | 1 | 40 | Program-Stepper motor | Experiential Learning | Lab based-program assignments |

Note: Delivery Mode- 1. Participative Learning- Interaction between Staff and Student during lecture(Seminar/Quiz etc..)

2. Flipped Class room – Discussion on Content circulated through Google Classroom

3. Experiential Learning- Lab or Field based demonstrative learning

4. Model /Project based learning- Demonstration done using models/Projects



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Year/Sem: II/even

Academic year: 2016-2017

VALUE ADDED COURSE

1. Name of the course and course code: MATLAB- VCMB004

2. Description:

MATLAB is a high performance language for technical computing. It integrates computation, visualization and programming in a easy to use environment where problems and solutions are expressed in familiar mathematical notation.

3. Syllabus:

- CHAPTER 1- Introduction to MATLAB
Warm-up, Arithmetic Operations, Complex numbers, Array indexing, allocating memory, Special characters and functions, Control flow, Plotting, Programming in MATLAB (M-files), MATLAB sound, Loading and saving data.
- CHAPTER 2- Generation of signals
Introduction to Time shifting, time scaling, signal addition, and signal multiplication, Generation of Unit step signal- unit rectangular pulse- unit ramp signal, unit triangular pulse, sine and cosine signal.
- CHAPTER 3- Characteristics of diode
Introduction, Types of diodes, Implementation of diode model, creation of PN junction diode in Simulink, creation of Zener diode in Simulink, single-diode and two-diode PV cell modeling using MATLAB for studying characteristics of solar cell under varying conditions.
- CHAPTER 4- Characteristics of IGBT
Introduction, Implementation of IGBT mode-N-Channel IGBT, Behavior of IGBT using MATLAB Simulink, IGBT dynamic characteristics using Simulink, Modelling of IGBT and Gate unit, Simulation and optimisation of diode and IGBT interaction in a chopper cell using MATLAB and Simulink
- CHAPTER 5- Characteristics of MOSFET
Introduction, Implementation of MOSFET, Behavior of MOSFET using MATLAB Simulink, MOSFET characteristics using Simulink, Modelling of MOSFET using simulink, Ideal N-channel MOSFET for switching applications, MOSFET model for power converter applications

4. Course handled by: Reena Daphne. R, AP/EEE

5. Course duration: 40 Hrs

6. List of students:

No. of students enrolled: 25

| S.NO | ROLL NO | REGISTER NO | NAME OF THE STUDENT |
|------|-----------|--------------|---------------------|
| 1 | 15RUEE001 | 963515105001 | AJITH AKIL |
| 2 | 15RUEE002 | 963515105002 | AJITH KUMAR. I |
| 3 | 15RUEE004 | 963515105004 | AJITH KUMAR. S |
| 4 | 15RUEE005 | 963515105005 | AKSHA RABUNJEE. T |
| 5 | 15RUEE006 | 963515105006 | AMIRTHA |
| 6 | 15RUEE007 | 963515105007 | ANISH BELL. M |
| 7 | 15RUEE008 | 963515105008 | ANITHYA. N |
| 8 | 15RUEE009 | 963515105009 | ANNIE AKSHAYA. B |
| 9 | 15RUEE010 | 963515105010 | ASHA RANI. P |
| 10 | 15RUEE011 | 963515105011 | ASHMI BRANISHA. R.T |
| 11 | 15RUEE012 | 963515105012 | BALAJI T |
| 12 | 15RUEE013 | 963515105013 | DARBIYA. D |
| 13 | 15RUEE014 | 963515105014 | GEUKELAN. S |
| 14 | 15RUEE015 | 963515105015 | JENISH. C |
| 15 | 15RUEE016 | 963515105016 | LIVINGSTON. S |
| 16 | 15RUEE017 | 963515105017 | MANIKANDAN. S |
| 17 | 15RUEE018 | 963515105018 | MONIKANDAN. K |
| 18 | 15RUEE019 | 963515105019 | MUGESH BABU. M |
| 19 | 15RUEE021 | 963515105021 | PRAVIN. T.N |
| 20 | 15RUEE022 | 963515105022 | RAHUL. R |
| 21 | 15RUEE023 | 963515105023 | SIVAN VIJAY. M |
| 22 | 15RUEE024 | 963515105024 | SUTHIN. M.K |
| 23 | 15RUEE025 | 963515105025 | THANISHA. H |
| 24 | 16LUEE001 | 963515105301 | ASHIKA K M |
| 25 | 16LUEE002 | 963515105302 | SUBASHINI V T |

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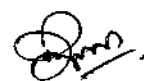


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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE PLAN: MATLAB


| S.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode |
|-------|-----------------------------------|-------------------------------------|---|-------------------------------|
| 1 | 1 | 1 | Warm-up, Arithmetic Operations, Complex numbers | PPT |
| 2 | 1 | 2 | Array indexing, allocating memory | Model /Project based learning |
| 3 | 1 | 3 | Special characters and functions | Model /Project based learning |
| 4 | 1 | 6 | Control flow, Plotting, Programming in MATLAB (M-files) | Model /Project based learning |
| 5 | 2 | 8 | MATLAB sound, Loading and saving data | Model /Project based learning |
| 6 | 2 | 10 | Introduction to Time shifting, | Model /Project based learning |
| 7 | 1 | 11 | signal addition, and signal multiplication | Model /Project based learning |
| 8 | 2 | 13 | Generation of Unit step signal-unit rectangular pulse | PPT |
| 9 | 1 | 14 | unit ramp signal, unit triangular pulse | Model /Project based learning |
| 10 | 1 | 15 | sine and cosine signal. | Model /Project based learning |
| 11 | 2 | 17 | Introduction to time scaling | Model /Project based learning |
| 12 | 2 | 19 | Introduction-Types of diodes | PPT |
| 13 | 2 | 21 | Implementation of diode model, creation of PN junction diode in Simulink | Model /Project based learning |
| 14 | 2 | 23 | creation of Zener diode in Simulink | PPT |
| 15 | 2 | 25 | single-diode and two-diode PV cell modeling using MATLAB for studying characteristics of solar cell under varying conditions. | PPT |

| | | | | |
|----|---|----|--|-------------------------------|
| 16 | 1 | 26 | Circuit modeling parameters | PPT |
| 17 | 1 | 27 | Implementation of IGBT mode | PPT |
| 18 | 2 | 29 | N-Channel IGBT, Behavior of IGBT using MATLAB Simulink | PPT |
| 19 | 2 | 31 | GBT dynamic characteristics using Simulink. Modelling of IGBT and Gate unit. | PPT |
| 20 | 2 | 33 | IGBT interaction in a chopper cell using MATLAB and Simulink | PPT |
| 21 | 2 | 35 | Implementation of MOSFET | Model /Project based learning |
| 22 | 1 | 36 | Behavior of MOSFET using MATLAB Simulink. | Model /Project based learning |
| 23 | 1 | 37 | MOSFET characteristics using Simulink | Model /Project based learning |
| 24 | 1 | 38 | Modelling of MOSFET using simulink, | Model /Project based learning |
| 25 | 2 | 40 | Ideal N-channel MOSFET for switching applications, MOSFET model for power converter applications | Model /Project based learning |



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Year/Sem: III/EVEN

Academic year: 2016-2017

VALUE ADDED COURSE

1. Name of the course and course code: LAB VIEW- VCLW006

2. Description:

Laboratory virtual instrument engineering work bench is a system- design platform and development environment for a visual programming language from national instruments.

3. Syllabus:

- **CHAPTER1 Introduction to LABVIEW**

Navigating LabVIEW- windows, menus, and tools, LabVIEW front panel and block diagram, Searching for controls, Vis, and functions, Creating First Application- dataflow programming model of LabVIEW, Tools for developing, cleaning and organizing your VI and Recognizing different data types

- **CHAPTER 2 Loops and structures**

While Loop and For Loop, Adding software timing to the code, Sharing data between loop iterations, Plotting data to a waveform chart, Creating and using array controls and indicators, Creating and using cluster controls and indicators, Using type definitions to improve reuse of data structures in applications

- **CHAPTER 3 Acquiring Measurements with Hardware**

Programming with the DAQmx API, Instrument control and programming with instrument drivers, High-level and low-level file I/O functions available in LabVIEW, Implementing File I/O functions to read and write data to files

- **CHAPTER 4 Machine Programming**

Overview of machine design pattern, Techniques for sequential programming, state programming, Implementing a state machine design pattern, Basics of modular programming, Creating an icon and connector pane and Creating subVIs from an existing VI.

- **CHAPTER 5 Experimental circuits**

Code conversions, Verification of logic gates, Half and full adder, Multiplexer and demultiplexer, Arithmetic operations

4. Course handled by: Darcy Gnana Jegha, A AP/EEE

5. Course duration: 40 Hrs

6. List of students:

No. of students enrolled: 11

| SL.NO | ROLL NO | REGISTER NO. | NAME OF THE STUDENT |
|-------|-----------|--------------|-----------------------|
| 1 | 14RUEE001 | 963514105001 | ABIYAS |
| 2 | 14RUEE002 | 963514105002 | ANTONY RAJA GLADSON T |
| 3 | 14RUEE003 | 963514105003 | INFANT JOSEPH |
| 4 | 14RUEE004 | 963514105004 | LEOSHEPRIN. K |
| 5 | 14RUEE005 | 963514105005 | PRATHEEP KUMAR |
| 6 | 14RUEE006 | 963514105006 | THAMEEN ANSARI. S |
| 7 | 15LUEE001 | 963514105301 | JEYA PRAKASH. A |
| 8 | 15LUEE002 | 963514105302 | PETER HELSTEN. M.S. |
| 9 | 15LUEE003 | 963514105303 | SAHAYA ABISHA. S |
| 10 | 15LUEE004 | 963514105304 | SIBIN. A.S |
| 11 | 15LUEE005 | 963514105305 | VIMAL KUMAR. M |

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE PLAN: LABVIEW

| S.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode |
|-------|-----------------------------------|-------------------------------------|--|-------------------------------|
| 1 | 1 | 1 | Navigating LabVIEW- windows, menus, and tools | PPT |
| 2 | 1 | 2 | LabVIEW front panel and block diagram | Model /Project based learning |
| 3 | 1 | 3 | Searching for controls, VIs, and functions | Model /Project based learning |
| 4 | 1 | 6 | Creating First Application- dataflow programming model of LabVIEW | Model /Project based learning |
| 5 | 2 | 8 | Tools for developing, cleaning and organizing your VI and Recognizing different data types | Model /Project based learning |
| 6 | 2 | 10 | Tools for developing, cleaning and organizing your VI and Recognizing different data types | Model /Project based learning |
| 7 | 1 | 11 | Sharing data between loop iterations. | Model /Project based learning |
| 8 | 2 | 13 | Plotting data to a waveform chart, | PPT |
| 9 | 1 | 14 | Creating and using array controls and indicators, | Model /Project based learning |
| 10 | 1 | 15 | Creating and using cluster | Model /Project based learning |
| 11 | 2 | 17 | controls and indicators, | Model /Project based learning |
| 12 | 2 | 19 | Using type definitions to improve reuse of data structures in applications | PPT |
| 13 | 2 | 21 | Programming with the DAQmx API | Model /Project based learning |
| 14 | 2 | 23 | Techniques for sequential programming. | PPT |
| 15 | 2 | 25 | State programming | PPT |

| | | | | |
|----|---|----|---|-------------------------------|
| 16 | 1 | 26 | Implementing a state machine design pattern | PPT |
| 17 | 1 | 27 | Basics of modular programming. | PPT |
| 18 | 2 | 29 | Creating an icon and connector pane | PPT |
| 19 | 2 | 31 | Creating subVIs from an existing VI. | PPT |
| 20 | 2 | 33 | Half and full adder | Model /Project based learning |
| 21 | 2 | 35 | Multiplexer and demultiplexer | Model /Project based learning |
| 22 | 1 | 36 | Code conversions | Model /Project based learning |
| 23 | 1 | 37 | Verification of logic gates | Model /Project based learning |
| 24 | 1 | 38 | Verification of logic gates | Model /Project based learning |
| 25 | 2 | 40 | Arithmetic operations | Model /Project based learning |



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Year/Sem: IV /EVEN

Academic year: 2016-2017

VALUE ADDED COURSE

1. Name of the course and course code: ENERGY AUDITING – VCEG008

2. Description:

An energy audit is the general term for a systematic procedure that aims at obtaining an adequate knowledge of the energy consumption profile of a building or an industrial plant. It also aims at identifying and scaling the cost-effective energy saving opportunities for the unit. Energy audits are crucial in the implementation of energy saving measures and in the assurance of the targets of energy management.

3. Syllabus:

Energy auditing (EA) is based on the capability to perform an investigation on the energy installations as well as on the building shell. The complete procedure involves the following three stages of registration/data collection and diagnosis:

- Stage 1: Scheduling an Energy Audit - Collection of primary data & preliminary analysis of energy
- Stage 2: Execution strategies of framed plans
- Stage 3 : Walk through brief energy audit
- Stage 4: In-site through energy audit
- Stage 5 : Preparation of report

4. Course handled by: MR.SARAVANAN.R, H.O.D/EEE

5. Course duration: 40 Hrs

6. List of students:

No. of students enrolled: 16

| Sl. No | Roll No | Register No | Name of the Student |
|--------|-----------|--------------|---------------------|
| 1 | 13RUEE001 | 963513105001 | ABISHA RESHMA.V |
| 2 | 13RUEE002 | 963513105002 | AJITH DANIEL.D |
| 3 | 13RUEE003 | 963513105003 | ANANTH.V |
| 4 | 13RUEE004 | 963513105004 | ASWINI KUMARI.A.S |
| 5 | 13RUEE005 | 963513105005 | BALANAVEEN.T |
| 6 | 13RUEE006 | 963513105006 | DHINESH. C |
| 7 | 13RUEE009 | 963513105009 | JOY ALEX D |
| 8 | 13RUEE010 | 963513105010 | KALPANA.K |
| 9 | 13RUEE011 | 963513105011 | MANIKANDAN.G |
| 10 | 13RUEE012 | 963513105012 | MARY STANCY. S |
| 11 | 13RUEE013 | 963513105013 | NIBIN.S |
| 12 | 13RUEE014 | 963513105014 | RAKSHANA. V |
| 13 | 13RUEE015 | 963513105015 | RENJITH MANISHA.D |
| 14 | 13RUEE016 | 963513105016 | SEKITHA. K.T |
| 15 | 13RUEE018 | 963513105018 | VIJAY.A.J |
| 16 | 13RUEE019 | 963513105019 | VIJAY.S |

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE PLAN: ENERGY AUDITING

| S.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode |
|-------|-----------------------------------|-------------------------------------|---|---------------|
| 1 | 4 | 4 | Scheduling an Energy Audit | PPT |
| 2 | 4 | 8 | Collection of primary data & preliminary analysis of energy | Field work |
| 3 | 5 | 13 | Execution strategies of framed plans | Field work |
| 4 | 15 | 28 | Walk through brief energy audit | Field work |
| 5 | 8 | 36 | In-site through energy audit | Field work |
| 6 | 4 | 10 | Preparation of report | Field work |

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STELLA MARY'S COLLEGE OF ENGINEERING

Aruthenganvillai, azhikal (po), kanyakumari district-629202

DEPARTMENT OF MECHANICAL ENGINEERING

Course Code: VACM01

Course Name: Autodesk AUTOCAD

DESCRIPTION:

This course is conducted by the Mechanical Engineering departments. AutoCAD is a very popular design and drafting software application. AutoCAD was first released in December 1982 as a desktop app running on microcomputers with internal graphics controllers. Auto cad supports a high degree of customization and automation. It supports both 2D and 3D modeling it helps architectural designers to draw 3D objects, such as walls, doors and windows, with more intelligent data associated with them. AutoCAD is used across a wide range of industries, by architects, project managers, engineers, graphic designers, and many other professionals.

SYLLABUS:

Introduction to auto cad

- Introduction & Review of Previous knowledge
- Capability of Auto Cad
- Starting AUTOCAD
- Various Visualization commands
- Documentation Quick tour
- Creating and Accessing documentation
- Layout and plotting
- Concept of hardware & software

Getting started (principle & concept)

- Starting AUTOCAD.
- AUTOCAD & interface
- Setting new drawing.
- Accessing command
- Opening & saving existing file & function keys etc.

Creating objects (co ordinate system)

- Co-ordinates system and their type.
- Drawing line objects
- Drawing curve objects and solid filled areas.

Editing methods and controlling drawing display

- Working with named objects
- Editing objects using the object property tool bar and various method
- Zooming & Panning drawing, redrawing screen, regenerating the drawing

Drawing with precision

- Adjusting snap & Grid alignment using Ortho mode
- Using object snap and object tracking methods

Layer management

- Understanding the concept and use of layers
- Working with Layer

Basic dimensioning, geometric dimensioning & tolerancing. Adding text to drawing

- Need for Dimensioning
- Detailed discussion on Dimensioning and tolerance method in AUTOCAD
- Editing method

- Adding text with various engineering symbols

Working with block and defining block attributes

- Concept of block, formation of block, Attribute definition
- DD attribute and edit block
- Insert, Modify, renaming block

Isometric drawing layout & plotting

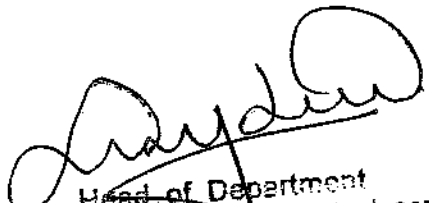
- Concept of Isometric Drawing, axes and planes Defining the paper setting
- View ports


Getting started with 3D & working in 3D space

- Overview of 3D model
- Solid modelling in AutoCAD (creating ,editing and modification technique)

Reating surface model

- Surface modelling in AutoCAD (creating, editing and modification technique)
- Converting wire frame models in to surface model


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 Dr. R. Suresh, B.Tech, M.Tech, Ph.D.
 Professor
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 KANYAKUMARI DISTRICT

COURSE PLAN

| S.No | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode | Assessments (Periodical Tests/Quiz/Assignments) |
|------|-----------------------------------|-------------------------------------|--|-------------------------------------|---|
| 1 | 4 | 4 | <ul style="list-style-type: none"> • Introduction & Review of Previous knowledge • Capability of Auto Cad • Starting AUTOCAD • Various Visualization commands • Documentation Quick tour • Creating and Accessing documentation • Layout and plotting • Concept of hardware & software | ppt / Model /Project based learning | (Periodical Tests/Quiz/) |
| 2 | 3 | 7 | <ul style="list-style-type: none"> • Starting AUTOCAD. • AUTOCAD & interface • Setting new drawing. • Accessing command • Opening & saving existing file & function keys etc. | Model /Project based learning | (Periodical Tests/Quiz/) |
| 3 | 4 | 11 | <ul style="list-style-type: none"> • Co-ordinates system and their type. • Drawing line objects • Drawing curve objects and solid filled areas. | Model /Project based learning | (Periodical Tests/Quiz/) |

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| 4 | 3 | 14 | <ul style="list-style-type: none"> Working with named objects Editing objects using the object property tool bar and various method Zooming & Panning drawing, redrawing screen, regenerating the drawing | Model /Project based learning | (Periodical Tests/Quiz/) |
| 5 | 4 | 18 | <ul style="list-style-type: none"> Adjusting snap & Grid alignment using Ortho mode Using object snap and object tracking methods. | Model /Project based learning | (Periodical Tests/Quiz/) |
| 6 | 2 | 20 | <ul style="list-style-type: none"> Understanding the concept and use of layers Working with Layer | Model /Project based learning | (Periodical Tests/Quiz/) |
| 7 | 4 | 24 | <ul style="list-style-type: none"> Need for Dimensioning Detailed discussion on Dimensioning and tolerance method in AUTOCAD Editing method Adding text with various engineering symbols | Model /Project based learning | (Periodical Tests/Quiz/) |
| 8 | 4 | 28 | <ul style="list-style-type: none"> Concept of block, formation of block, Attribute definition DD attribute and edit block Insert, Modify, renaming block | Model /Project based learning | (Periodical Tests/Quiz/) |
| 9 | 4 | 32 | <ul style="list-style-type: none"> Concept of Isometric Drawing, axes and planes Defining | Model /Project | (Periodical Tests/Quiz/) |

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| | | | the paper setting • View ports | based learning | |
| 10 | 4 | 36 | • Overview of 3D model • Solid modelling in AutoCAD (creating ,editing and modification technique) | Model /Project based learning | (Periodical Tests/Quiz/) |
| 11 | 4 | 40 | • Surface modelling in AutoCAD (creating, editing and modification technique) • Converting wire frame models in to surface model | Model /Project based learning | (Periodical Tests/Quiz/) |

Note: Delivery Mode-

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- 4. Model /Project based learning-** Demonstration done using models/Projects

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Aruthenganvillai, azhikal (po), kanyakumari district-629202

DEPARTMENT OF MECHANICAL ENGINEERING

Course Code: VACM02

Course Name: CNC Programming- Lathe and Milling

DESCRIPTION:

CNC stands for computer numerical control. CNC can be used with nearly any traditional machine. The most common CNC machines found in the machine shop include machining centers (mills) and turning centers (lathes). This course will explain operations performed with the help of CNC. Computer numerically controlled or CNC programming courses teach students to develop and run the CNC machine programs needed to shape and cut precision parts used in many industries.

The students will understand the concepts G and M codes and manual part programming and know the application of various CNC machines. The students will understand impart CNC part programming skills for turning and milling applications and give a good exposure of CAM software in order to perform simulation and to generate CL data.

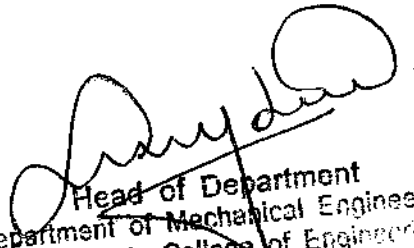
SYLLABUS:


Manual CNC part programming – CNC lathe

- ✓ Manual CNC Part Programming Using Standard G and M Codes for CNC Lathe
- ✓ Tool Path Simulation
- ✓ Exposure to Various Standard Control Systems Machining simple components by Using CNC Production Lathe.

Manual CNC part programming – CNC milling

- ✓ Manual CNC Part Programming Using Standard G and M Codes for CNC Milling Machine
- ✓ Tool Path Simulation
- ✓ Exposure to various Standard Control Systems
- ✓ Machining simple components by Using CNC trainer milling machines.


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Kanyakumari District-629 202, Tamil Nadu

COURSE PLAN

| S.No | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode | Assessments (Periodical Tests/Quiz/ Assignments) |
|------|-----------------------------------|-------------------------------------|---|-------------------------------------|--|
| 1 | 8 | 8 | Manual CNC Part Programming Using Standard G and M Codes for CNC Lathe | ppt / Model /Project based learning | (Periodical Tests/Quiz/) |
| 2 | 12 | 20 | Tool Path Simulation – Exposure to Various Standard Control Systems Machining simple components by Using CNC Production Lathe. | Model /Project based learning | (Periodical Tests/Quiz/) |
| 3 | 8 | 28 | Manual CNC Part Programming Using Standard G and M Codes for CNC Milling Machine | Model /Project based learning | (Periodical Tests/Quiz/) |
| 4 | 12 | 40 | Tool Path - Simulation - Exposure to various Standard Control Systems- Machining simple components by Using CNC trainer milling machines. | Model /Project based learning | (Periodical Tests/Quiz/) |

Note: Delivery Mode-

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STELLA MARY'S COLLEGE OF ENGINEERING

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DEPARTMENT OF MECHANICAL ENGINEERING

Course Code: VACM06

Course Name: Non Destructive Testing (NDT)

DESCRIPTION:

This course provides students a synopsis of non-destructive and destructive evaluation methods that are used in evaluation of welds. This includes understanding the basic principles of various NDT methods, fundamentals, discontinuities in different product forms, importance of NDT, applications, limitations of NDT methods and techniques and codes, standards and specifications related to non-destructive testing technology. Students also will be introduced to relevant quality assurance and quality control requirements in accordance with ASQ, ASME, and ANSI standards.

COURSE PLAN

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|------|-----------------------------------|-------------------------------------|--|-------------------------------------|---|
| 1 | 5 | 5 | Liquid penetrant systems – processing cycles – inspection of surface defects | ppt / Model /Project based learning | (Periodical Tests/Quiz/) |
| 2 | 5 | 10 | Generation of Magnetic fields – Magnetic particle inspection equipments – Demagnetization – Applications and limitations. | Model /Project based learning | (Periodical Tests/Quiz/) |
| 3 | 10 | 20 | Production of x-rays – Characteristic rays and white ray – Tube current and Voltage – Sources of 8 rays – Half life period | Model /Project based learning | (Periodical Tests/Quiz/) |
| 4 | 10 | 30 | Penetrating power – Absorption of x and y rays–Radiation contrast and film contrast – exposure charts – pentameters and sensitivity– Safety. | Model /Project based learning | (Periodical Tests/Quiz/) |
| 5 | 5 | 35 | Eddy current production – Impedance concepts | Model /Project based learning | (Periodical Tests/Quiz/) |
| 6 | 10 | 45 | Inspection of magnetic materials | Model /Project | (Periodical Tests/Quiz/) |

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| | | | - Inspection of non magnetic materials – influences of various parameters - Advantages and limitations. | based learning | |
| 7 | 5 | 50 | Production of ultrasonic waves – Different types of waves | Model /Project based learning | (Periodical Tests/Quiz/) |
| 8 | 5 | 55 | Normal beam inspection – Angle beam inspection – thickness measurements – Applications. | Model /Project based learning | (Periodical Tests/Quiz/) |
| 9 | 10 | 65 | Non destructive inspection- Instrumentation for non destructive testing | Model /Project based learning | (Periodical Tests/Quiz/) |
| 10 | 10 | 75 | Principles of holography- Principle of acoustic emission – Applications of holographic techniques- advantages and limitations – Other techniques. | Model /Project based learning | (Periodical Tests/Quiz/) |
| 11 | 85 | 160 | Practical | | |

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DEPARTMENT OF INFORMATION TECHNOLOGY

VALUE ADDED COURSE

2016-2017(ODD)

COURSE CODE /COURSE NAME: VAC 04/ SCRIPTING LANGUAGE

COURSE IN-CHARGE : Ms.Y.Prasheeba

CLASS: IV YEAR IT(BATCH 2013-2017)

CLASS:S7/IV CSE

COURSE DESCRIPTION:

Scripting languages represent a very different style of programming compared to traditional programming languages. They are designed for "gluing" applications - composing new programs by combining existing applications - components. That approach leads to higher level of programming and more rapid application development. In this course students explore the nature of scripting and their application areas. Scripting languages require very different style of programming than system programming languages such as C or Java. Scripting languages are typically used for "gluing" applications together. Scripting languages are often typeless and usually provide methods for higher level of programming and more rapid development of applications than typical system programming languages. This course provides an introduction to the script programming paradigm, and introduces and compares a range of scripting languages used for Unix and Web-based applications. The topics include Introduction to scripting languages including basic data types, control structures, regular expressions, input/output, and textual analysis.

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SYLLABUS:

Module 1 : JavaScript Introduction

Module 2:-Variable declaration-Operators-Control Statements-Error Handling-Understanding arrays-Function Declaration

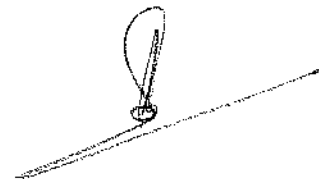
Module 3: Built In Functions - Built In Functions - Standard Date and Time Functions

Module 4: HTML Document object Model - Working with HTML form and its elements

Module 5: HTML Document object Model - Working with HTML form and its elements - Other Document Object Model

Module 6: -Working with cookies

Module 7: Working with Objects - Call method in JavaScript - Inheritance in JavaScript using prototype.



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STUDENTS ENTROLLED :

CLASS: IVYEAR IT(BATCH 2013-2017)

| <i>Sl. NO</i> | <i>Roll No.</i> | <i>Register No.</i> | <i>Name of the Student</i> |
|---------------|-----------------|---------------------|----------------------------|
| 1 | 13RUIT002 | 963513205002 | ANTONY FERDLIN.A.R |
| 2 | 13RUIT003 | 963513205003 | ANU GRAHA.V |
| 3 | 13RUIT004 | 963513205004 | AROCKIA MAXWIN NOIL.M |
| 4 | 13RUIT005 | 963513205005 | KAVIYA.K |
| 5 | 13RUIT006 | 963513205006 | LEBIN. S |
| 6 | 13RUIT008 | 963513205008 | NATHIL. K |
| 7 | 13RUIT009 | 963513205009 | SANGEETHA. B.S. |
| 8 | 13RUIT010 | 963513205010 | SARMI DASYMOL.B |
| 9 | 13RUIT012 | 963513205012 | SUBHA.T |
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COURSE PLAN: SCRIPTING LANGUAGE

| S.No. | No. of periods required to handle | No. of periods handled (cumulative) | Course content | Delivery mode | Assessments (Periodical Tests/Quiz/Assignments) |
|-------|-----------------------------------|-------------------------------------|---|-------------------------------|---|
| 1 | 1 | 1 | Module 1 : JavaScript Introduction | PPT | (Periodical Tests/Quiz/Assignments) |
| 2 | 1 | 2 | Module 2:-Variable declaration | PPT | (Periodical Tests) |
| 3 | 2 | 5 | Operators | PPT | (Periodical Tests) |
| 4 | 2 | 7 | Control Statements | PPT | (Periodical Tests) |
| 5 | 2 | 9 | Error Handling | PPT | (Periodical Tests) |
| 6 | 2 | 11 | Understanding arrays-EXAMPLE | PPT | (Periodical Tests) |
| 7 | 2 | 13 | Function Declaration | PPT | (Periodical Tests) |
| 8 | 1 | 14 | Module 3: Built In Functions | PPT | (Periodical Tests) |
| 9 | 2 | 16 | Built In Functions | PPT | (Periodical Tests/Quiz/Assignments) |
| 10 | 2 | 18 | Standard Date and Time Functions | Model /Project based learning | (Periodical Tests) |
| 11 | 2 | 20 | Module 4: HTML Document object Model | Model /Project based learning | (Periodical Tests) |
| 12 | 2 | 22 | Working with HTML form and its elements | Model /Project based learning | (Periodical Tests) |
| 13 | 2 | 24 | Module 5: HTML Document object Model | Model /Project based learning | (Periodical Tests) |
| 14 | 2 | 26 | Working with HTML form and its elements | Model /Project based learning | (Periodical Tests) |
| 15 | 2 | 28 | Working with HTML form and its elements-Example | Model /Project based learning | (Periodical Tests) |
| 16 | 3 | 31 | Other Document Object Model | Model /Project based learning | (Periodical Tests/Quiz/Assignments) |
| 17 | 3 | 34 | Module 6: -Working with cookies | Model /Project based learning | (Periodical Tests/Quiz/Assignments) |

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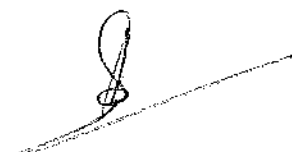
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| | | | | | |
|---|---|----|--|-------------------------------|--------------------------------------|
| 18 | 2 | 36 | Module 7: Working with Objects - | Model /Project based learning | (Periodical Tests/Quiz/ Assignments) |
| 19 | 2 | 38 | Call method in JavaScript - | Model /Project based learning | (Periodical Tests/Quiz/ Assignments) |
| 20 | 2 | 40 | Inheritance in JavaScript using prototype. | Model /Project based learning | (Periodical Tests/Quiz/ Assignments) |
| <p>Note: Delivery Mode-</p> <p>1. Participative Learning- Interaction between Staff and Student during lecture(Seminar/Quiz etc..)</p> <p>2. Flipped Class room – Discussion on Content circulated through Google Classroom</p> <p>3. Experiential Learning- Lab or Field based demonstrative learning</p> <p>4. Model /Project based learning- Demonstration done using models/Projects</p> | | | | | |



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