Department of Computer Science & Engineering And Allied Branches

R. D. Engineering College, Ghaziabad
Department of Computer Science & Engineering

Date: 05th SEP, 2019

Notice

All the students of CSE III Sem, II year (Batch-1) are hereby informed that department is going to run an add on course on Core JAVA from 09 SEP 2019.

This Core JAVA Course Syllabus is designed to bridge the curriculum and industry gap. After completing the course you will be able to do some basic project to enhance your skills.

All Students are required to attend this course.

R.D. Engineering College Head, CSE Ghaziabad

(Head, CSE)

CC:

Director

IQAC

Director
R.D. Engineering College
Duhai, Ghaziabad

Departmental Notice Board

Encls:

Syllabus of course

Schedule of course

Course Contents

R. D. Engineering College, Ghaziabad
Department of Computer Science & Engineering

Date: 26th SEP, 2019

Notice

All the students of CSE III Sem, II year (Batch-2) are hereby informed that department is going to run an add on course on Core JAVA from 30 SEP 2019.

This Core JAVA Course Syllabus is designed to bridge the curriculum and industry gap. After completing the course you will be able to do some basic project to enhance your skills.

All Students are required to attend this course.

(Head, CSE)

R.D. Engineering College Ghaziabad Head CSE

CC:

Director

IQAC

Director
R.D. Engineering College
Duhai, Ghaziabad

Departmental Notice Board

Encls:

Syllabus of course

Schedule of course

Course Contents

R D ENGINEERING COLLEGE, GHAZIABAD

CORE JAVA

Add On Course for B.Tech (CSE/IT)

MODULE 2019-20(ODD SEM)

Curriculum objectives

Upon completion of this course, students will be able to do the following:

1. Mastery of Java syntax and basic programming concepts

Participants should be proficient in Java syntax and be able to write basic Java programs using variables, data types, operators, conditional statements, loops, and arrays.

2. Understanding of object-oriented programming (OOP)

Participants should understand the basic concepts of OOP, such as classes, objects, encapsulation, inheritance, and polymorphism. They should be able to design and implement simple Java classes.

3. Familiarity with Java APIs and packages

Participants should be familiar with Java APIs and packages such as String, Wrapper classes, Date and Time APIs, Collections Framework, and I/O. They should be able to work with these APIs and packages to solve simple programming problems.

4. Proficiency in exception handling

Participants should be able to handle exceptions using try-catch blocks, throw statements, and the finally block. They should be able to create custom exceptions.

5. Understanding of multithreading

Participants should understand the basics of multithreading, such as creating and running threads, thread synchronization, and inter-thread communication.

6. Familiarity with Java GUI programming

Participants should be familiar with Java GUI programming using Swing. They should be able to create basic GUI components, handle events, and use layout managers.

7. Understanding of networking and database connectivity

Participants should understand the basics of networking and database connectivity in Java. They should be able to use the URL connection and socket classes to communicate over the network and use JDBC to connect to a database.

8. Familiarity with software engineering principles and best practices

Participants should be familiar with software engineering principles such as code quality, code reviews, and unit testing. They should be able to write simple, maintainable, and readable code using best practices.

9. Introduction to web development with Java

Participants should be introduced to web development with Java, including Servlets and JSPs. They should understand the basic concepts of web development, such as HTTP requests and responses, session management, and web application deployment.

Duration

Approximately 36 hours, when delivered synchronously by an educator. Detailed timings are provided below. Actual delivery times will vary from class to class and depending on the delivery format.

Delivery methods

This course can be delivered in person with synchronous lectures or with digital training models that students can complete independently.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad
Head CSE

Learning resources

- Lecture materials
- Online multiple-choice knowledge checks
- Lab exercises
- Digital training (optional)
- Video introductions
- Video demos
- Example solutions

Course timing

This table provides the suggested durations for all course activities. Note that the total classroom time for all the modules in this course is 36 hours. Items that are not applicable are marked NA.

Module Title	Lecture (Hrs)	Activity/Lab/ Demo (Hrs)	Total Module (Hrs)
Course Introduction	1	NA	1
Module 1: Cloud Concepts Overview	1	1	2
Module 2: Cloud Economics and Billing	1	1	2
Module 3: AWS Global Infrastructure Overview	1	1	2
Module 4: Cloud Security	1	2	3
Module 5: Networking and Content Delivery	2	2	4
Module 6: Compute	2	3	5
Module 7: Storage	2	3	5
Module 8: Databases	2	2	4
Module 9: Cloud Architecture	2	2	4
Module 10: Automatic Scaling and Monitoring	2	2	4
Total Course Time	17	19	36

Module sections

This section lists the module sections in this course.

Module 1 - Introduction to Java and Programming Concepts

- Introduction to Java and its history
- The Java Virtual Machine (JVM)
- Variables, Data Types, and Operators
- Conditional Statements and Loops
- Arrays

Module 2 - Object-Oriented Programming in Java

- Introduction to OOP and Classes
- Encapsulation and Access Modifiers
- Inheritance and Polymorphism
- Abstract Classes and Interfaces
- Packages

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad
Head CSE

Module 3 - Exception Handling

- Introduction to Exception Handling
- Handling Exceptions with try-catch
- Throwing Exceptions
- Creating Custom Exceptions
- The finally Block

Module 4 - Java APIs and Packages

- String Manipulation
- Wrapper Classes and Autoboxing
- Date and Time APIs
- Working with Files and I/O
- Collections Framework and Generics

Module 5 - Multithreading

- Introduction to Threads
- Creating Threads and Thread States
- Thread Synchronization
- Inter-Thread Communication
- Deadlocks and Starvation

Module 6 - Java GUI Programming

- Introduction to Java Swing
- Creating GUIs with Swing Components
- Event Handling in Swing
- Layout Management in Swing
- Menus and Toolbars

Module 7 - Networking and Database Connectivity

- Introduction to Networking in Java
- URL Connections and Sockets
- Reading and Writing Data over Network
- Introduction to JDBC
- Database Connectivity with JDBC

Module 8 - Web Development with Java

- Introduction to Servlets
- Handling HTTP Requests and Responses
- Module Management
- Introduction to JSP
- Creating JSP pages

Module 9 - Introduction to Spring Framework

- Introduction to Spring Framework
- Spring Core Concepts
- Dependency Injection
- Spring MVC Framework
- Spring Data Access

Module 10 - Java Tools and Best Practices

- Introduction to Java Tools
- Building and Packaging Java Applications
- Debugging and Profiling Java Applications
- Java Best Practices and Code Quality
- Introduction to Agile and Scrum

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CSE
Ghaziabad

COURSE OUTCOMES
of
CORE JAVA

A course on Core Java typically covers the foundational concepts of the Java programming language. Here are common course outcomes for a Core Java course:

1. **Introduction to Java:**
    - Understand the basics of Java programming language, its history, and its role in software development.
2. **Java Development Environment:**
    - Set up and configure the Java development environment, including the Java Development Kit (JDK) and Integrated Development Environment (IDE) like Eclipse or IntelliJ.
3. **Java Syntax and Structure:**
    - Learn the syntax and structure of Java programs.
    - Understand concepts such as variables, data types, operators, and expressions.
4. **Control Flow:**
    - Gain proficiency in using conditional statements (if, else, switch) and loops (for, while, do-while) for flow control in Java programs.
5. **Methods and Functions:**
    - Learn how to define and call methods (functions) in Java.
    - Understand method parameters, return types, and overloading.
6. **Exception Handling:**
    - Explore Java's exception handling mechanism using try, catch, finally, and throw.
    - Understand how to create custom exceptions.
7. **Arrays and Collections:**
    - Learn to work with arrays and collections in Java.
    - Understand the differences between lists, sets, and maps.
8. **File Handling:**
    - Gain knowledge of reading from and writing to files in Java.
    - Understand file I/O operations and handling exceptions related to file operations.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CSE
Ghaziabad

R D Engineering College, Ghaziabad

CORE JAVA

BATCH-1

Add On Course for B.Tech (CSE) SECOND YEAR

Odd Sem. Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	09.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
2	10.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
3	11.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
4	12.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
5	13.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
6	16.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
7	17.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
8	18.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
9	19.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
10	20.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM

Pankaj Singh

Prof. Pankaj Singh
Program Coordinator

R.D. Engineering College Ghaziabad Head CSE

Director
R.D. Engineering College
Duhai, Ghaziabad

R D Engineering College, Ghaziabad

CORE JAVA

BATCH-2

Add On Course for B.Tech (CSE) SECOND YEAR

Odd Sem. Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	30.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
2	01.10.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
3	03.10.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
4	04.10.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
5	07.10.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
6	08.10.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
7	09.10.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
8	10.10.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
9	11.10.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM

Pankaj Singh

Prof. Pankaj Singh
Program Coordinator

R.D. Engineering College Ghaziabad Head CSE

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College, Ghaziabad
Department of Computer Science & Engineering

Date: 05th SEP, 2019

Notice

All the students of CSE V Sem, III year are hereby informed that department is going to run an add on course on Advanced Python from 09 SEP 2019.

This Advanced Python Course Syllabus is designed to bridge the curriculum and industry gap. After completing the course you will be able to do some basic project to enhance your skills.

All Students are required to attend this course.

R.D. Engineering College Ghaziabad Head CSE

(Head, CSE)

CC:

Director

IQAC

Director
R.D. Engineering College
Duhai, Ghaziabad

Departmental Notice Board

Encls:

Syllabus of course

Schedule of course

Course Contents

R D ENGINEERING COLLEGE, GHAZIABAD

ADVANCED PYTHON

Add On Course for B.Tech (CSE)

SESSION 2019-20 ODD SEM

Curriculum objectives

Upon completion of this course, students will be able to do the following:

1. Understanding of advanced Python programming concepts
2. Proficiency in object-oriented programming (OOP).
3. Expertise in data handling and manipulation
4. Mastery of web development with Python
5. Proficiency in machine learning and data science
6. Familiarity with other Python libraries and tools
7. Understanding of Python best practices and code optimization

Duration

Approximately 36 hours, when delivered synchronously by an educator. Detailed timings are providedbelow. Actual delivery times will vary from class to class and depending on the delivery format.

Delivery methods

This course can be delivered in person with synchronous lectures or with digital training models thatstudents can complete independently.

Learning resources

- Lecture materials
- Online multiple-choice knowledge checks
- Lab exercises
- Digital training (optional)
- Video introductions
- Video demos
- Example solutions

Course timing

This table provides the suggested durations for all course activities. Note that the total classroom timefor all the modules in this course is 36 hours. Items that are not applicable are marked NA.

Module Title	Lecture (Hrs)	Activity/Lab/ Demo (Hrs)	Total Module (Hrs)
Course Introduction	1	NA	2
Module 1: **Introduction to OOP**		1	
Module 2: Classes and Objects	1	1	2

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad
Head CSE

Module 3: Encapsulation	1	1	2
Module 4: Inheritance	1	1	2
Module 5: Polymorphism	1	1	2
Module 6: Advanced Topics in OOP	1	1	2
Module 7: Exception Handling	1	1	2
Module 8: File Input/Output	1	1	2
Module 9: Regular Expressions	1	1	2
Module 10: Debugging	1	1	2
Module 11: Unit Testing	1	1	2
Module 12: GUI Programming with Tkinter	1	1	2
Module 13: Database connectivity with SQLite	1	1	2
Module 14: Web Scrapping	1	1	2
Module 15: Working With JSON	1	1	2
Module 16: Multithreading	1	1	2
Module 17: Networking with Socket	1	1	2
Module 18: Minor project.	1	1	2
Total Course Time	18	18	36

Module sections

This section lists the module sections in this course.

Course Introduction

- Course objectives and overview

Module 1: Introduction to OOP

- Overview of OOP
- Benefits of OOP
- Terminology (classes, objects, attributes, methods, encapsulation, inheritance, polymorphism)
- Introduction to Python syntax for OOP

Module 2: Classes and Objects

- Creating classes in Python
- Instantiating objects
- Accessing attributes and methods of objects
- Class and instance variables

Module 3: Encapsulation

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad
Head CSE

- Public, private, and protected access modifiers
- Encapsulation and information hiding
- Properties and getters/setters

Module 4: Inheritance

- Extending classes with inheritance
- Base and derived classes
- Overriding methods
- Super() function

Module 5: Polymorphism

- Polymorphism and dynamic binding
- Method overriding
- Abstract classes and interfaces
- Duck typing

Module 6: Advanced Topics in OOP

- Multiple inheritance
- Method resolution order
- Mixins and composition
- Diamond problem

Module 7: Exception Handling

- Types of exceptions
- Try-except statements
- Handling multiple exceptions
- Raising exceptions

Module 8: File Input/Output

- Reading and writing to files
- File modes
- Text files vs binary files
- Using 'with' statements

Module 9: Regular Expressions

- Regular expression syntax
- Match object
- Search and replace
- Regex in Python

Module 10: Debugging

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad
Head CSE

- Common debugging techniques
- Debugging tools in Python
- Using pdb module
- Logging

Module 11: Unit Testing

- Introduction to unit testing
- Writing test cases
- Running test cases
- Pytest framework

Module 12: GUI Programming with Tkinter

- Introduction to GUI programming
- Tkinter module
- Creating widgets
- Handling events

Module 13: Database Connectivity with SQLite

- Introduction to databases
- SQLite database
- Connecting to database
- Querying and modifying data

Module 14: Web Scraping with Beautiful Soup

- Introduction to web scraping
- Beautiful Soup module
- Parsing HTML/XML data
- Navigating the parsed data

Module 15: Working with JSON

- Introduction to JSON
- JSON syntax
- Encoding and decoding JSON data
- Using JSON in Python

Module 16: Multithreading

- Introduction to multithreading
- Creating threads
- Synchronizing threads
- Thread pools

Module 17: Networking with Sockets

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College * Ghaziabad
Head CSE

- Introduction to networking
- Sockets in Python
- Creating server and client sockets
- Sending and receiving data

Module 18: Minor project

Participants will work on a final project that applies the concepts learned throughout the course. The project should involve OOP principles and at least one other topic covered in the course (e.g. file I/O, web scraping, multithreading, etc.). Participants will present their projects and receive feedback from the instructor and other participants.

Director
R.D. Engineering College
Duhai, Ghaziabad

Head CSE
R.D. Engineering College Ghaziabad

COURSE OUTCOMES
of
ADVANCED PYTHON

An advanced Python course builds upon the foundational knowledge acquired in a basic Python course and delves into more sophisticated topics and programming techniques. Here are some common course outcomes for an advanced Python course:

1. **Advanced Data Structures:**
    - Explore advanced data structures such as stacks, queues, linked lists, and trees.
    - Understand when and how to use these data structures in different scenarios.
2. **Decorators and Generators:**
    - Learn the concept of decorators and how they can be used to modify the behaviour of functions.
    - Understand generators and their role in creating iterable sequences.
3. **Database Connectivity:**
    - Explore database access in Python using libraries like SQLAlchemy or the built-in SQLite module.
    - Understand how to connect to and manipulate databases.
4. **Web Development with Flask/Django (Optional):**
    - Introduction to web development using popular frameworks like Flask or Django.
    - Learn about routing, templates, and building web applications.
5. **Testing and Test-Driven Development (TDD):**
    - Understand testing frameworks like **unittest** or **pytest**.
    - Learn the principles of Test-Driven Development and how to write effective tests.
6. **Advanced Object-Oriented Programming (OOP):**
    - Deepen your understanding of OOP principles and design patterns.
    - Explore more complex concepts like abstract classes, interfaces, and multiple inheritance.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College * Ghaziabad
Head
CSE

R D Engineering College, Ghaziabad

ADVANCED PYTHON

BATCH-1

Add On Course for B.Tech (CSE) THIRD YEAR

Odd Sem. Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	09.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
2	10.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
3	11.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
4	12.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
5	13.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
6	16.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
7	17.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
8	18.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
9	19.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
10	20.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM

Prof. Manas Tripathi
Program Coordinator

R.D. Engineering College Head CSE Ghaziabad

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College, Ghaziabad
Department of Computer Science & Engineering

Date: 07th FEB, 2020

Notice

All the students of CSE VI Sem, III year are hereby informed that department is going to run an add on course on Advanced Python from 10 FEB 2020.

This Advanced Python Course Syllabus is designed to bridge the curriculum and industry gap. After completing the course you will be able to do some basic project to enhance your skills.

All Students are required to attend this course.

R.D. Engineering College Ghaziabad Head CSE

(Head, CSE)

CC:

Director

IQAC

Director
R.D. Engineering College
Duhai, Ghaziabad

Departmental Notice Board

Encls:

Syllabus of course

Schedule of course

Course Contents

R D ENGINEERING COLLEGE, GHAZIABAD

ADVANCED PYTHON

Add On Course for B.Tech (CSE)

SESSION 2019-20 EVEN SEM

Curriculum objectives

Upon completion of this course, students will be able to do the following:

1. Understanding of advanced Python programming concepts
2. Proficiency in object-oriented programming (OOP)
3. Expertise in data handling and manipulation
4. Mastery of web development with Python
5. Proficiency in machine learning and data science
6. Familiarity with other Python libraries and tools
7. Understanding of Python best practices and code optimization

Duration

Approximately 36 hours, when delivered synchronously by an educator. Detailed timings are providedbelow. Actual delivery times will vary from class to class and depending on the delivery format.

Delivery methods

This course can be delivered in person with synchronous lectures or with digital training models thatstudents can complete independently.

Learning resources

- Lecture materials
- Online multiple-choice knowledge checks
- Lab exercises
- Digital training (optional)
- Video introductions
- Video demos
- Example solutions

Course timing

This table provides the suggested durations for all course activities. Note that the total classroom timefor all the modules in this course is 36 hours. Items that are not applicable are marked NA.

Module Title	Lecture (Hrs)	Activity/Lab/ Demo (Hrs)	Total Module (Hrs)
Course Introduction	1	NA	2
Module 1: **Introduction to OOP**		1	
Module 2: Classes and Objects	1	1	2

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad
Head CSE

Module 3: Encapsulation	1	1	2
Module 4: Inheritance	1	1	2
Module 5: Polymorphism	1	1	2
Module 6: Advanced Topics in OOP	1	1	2
Module 7: Exception Handling	1	1	2
Module 8: File Input/Output	1	1	2
Module 9: Regular Expressions	1	1	2
Module 10: Debugging	1	1	2
Module 11: Unit Testing	1	1	2
Module 12: GUI Programming with Tkinter	1	1	2
Module 13: Database connectivity with SQLite	1	1	2
Module 14: Web Scrapping	1	1	2
Module 15: Working With JSON	1	1	2
Module 16: Multithreading	1	1	2
Module 17: Networking with Socket	1	1	2
Module 18: Minor project	1	1	2
Total Course Time	18	18	36

Module sections

This section lists the module sections in this course.

Course Introduction

- Course objectives and overview

Module 1: Introduction to OOP

- Overview of OOP
- Benefits of OOP
- Terminology (classes, objects, attributes, methods, encapsulation, inheritance, polymorphism)
- Introduction to Python syntax for OOP

Module 2: Classes and Objects

- Creating classes in Python
- Instantiating objects
- Accessing attributes and methods of objects
- Class and instance variables

Module 3: Encapsulation

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CSE
Ghaziabad

- Public, private, and protected access modifiers
- Encapsulation and information hiding
- Properties and getters/setters

Module 4: Inheritance

- Extending classes with inheritance
- Base and derived classes
- Overriding methods
- Super() function

Module 5: Polymorphism

- Polymorphism and dynamic binding
- Method overriding
- Abstract classes and interfaces
- Duck typing

Module 6: Advanced Topics in OOP

- Multiple inheritance
- Method resolution order
- Mixins and composition
- Diamond problem

Module 7: Exception Handling

- Types of exceptions
- Try-except statements
- Handling multiple exceptions
- Raising exceptions

Module 8: File Input/Output

- Reading and writing to files
- File modes
- Text files vs binary files
- Using 'with' statements

Module 9: Regular Expressions

- Regular expression syntax
- Match object
- Search and replace
- Regex in Python

Module 10: Debugging

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CSE
Ghaziabad

- Common debugging techniques
- Debugging tools in Python
- Using pdb module
- Logging

Module 11: Unit Testing

- Introduction to unit testing
- Writing test cases
- Running test cases
- Pytest framework

Module 12: GUI Programming with Tkinter

- Introduction to GUI programming
- Tkinter module
- Creating widgets
- Handling events

Module 13: Database Connectivity with SQLite

- Introduction to databases
- SQLite database
- Connecting to database
- Querying and modifying data

Module 14: Web Scraping with Beautiful Soup

- Introduction to web scraping
- Beautiful Soup module
- Parsing HTML/XML data
- Navigating the parsed data

Module 15: Working with JSON

- Introduction to JSON
- JSON syntax
- Encoding and decoding JSON data
- Using JSON in Python

Module 16: Multithreading

- Introduction to multithreading
- Creating threads
- Synchronizing threads
- Thread pools

Module 17: Networking with Sockets

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad
Head
CSE

- Introduction to networking
- Sockets in Python
- Creating server and client sockets
- Sending and receiving data

Module 18: Minor project

- Participants will work on a final project that applies the concepts learned throughout the course. The project should involve OOP principles and at least one other topic covered in the course (e.g. file I/O, web scraping, multithreading, etc.). Participants will present their projects and receive feedback from the instructor and other participants.

R.D. Engineering College Ghaziabad
Head CSE

Director
R.D. Engineering College
Duhai, Ghaziabad

COURSE OUTCOMES
of
ADVANCED PYTHON

An advanced Python course builds upon the foundational knowledge acquired in a basic Python course and delves into more sophisticated topics and programming techniques. Here are some common course outcomes for an advanced Python course:

1. **Advanced Data Structures:**
    - Explore advanced data structures such as stacks, queues, linked lists, and trees.
    - Understand when and how to use these data structures in different scenarios.
2. **Decorators and Generators:**
    - Learn the concept of decorators and how they can be used to modify the behaviour of functions.
    - Understand generators and their role in creating iterable sequences.
3. **Database Connectivity:**
    - Explore database access in Python using libraries like SQLAlchemy or the built-in SQLite module.
    - Understand how to connect to and manipulate databases.
4. **Web Development with Flask/Django (Optional):**
    - Introduction to web development using popular frameworks like Flask or Django.
    - Learn about routing, templates, and building web applications.
5. **Testing and Test-Driven Development (TDD):**
    - Understand testing frameworks like **unittest** or **pytest**.
    - Learn the principles of Test-Driven Development and how to write effective tests.
6. **Advanced Object-Oriented Programming (OOP):**
    - Deepen your understanding of OOP principles and design patterns.
    - Explore more complex concepts like abstract classes, interfaces, and multiple inheritance.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CSE
Ghaziabad

R D Engineering College, Ghaziabad

ADVANCED PYTHON

BATCH-1

Add On Course for B.Tech (CSE) THIRD YEAR

EVEN Sem. Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	10.02.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
2	11.02.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
3	12.02.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
4	13.02.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
5	14.02.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
6	17.02.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
7	18.02.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
8	19.02.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
9	20.02.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM

Manas Tripathi

Prof. Manas Tripathi
Program Coordinator

R.D. Engineering College Ghaziabad
Head CSE

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College, Ghaziabad
Department of Computer Science & Engineering

Date: 02 AUG, 2019

Notice

All the students of CSE VII Sem, IV year are hereby informed that department is going to run an add on course on Advanced Python from 05 AUG 2019.

This Advanced Python Course Syllabus is designed to bridge the curriculum and industry gap. After completing the course you will be able to do some basic project to enhance your skills.

All Students are required to attend this course.

R.D. Engineering College Head CSE Ghaziabad

(Head, CSE)

CC:

Director

IQAC

Director
R.D. Engineering College
Duhai, Ghaziabad

Departmental Notice Board

Encls:

Syllabus of course

Schedule of course

Course Contents

R D ENGINEERING COLLEGE, GHAZIABAD

ADVANCED PYTHON

Add On Course for B.Tech (CSE)

SESSION 2019-20 ODD SEM

Curriculum objectives

Upon completion of this course, students will be able to do the following:

1. Understanding of advanced Python programming concepts
2. Proficiency in object-oriented programming (OOP)
3. Expertise in data handling and manipulation
4. Mastery of web development with Python
5. Proficiency in machine learning and data science
6. Familiarity with other Python libraries and tools
7. Understanding of Python best practices and code optimization

Duration

Approximately 36 hours, when delivered synchronously by an educator. Detailed timings are providedbelow. Actual delivery times will vary from class to class and depending on the delivery format.

Delivery methods

This course can be delivered in person with synchronous lectures or with digital training models thatstudents can complete independently.

Learning resources

- Lecture materials
- Online multiple-choice knowledge checks
- Lab exercises
- Digital training (optional)
- Video introductions
- Video demos
- Example solutions

Course timing

This table provides the suggested durations for all course activities. Note that the total classroom timefor all the modules in this course is 36 hours. Items that are not applicable are marked NA.

Module Title	Lecture (Hrs)	Activity/Lab/ Demo (Hrs)	Total Module (Hrs)
Course Introduction	1	NA	2
Module 1: **Introduction to OOP**		1	
Module 2: Classes and Objects	1	1	2

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Head CSE Ghaziabad

Module 3: Encapsulation	1	1	2
Module 4: Inheritance	1	1	2
Module 5: Polymorphism	1	1	2
Module 6: Advanced Topics in OOP	1	1	2
Module 7: Exception Handling	1	1	2
Module 8: File Input/Output	1	1	2
Module 9: Regular Expressions	1	1	2
Module 10: Debugging	1	1	2
Module 11: Unit Testing	1	1	2
Module 12: GUI Programming with Tkinter	1	1	2
Module 13: Database connectivity with SQLite	1	1	2
Module 14: Web Scrapping	1	1	2
Module 15: Working With JSON	1	1	2
Module 16: Multithreading	1	1	2
Module 17: Networking with Socket	1	1	2
Module 18: Minor project.	1	1	2
Total Course Time	18	18	36

Module sections

This section lists the module sections in this course.

Course Introduction

- Course objectives and overview

Module 1: Introduction to OOP

- Overview of OOP
- Benefits of OOP
- Terminology (classes, objects, attributes, methods, encapsulation, inheritance, polymorphism)
- Introduction to Python syntax for OOP

Module 2: Classes and Objects

- Creating classes in Python
- Instantiating objects
- Accessing attributes and methods of objects
- Class and instance variables

Module 3: Encapsulation

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CSE
Ghaziabad

- Public, private, and protected access modifiers
- Encapsulation and information hiding
- Properties and getters/setters

Module 4: Inheritance

- Extending classes with inheritance
- Base and derived classes
- Overriding methods
- Super() function

Module 5: Polymorphism

- Polymorphism and dynamic binding
- Method overriding
- Abstract classes and interfaces
- Duck typing

Module 6: Advanced Topics in OOP

- Multiple inheritance
- Method resolution order
- Mixins and composition
- Diamond problem

Module 7: Exception Handling

- Types of exceptions
- Try-except statements
- Handling multiple exceptions
- Raising exceptions

Module 8: File Input/Output

- Reading and writing to files
- File modes
- Text files vs binary files
- Using 'with' statements

Module 9: Regular Expressions

- Regular expression syntax
- Match object
- Search and replace
- Regex in Python

Module 10: Debugging

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CSE
Ghaziabad

- Common debugging techniques
- Debugging tools in Python
- Using pdb module
- Logging

Module 11: Unit Testing

- Introduction to unit testing
- Writing test cases
- Running test cases
- Pytest framework

Module 12: GUI Programming with Tkinter

- Introduction to GUI programming
- Tkinter module
- Creating widgets
- Handling events

Module 13: Database Connectivity with SQLite

- Introduction to databases
- SQLite database
- Connecting to database
- Querying and modifying data

Module 14: Web Scraping with Beautiful Soup

- Introduction to web scraping
- Beautiful Soup module
- Parsing HTML/XML data
- Navigating the parsed data

Module 15: Working with JSON

- Introduction to JSON
- JSON syntax
- Encoding and decoding JSON data
- Using JSON in Python

Module 16: Multithreading

- Introduction to multithreading
- Creating threads
- Synchronizing threads
- Thread pools

Module 17: Networking with Sockets

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CSE
Ghaziabad

- Introduction to networking
- Sockets in Python
- Creating server and client sockets
- Sending and receiving data

Module 18: Minor project

Participants will work on a final project that applies the concepts learned throughout the course. The project should involve OOP principles and at least one other topic covered in the course (e.g. file I/O, web scraping, multithreading, etc.). Participants will present their projects and receive feedback from the instructor and other participants.

R.D. Engineering College * Ghaziabad
Head CSE

Director
R.D. Engineering College
Duhai, Ghaziabad

COURSE OUTCOMES
of
ADVANCED PYTHON

An advanced Python course builds upon the foundational knowledge acquired in a basic Python course and delves into more sophisticated topics and programming techniques. Here are some common course outcomes for an advanced Python course:

1. **Advanced Data Structures:**
   - Explore advanced data structures such as stacks, queues, linked lists, and trees.
   - Understand when and how to use these data structures in different scenarios.
2. **Decorators and Generators:**
   - Learn the concept of decorators and how they can be used to modify the behaviour of functions.
   - Understand generators and their role in creating iterable sequences.
3. **Database Connectivity:**
   - Explore database access in Python using libraries like SQLAlchemy or the built-in SQLite module.
   - Understand how to connect to and manipulate databases.
4. **Web Development with Flask/Django (Optional):**
   - Introduction to web development using popular frameworks like Flask or Django.
   - Learn about routing, templates, and building web applications.
5. **Testing and Test-Driven Development (TDD):**
   - Understand testing frameworks like **unittest** or **pytest**.
   - Learn the principles of Test-Driven Development and how to write effective tests.
6. **Advanced Object-Oriented Programming (OOP):**
   - Deepen your understanding of OOP principles and design patterns.
   - Explore more complex concepts like abstract classes, interfaces, and multiple inheritance.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad
Head
CSE

R D Engineering College, Ghaziabad

ADVANCED PYTHON Training Schedule

BATCH-1

Add On Course for B.Tech (CSE) FINAL YEAR

Odd Sem. Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	05.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
2	06.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
3	07.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
4	08.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
5	09.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
6	12.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
7	13.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
8	14.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
9	16.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM

Prof. Vikas Gupta
Program Coordinator

R.D. Engineering College Ghaziabad Head CSE

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College, Ghaziabad
Department of Computer Science & Engineering

Date: 17 JAN, 2020

Notice

All the students of CSE VIII Sem, IV year are hereby informed that department is going to run an add on course on Advanced Python from 20 JAN 2020.

This Advanced Python Course Syllabus is designed to bridge the curriculum and industry gap. After completing the course you will be able to do some basic project to enhance your skills.

All Students are required to attend this course.

R.D. Engineering College Head CSE Ghaziabad

(Head, CSE)

CC:

Director

IQAC

Director
R.D. Engineering College
Duhai, Ghaziabad

Departmental Notice Board

Encls:

Syllabus of course

Schedule of course

Course Contents

R D ENGINEERING COLLEGE, GHAZIABAD

ADVANCED PYTHON

Add On Course for B.Tech (CSE)

SESSION 2019-20 EVEN SEM

Curriculum objectives

Upon completion of this course, students will be able to do the following:

1. Understanding of advanced Python programming concepts
2. Proficiency in object-oriented programming (OOP)
3. Expertise in data handling and manipulation
4. Mastery of web development with Python
5. Proficiency in machine learning and data science
6. Familiarity with other Python libraries and tools
7. Understanding of Python best practices and code optimization

Duration

Approximately 36 hours, when delivered synchronously by an educator. Detailed timings are providedbelow. Actual delivery times will vary from class to class and depending on the delivery format.

Delivery methods

This course can be delivered in person with synchronous lectures or with digital training models thatstudents can complete independently.

Learning resources

- Lecture materials
- Online multiple-choice knowledge checks
- Lab exercises
- Digital training (optional)
- Video introductions
- Video demos
- Example solutions

Course timing

This table provides the suggested durations for all course activities. Note that the total classroom timefor all the modules in this course is 36 hours. Items that are not applicable are marked NA.

Module Title	Lecture (Hrs)	Activity/Lab/ Demo (Hrs)	Total Module (Hrs)
Course Introduction	1	NA	2
Module 1: **Introduction to OOP**		1	
Module 2: Classes and Objects	1	1	2

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad Head CSE

Module 3: Encapsulation	1	1	2
Module 4: Inheritance	1	1	2
Module 5: Polymorphism	1	1	2
Module 6: Advanced Topics in OOP	1	1	2
Module 7: Exception Handling	1	1	2
Module 8: File Input/Output	1	1	2
Module 9: Regular Expressions	1	1	2
Module 10: Debugging	1	1	2
Module 11: Unit Testing	1	1	2
Module 12: GUI Programming with Tkinter	1	1	2
Module 13: Database connectivity with SQLite	1	1	2
Module 14: Web Scrapping	1	1	2
Module 15: Working With JSON	1	1	2
Module 16: Multithreading	1	1	2
Module 17: Networking with Socket	1	1	2
Module 18: Minor project	1	1	2
Total Course Time	18	18	36

Module sections

This section lists the module sections in this course.

Course Introduction

- Course objectives and overview

Module 1: Introduction to OOP

- Overview of OOP
- Benefits of OOP
- Terminology (classes, objects, attributes, methods, encapsulation, inheritance, polymorphism)
- Introduction to Python syntax for OOP

Module 2: Classes and Objects

- Creating classes in Python
- Instantiating objects
- Accessing attributes and methods of objects
- Class and instance variables

Module 3: Encapsulation

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad
Head CSE

- Public, private, and protected access modifiers
- Encapsulation and information hiding
- Properties and getters/setters

Module 4: Inheritance

- Extending classes with inheritance
- Base and derived classes
- Overriding methods
- Super() function

Module 5: Polymorphism

- Polymorphism and dynamic binding
- Method overriding
- Abstract classes and interfaces
- Duck typing

Module 6: Advanced Topics in OOP

- Multiple inheritance
- Method resolution order
- Mixins and composition
- Diamond problem

Module 7: Exception Handling

- Types of exceptions
- Try-except statements
- Handling multiple exceptions
- Raising exceptions

Module 8: File Input/Output

- Reading and writing to files
- File modes
- Text files vs binary files
- Using 'with' statements

Module 9: Regular Expressions

- Regular expression syntax
- Match object
- Search and replace
- Regex in Python

Module 10: Debugging

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad
Head CSE

- Common debugging techniques
- Debugging tools in Python
- Using pdb module
- Logging

Module 11: Unit Testing

- Introduction to unit testing
- Writing test cases
- Running test cases
- Pytest framework

Module 12: GUI Programming with Tkinter

- Introduction to GUI programming
- Tkinter module
- Creating widgets
- Handling events

Module 13: Database Connectivity with SQLite

- Introduction to databases
- SQLite database
- Connecting to database
- Querying and modifying data

Module 14: Web Scraping with Beautiful Soup

- Introduction to web scraping
- Beautiful Soup module
- Parsing HTML/XML data
- Navigating the parsed data

Module 15: Working with JSON

- Introduction to JSON
- JSON syntax
- Encoding and decoding JSON data
- Using JSON in Python

Module 16: Multithreading

- Introduction to multithreading
- Creating threads
- Synchronizing threads
- Thread pools

Module 17: Networking with Sockets

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CSE
Ghaziabad

- Introduction to networking
- Sockets in Python
- Creating server and client sockets
- Sending and receiving data

Module 18: Minor project

- Participants will work on a final project that applies the concepts learned throughout the course. The project should involve OOP principles and at least one other topic covered in the course (e.g. file I/O, web scraping, multithreading, etc.). Participants will present their projects and receive feedback from the instructor and other participants.

R.D. Engineering College Ghaziabad Head CSE

Director
R.D. Engineering College
Duhai, Ghaziabad

COURSE OUTCOMES
of
ADVANCED PYTHON

An advanced Python course builds upon the foundational knowledge acquired in a basic Python course and delves into more sophisticated topics and programming techniques. Here are some common course outcomes for an advanced Python course:

1. **Advanced Data Structures:**
   - Explore advanced data structures such as stacks, queues, linked lists, and trees.
   - Understand when and how to use these data structures in different scenarios.
2. **Decorators and Generators:**
   - Learn the concept of decorators and how they can be used to modify the behaviour of functions.
   - Understand generators and their role in creating iterable sequences.
3. **Database Connectivity:**
   - Explore database access in Python using libraries like SQLAlchemy or the built-in SQLite module.
   - Understand how to connect to and manipulate databases.
4. **Web Development with Flask/Django (Optional):**
   - Introduction to web development using popular frameworks like Flask or Django.
   - Learn about routing, templates, and building web applications.
5. **Testing and Test-Driven Development (TDD):**
   - Understand testing frameworks like **unittest** or **pytest**.
   - Learn the principles of Test-Driven Development and how to write effective tests.
6. **Advanced Object-Oriented Programming (OOP):**
   - Deepen your understanding of OOP principles and design patterns.
   - Explore more complex concepts like abstract classes, interfaces, and multiple inheritance.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Ghaziabad
Head CSE

R D Engineering College, Ghaziabad

ADVANCED PYTHON Training Schedule

BATCH-1

Add On Course for B.Tech (CSE) FINAL YEAR

EVEN Sem. Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	20.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
2	21.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
3	22.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
4	23.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
5	24.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
6	27.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
7	28.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
8	29.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
9	30.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
10	31.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM

Prof. Vikas Gupta
Program Coordinator

R.D. Engineering College Ghaziabad Head CSE

Director
R.D. Engineering College
Duhai, Ghaziabad

Department of Information Technology

R. D. Engineering College, Ghaziabad
Department of Information Technology

Date: 20th SEP, 2019

Notice

All the students of IT III Sem, II year (Batch-1) are hereby informed that department is going to run an add on course on Core JAVA from 23 SEP 2019.

This Core JAVA Course Syllabus is designed to bridge the curriculum and industry gap. After completing the course you will be able to do some basic project to enhance your skills.

All Students are required to attend this course.

(Head, IT)

R.D. Engineering College Head IT

CC:

Director

IQAC

Departmental Notice Board

Director R.D. Engineering College Dadri, Ghaziabad

Encls:

Syllabus of course

Schedule of course

Course Contents

R D ENGINEERING COLLEGE, GHAZIABAD

CORE JAVA

Add On Course for B.Tech (CSE/IT)

MODULE 2019-20(ODD SEM)

Curriculum objectives

Upon completion of this course, students will be able to do the following:

1. Mastery of Java syntax and basic programming concepts

Participants should be proficient in Java syntax and be able to write basic Java programs using variables, data types, operators, conditional statements, loops, and arrays.

2. Understanding of object-oriented programming (OOP)

Participants should understand the basic concepts of OOP, such as classes, objects, encapsulation, inheritance, and polymorphism. They should be able to design and implement simple Java classes.

3. Familiarity with Java APIs and packages

Participants should be familiar with Java APIs and packages such as String, Wrapper classes, Date and Time APIs, Collections Framework, and I/O. They should be able to work with these APIs and packages to solve simple programming problems.

4. Proficiency in exception handling

Participants should be able to handle exceptions using try-catch blocks, throw statements, and the finally block. They should be able to create custom exceptions.

5. Understanding of multithreading

Participants should understand the basics of multithreading, such as creating and running threads, thread synchronization, and inter-thread communication.

6. Familiarity with Java GUI programming

Participants should be familiar with Java GUI programming using Swing. They should be able to create basic GUI components, handle events, and use layout managers.

7. Understanding of networking and database connectivity

Participants should understand the basics of networking and database connectivity in Java. They should be able to use the URL connection and socket classes to communicate over the network and use JDBC to connect to a database.

8. Familiarity with software engineering principles and best practices

Participants should be familiar with software engineering principles such as code quality, code reviews, and unit testing. They should be able to write simple, maintainable, and readable code using best practices.

9. Introduction to web development with Java

Participants should be introduced to web development with Java, including Servlets and JSPs. They should understand the basic concepts of web development, such as HTTP requests and responses, session management, and web application deployment.

Duration

Approximately 36 hours, when delivered synchronously by an educator. Detailed timings are provided below. Actual delivery times will vary from class to class and depending on the delivery format.

Delivery methods

This course can be delivered in person with synchronous lectures or with digital training models that students can complete independently.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
IT

Learning resources

- Lecture materials
- Online multiple-choice knowledge checks
- Lab exercises
- Digital training (optional)
- Video introductions
- Video demos
- Example solutions

Course timing

This table provides the suggested durations for all course activities. Note that the total classroom time for all the modules in this course is 36 hours. Items that are not applicable are marked NA.

Module Title	Lecture (Hrs)	Activity/Lab/ Demo (Hrs)	Total Module (Hrs)
Course Introduction	1	NA	1
Module 1: Cloud Concepts Overview	1	1	2
Module 2: Cloud Economics and Billing	1	1	2
Module 3: AWS Global Infrastructure Overview	1	1	2
Module 4: Cloud Security	1	2	3
Module 5: Networking and Content Delivery	2	2	4
Module 6: Compute	2	3	5
Module 7: Storage	2	3	5
Module 8: Databases	2	2	4
Module 9: Cloud Architecture	2	2	4
Module 10: Automatic Scaling and Monitoring	2	2	4
Total Course Time	17	19	36

Module sections

This section lists the module sections in this course.

Module 1 - Introduction to Java and Programming Concepts

- Introduction to Java and its history
- The Java Virtual Machine (JVM)
- Variables, Data Types, and Operators
- Conditional Statements and Loops
- Arrays

Module 2 - Object-Oriented Programming in Java

- Introduction to OOP and Classes
- Encapsulation and Access Modifiers
- Inheritance and Polymorphism
- Abstract Classes and Interfaces
- Packages

R.D. Engineering College Head IT

Director
R.D. Engineering College
Duhai, Ghaziabad

Module 3 - Exception Handling

- Introduction to Exception Handling
- Handling Exceptions with try-catch
- Throwing Exceptions
- Creating Custom Exceptions
- The finally Block

Module 4 - Java APIs and Packages

- String Manipulation
- Wrapper Classes and Autoboxing
- Date and Time APIs
- Working with Files and I/O
- Collections Framework and Generics

Module 5 - Multithreading

- Introduction to Threads
- Creating Threads and Thread States
- Thread Synchronization
- Inter-Thread Communication
- Deadlocks and Starvation

Module 6 - Java GUI Programming

- Introduction to Java Swing
- Creating GUIs with Swing Components
- Event Handling in Swing
- Layout Management in Swing
- Menus and Toolbars

Module 7 - Networking and Database Connectivity

- Introduction to Networking in Java
- URL Connections and Sockets
- Reading and Writing Data over Network
- Introduction to JDBC
- Database Connectivity with JDBC

Module 8 - Web Development with Java

- Introduction to Servlets
- Handling HTTP Requests and Responses
- Module Management
- Introduction to JSP
- Creating JSP pages

Module 9 - Introduction to Spring Framework

- Introduction to Spring Framework
- Spring Core Concepts
- Dependency Injection
- Spring MVC Framework
- Spring Data Access

Module 10 - Java Tools and Best Practices

- Introduction to Java Tools
- Building and Packaging Java Applications
- Debugging and Profiling Java Applications
- Java Best Practices and Code Quality
- Introduction to Agile and Scrum

R.D. Engineering College Head IT

Director
R.D. Engineering College
Duhai, Ghaziabad

COURSE OUTCOMES
of
CORE JAVA

A course on Core Java typically covers the foundational concepts of the Java programming language. Here are common course outcomes for a Core Java course:

1. **Introduction to Java:**
    - Understand the basics of Java programming language, its history, and its role in software development.
2. **Java Development Environment:**
    - Set up and configure the Java development environment, including the Java Development Kit (JDK) and Integrated Development Environment (IDE) like Eclipse or IntelliJ.
3. **Java Syntax and Structure:**
    - Learn the syntax and structure of Java programs.
    - Understand concepts such as variables, data types, operators, and expressions.
4. **Control Flow:**
    - Gain proficiency in using conditional statements (if, else, switch) and loops (for, while, do-while) for flow control in Java programs.
5. **Methods and Functions:**
    - Learn how to define and call methods (functions) in Java.
    - Understand method parameters, return types, and overloading.
6. **Exception Handling:**
    - Explore Java's exception handling mechanism using try, catch, finally, and throw.
    - Understand how to create custom exceptions.
7. **Arrays and Collections:**
    - Learn to work with arrays and collections in Java.
    - Understand the differences between lists, sets, and maps.
8. **File Handling:**
    - Gain knowledge of reading from and writing to files in Java.
    - Understand file I/O operations and handling exceptions related to file operations.

R.D. Engineering College Head IT

Director
R.D. Engineering College
Duhai, Ghaziabad

R D Engineering College, Ghaziabad

CORE JAVA

BATCH-1

Add On Course for B.Tech (IT) SECOND YEAR

Odd Sem. Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	23.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
2	24.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
3	25.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
4	26.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
5	27.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
6	30.09.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
7	01.10.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
8	03.10.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM
9	04.10.2019	1:30 PM TO 3:10 PM	3:10 PM TO 4:50 PM

Pankaj Singh

Prof. Pankaj Singh
Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
IT

R. D. Engineering College, Ghaziabad
Department of Information Technology

Date: 20th SEP, 2019

Notice

All the students of IT V Sem, III year are hereby informed that department is going to run an add on course on Advanced Python from 23 SEP 2019.

This Advanced Python Course Syllabus is designed to bridge the curriculum and industry gap. After completing the course you will be able to do some basic project to enhance your skills.

All Students are required to attend this course.

R.D. Engineering College Head IT

(Head IT)

CC:

Director

IQAC

Director
R.D. Engineering College
Duhai, Ghaziabad

Departmental Notice Board

Encls:

Syllabus of course

Schedule of course

Course Contents

R D ENGINEERING COLLEGE, GHAZIABAD

ADVANCED PYTHON

Add On Course for B.Tech (CSE/IT)

SESSION 2019-20 ODD SEM

Curriculum objectives

Upon completion of this course, students will be able to do the following:

1. Understanding of advanced Python programming concepts
2. Proficiency in object-oriented programming (OOP)
3. Expertise in data handling and manipulation
4. Mastery of web development with Python
5. Proficiency in machine learning and data science
6. Familiarity with other Python libraries and tools
7. Understanding of Python best practices and code optimization

Duration

Approximately 36 hours, when delivered synchronously by an educator. Detailed timings are providedbelow. Actual delivery times will vary from class to class and depending on the delivery format.

Delivery methods

This course can be delivered in person with synchronous lectures or with digital training models thatstudents can complete independently.

Learning resources

- Lecture materials
- Online multiple-choice knowledge checks
- Lab exercises
- Digital training (optional)
- Video introductions
- Video demos
- Example solutions

Course timing

This table provides the suggested durations for all course activities. Note that the total classroom timefor all the modules in this course is 36 hours. Items that are not applicable are marked NA.

Module Title	Lecture (Hrs)	Activity/Lab/ Demo (Hrs)	Total Module (Hrs)
Course Introduction	1	NA	2
Module 1: **Introduction to OOP**		1	
Module 2: Classes and Objects	1	1	2

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Head IT

Module 3: Encapsulation	1	1	2
Module 4: Inheritance	1	1	2
Module 5: Polymorphism	1	1	2
Module 6: Advanced Topics in OOP	1	1	2
Module 7: Exception Handling	1	1	2
Module 8: File Input/Output	1	1	2
Module 9: Regular Expressions	1	1	2
Module 10: Debugging	1	1	2
Module 11: Unit Testing	1	1	2
Module 12: GUI Programming with Tkinter	1	1	2
Module 13: Database connectivity with SQLite	1	1	2
Module 14: Web Scrapping	1	1	2
Module 15: Working With JSON	1	1	2
Module 16: Multithreading	1	1	2
Module 17: Networking with Socket	1	1	2
Module 18: Minor project.	1	1	2
Total Course Time	18	18	36

Module sections

This section lists the module sections in this course.

Course Introduction

- Course objectives and overview

Module 1: Introduction to OOP

- Overview of OOP
- Benefits of OOP
- Terminology (classes, objects, attributes, methods, encapsulation, inheritance, polymorphism)
- Introduction to Python syntax for OOP

Module 2: Classes and Objects

- Creating classes in Python
- Instantiating objects
- Accessing attributes and methods of objects
- Class and instance variables

Module 3: Encapsulation

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
IT

- Public, private, and protected access modifiers
- Encapsulation and information hiding
- Properties and getters/setters

Module 4: Inheritance

- Extending classes with inheritance
- Base and derived classes
- Overriding methods
- Super() function

Module 5: Polymorphism

- Polymorphism and dynamic binding
- Method overriding
- Abstract classes and interfaces
- Duck typing

Module 6: Advanced Topics in OOP

- Multiple inheritance
- Method resolution order
- Mixins and composition
- Diamond problem

Module 7: Exception Handling

- Types of exceptions
- Try-except statements
- Handling multiple exceptions
- Raising exceptions

Module 8: File Input/Output

- Reading and writing to files
- File modes
- Text files vs binary files
- Using 'with' statements

Module 9: Regular Expressions

- Regular expression syntax
- Match object
- Search and replace
- Regex in Python

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
IT

Module 10: Debugging

- Common debugging techniques
- Debugging tools in Python
- Using pdb module
- Logging

Module 11: Unit Testing

- Introduction to unit testing
- Writing test cases
- Running test cases
- Pytest framework

Module 12: GUI Programming with Tkinter

- Introduction to GUI programming
- Tkinter module
- Creating widgets
- Handling events

Module 13: Database Connectivity with SQLite

- Introduction to databases
- SQLite database
- Connecting to database
- Querying and modifying data

Module 14: Web Scraping with Beautiful Soup

- Introduction to web scraping
- Beautiful Soup module
- Parsing HTML/XML data
- Navigating the parsed data

Module 15: Working with JSON

- Introduction to JSON
- JSON syntax
- Encoding and decoding JSON data
- Using JSON in Python

Module 16: Multithreading

- Introduction to multithreading
- Creating threads
- Synchronizing threads
- Thread pools

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Head IT

Module 17: Networking with Sockets

- Introduction to networking
- Sockets in Python
- Creating server and client sockets
- Sending and receiving data

Module 18: Minor project

Participants will work on a final project that applies the concepts learned throughout the course. The project should involve OOP principles and at least one other topic covered in the course (e.g. file I/O, web scraping, multithreading, etc.). Participants will present their projects and receive feedback from the instructor and other participants.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
IT

COURSE OUTCOMES
of
ADVANCED PYTHON

An advanced Python course builds upon the foundational knowledge acquired in a basic Python course and delves into more sophisticated topics and programming techniques. Here are some common course outcomes for an advanced Python course:

1. **Advanced Data Structures:**
    - Explore advanced data structures such as stacks, queues, linked lists, and trees.
    - Understand when and how to use these data structures in different scenarios.
2. **Decorators and Generators:**
    - Learn the concept of decorators and how they can be used to modify the behaviour of functions.
    - Understand generators and their role in creating iterable sequences.
3. **Database Connectivity:**
    - Explore database access in Python using libraries like SQLAlchemy or the built-in SQLite module.
    - Understand how to connect to and manipulate databases.
4. **Web Development with Flask/Django (Optional):**
    - Introduction to web development using popular frameworks like Flask or Django.
    - Learn about routing, templates, and building web applications.
5. **Testing and Test-Driven Development (TDD):**
    - Understand testing frameworks like **unittest** or **pytest**.
    - Learn the principles of Test-Driven Development and how to write effective tests.
6. **Advanced Object-Oriented Programming (OOP):**
    - Deepen your understanding of OOP principles and design patterns.
    - Explore more complex concepts like abstract classes, interfaces, and multiple inheritance.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
IT

R D Engineering College, Ghaziabad

ADVANCED PYTHON Training Schedule

BATCH-1

Add On Course for B.Tech (IT) THIRD YEAR

Odd Sem. Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	23.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
2	24.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
3	25.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
4	26.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
5	27.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
6	30.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
7	01.10.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
8	03.10.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
9	04.10.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM

Sfyagi.

Prof. Sachin Tyagi
Program Coordinator

R.D. Engineering College
Head IT

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College, Ghaziabad
Department of Information Technology

Date: 02 AUG, 2019

Notice

All the students of IT VII Sem, IV year are hereby informed that department is going to run an add on course on Advanced Python from 05 AUG 2019.

This Advanced Python Course Syllabus is designed to bridge the curriculum and industry gap. After completing the course you will be able to do some basic project to enhance your skills.

All Students are required to attend this course.

(Head, IT)

R.D. Engineering College Head IT

CC:

Director

IQAC

Director R.D. Engineering College Duhai, Ghaziabad

Departmental Notice Board

Encls:

Syllabus of course

Schedule of course

Course Contents

R D ENGINEERING COLLEGE, GHAZIABAD

ADVANCED PYTHON

Add On Course for B.Tech (CSE/IT)

SESSION 2019-20 ODD SEM

Curriculum objectives

Upon completion of this course, students will be able to do the following:

1. Understanding of advanced Python programming concepts
2. Proficiency in object-oriented programming (OOP)
3. Expertise in data handling and manipulation
4. Mastery of web development with Python
5. Proficiency in machine learning and data science
6. Familiarity with other Python libraries and tools
7. Understanding of Python best practices and code optimization

Duration

Approximately 36 hours, when delivered synchronously by an educator. Detailed timings are providedbelow. Actual delivery times will vary from class to class and depending on the delivery format.

Delivery methods

This course can be delivered in person with synchronous lectures or with digital training models thatstudents can complete independently.

Learning resources

- Lecture materials
- Online multiple-choice knowledge checks
- Lab exercises
- Digital training (optional)
- Video introductions
- Video demos
- Example solutions

Course timing

This table provides the suggested durations for all course activities. Note that the total classroom timefor all the modules in this course is 36 hours. Items that are not applicable are marked NA.

Module Title	Lecture (Hrs)	Activity/Lab/ Demo (Hrs)	Total Module (Hrs)
Course Introduction	1	NA	2
Module 1: **Introduction to OOP**		1	
Module 2: Classes and Objects	1	1	2

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Head IT

Module 3: Encapsulation	1	1	2
Module 4: Inheritance	1	1	2
Module 5: Polymorphism	1	1	2
Module 6: Advanced Topics in OOP	1	1	2
Module 7: Exception Handling	1	1	2
Module 8: File Input/Output	1	1	2
Module 9: Regular Expressions	1	1	2
Module 10: Debugging	1	1	2
Module 11: Unit Testing	1	1	2
Module 12: GUI Programming with Tkinter	1	1	2
Module 13: Database connectivity with SQLite	1	1	2
Module 14: Web Scrapping	1	1	2
Module 15: Working With JSON	1	1	2
Module 16: Multithreading	1	1	2
Module 17: Networking with Socket	1	1	2
Module 18: Minor project.	1	1	2
Total Course Time	18	18	36

Module sections

This section lists the module sections in this course.

Course Introduction

- Course objectives and overview

Module 1: Introduction to OOP

- Overview of OOP
- Benefits of OOP
- Terminology (classes, objects, attributes, methods, encapsulation, inheritance, polymorphism)
- Introduction to Python syntax for OOP

Module 2: Classes and Objects

- Creating classes in Python
- Instantiating objects
- Accessing attributes and methods of objects
- Class and instance variables

R.D. Engineering College Head IT

Director R.D. Engineering College Duhai, Ghaziabad

Module 3: Encapsulation

- Public, private, and protected access modifiers
- Encapsulation and information hiding
- Properties and getters/setters

Module 4: Inheritance

- Extending classes with inheritance
- Base and derived classes
- Overriding methods
- Super() function

Module 5: Polymorphism

- Polymorphism and dynamic binding
- Method overriding
- Abstract classes and interfaces
- Duck typing

Module 6: Advanced Topics in OOP

- Multiple inheritance
- Method resolution order
- Mixins and composition
- Diamond problem

Module 7: Exception Handling

- Types of exceptions
- Try-except statements
- Handling multiple exceptions
- Raising exceptions

Module 8: File Input/Output

- Reading and writing to files
- File modes
- Text files vs binary files
- Using 'with' statements

Module 9: Regular Expressions

- Regular expression syntax
- Match object
- Search and replace
- Regex in Python

R.D. Engineering College Head IT

Director
R.D. Engineering College
Duhai, Ghaziabad

Module 10: Debugging

- Common debugging techniques
- Debugging tools in Python
- Using pdb module
- Logging

Module 11: Unit Testing

- Introduction to unit testing
- Writing test cases
- Running test cases
- Pytest framework

Module 12: GUI Programming with Tkinter

- Introduction to GUI programming
- Tkinter module
- Creating widgets
- Handling events

Module 13: Database Connectivity with SQLite

- Introduction to databases
- SQLite database
- Connecting to database
- Querying and modifying data

Module 14: Web Scraping with Beautiful Soup

- Introduction to web scraping
- Beautiful Soup module
- Parsing HTML/XML data
- Navigating the parsed data

Module 15: Working with JSON

- Introduction to JSON
- JSON syntax
- Encoding and decoding JSON data
- Using JSON in Python

R.D. Engineering College Head IT

Module 16: Multithreading

- Introduction to multithreading
- Creating threads
- Synchronizing threads
- Thread pools

Director
R.D. Engineering College
Duhai, Ghaziabad

Module 17: Networking with Sockets

- Introduction to networking
- Sockets in Python
- Creating server and client sockets
- Sending and receiving data

Module 18: Minor project

Participants will work on a final project that applies the concepts learned throughout the course. The project should involve OOP principles and at least one other topic covered in the course (e.g. file I/O, web scraping, multithreading, etc.). Participants will present their projects and receive feedback from the instructor and other participants.

R.D. Engineering College Head IT

Director
R.D. Engineering College
Duhai, Ghaziabad

COURSE OUTCOMES
of
ADVANCED PYTHON

An advanced Python course builds upon the foundational knowledge acquired in a basic Python course and delves into more sophisticated topics and programming techniques. Here are some common course outcomes for an advanced Python course:

1. **Advanced Data Structures:**
    - Explore advanced data structures such as stacks, queues, linked lists, and trees.
    - Understand when and how to use these data structures in different scenarios.
2. **Decorators and Generators:**
    - Learn the concept of decorators and how they can be used to modify the behaviour of functions.
    - Understand generators and their role in creating iterable sequences.
3. **Database Connectivity:**
    - Explore database access in Python using libraries like SQLAlchemy or the built-in SQLite module.
    - Understand how to connect to and manipulate databases.
4. **Web Development with Flask/Django (Optional):**
    - Introduction to web development using popular frameworks like Flask or Django.
    - Learn about routing, templates, and building web applications.
5. **Testing and Test-Driven Development (TDD):**
    - Understand testing frameworks like **unittest** or **pytest**.
    - Learn the principles of Test-Driven Development and how to write effective tests.
6. **Advanced Object-Oriented Programming (OOP):**
    - Deepen your understanding of OOP principles and design patterns.
    - Explore more complex concepts like abstract classes, interfaces, and multiple inheritance.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
IT

R D Engineering College, Ghaziabad

ADVANCED PYTHON Training Schedule

BATCH-1

Add On Course for B.Tech (IT) FINAL YEAR

Odd Sem. Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	05.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
2	06.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
3	07.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
4	08.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
5	09.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
6	12.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
7	13.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
8	14.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
9	16.08.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM

Prof. Hari Singh
Program Coordinator

R.D. Engineering College Head IT

Director
R.D. Engineering College
Duhai, Ghaziabad

Department of Electronics and Communication Engineering

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow

Date: 4th Sep, 2019

Notice

Add on Course-PCB Design

From: Program Coordinator	To: All the ECE 2nd year Students(3rd Sem)

All the students of ECE II year (III Sem) are hereby informed that department is going to run an add on course on PCB Design from 14th Sep 2019.

This PCB Design course Syllabus is designed after the consultation with Industry Experts. This is a basic course for designing of PCB using software. PCB (Printed Circuit Board) designing is an integral part of each electronics products and this program is designed to make students capable to design their own projects PCB up to industrial grade.

All Students are required to attend this course.

Mr.Prabhash Singh

(Program Coordinator)

Dr. Vishal Upmanu

ECE

(HOD,ECE)

Director
R.D. Engineering College
Duhai, Ghaziabad

CC:

Director

Dean Academics

IQAC

Departmental Notice Board

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow

Syllabus- PCB Design

Add On Course for B.Tech ECE – III Sem

Session 2019-20

This is a basic course for designing of PCB using software. PCB (Printed Circuit Board) designing is an integral part of each electronics products and this program is designed to make students capable to design their own projects PCB up to industrial grade.

Topics Covered:

1. Introduction to PCB designing concepts
2. Component introduction and their categories
3. Introduction to Development Tools
4. Detailed description and practical of PCB designing
5. Lab practice and designing concepts

Detailed Syllabus of the Course

Topic 1: Introduction to PCB designing concepts

Introduction & Brief History **1 Hrs**

- What is PCB
- Difference between PWB and PCB
- Types of PCBs: Single Sided (Single Layer), Multi-Layer (Double Layer)
- PCB Materials

Introduction to Electronic design Automation (EDA) **1 Hrs**

- Brief History of EDA
- Latest Trends in Market
- How it helps and Why it requires
- Different EDA tools
- Introduction to SPICE and PSPICE Environment
- Introduction and Working of PROTEUS

Hands on Practice **2 Hrs**

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College
Head
ECE
Ghaziabad

Topic 2: Component introduction and their categories

Types of Component **2 Hrs**

- Active Components
  - Diode
  - Transistor
  - MOSFET
  - LED
  - SCR
  - Integrated Circuits (ICs)
- Passive Components
  - Resistor
  - Capacitor
  - Inductor
  - Transformer
  - Speaker/Buzzer

Component Package Types **2 Hrs**

- Through Hole Packages
  - Axial lead
  - Radial Lead
  - Single Inline Package(SIP)
  - Dual Inline Package(DIP)
  - Transistor Outline(TO)
  - Pin Grid Array(PGA)
- Through Hole Packages
  - Metal Electrode Face(MELF)
  - Leadless Chip Carrier(LCC)
  - Small Outline Integrated Circuit(SOIC)
  - Quad Flat Pack(QPF) and Thin QFP (TQFP)
  - Ball Grid Array(BGA)
  - Plastic Leaded Chip Carrier(PLCC)

Hands on Practice **2 Hrs**

Topic 3: Introduction to Development Tools **2 Hrs**

- Introduction to PCB Design using OrCAD tool
- Introduction to PCB Design using PROTEUS tool

Hands on Practice **2 Hrs**

Topic 4: Detailed description and practical of PCB designing

PCB Designing Flow Chart **2 Hrs**

- Schematic Entry
- Net listing
- PCB Layout Designing
- Prototype Designing
  - Design Rule Check(DRC)
  - Design For Manufacturing(DFM)

- PCB Making
  - Printing

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College
Head
EE
Ghaziabad
Dr. Vishal Upmanyu

- Etching
- Drilling

- Assembly of components

Description of PCB Layers **2 Hrs**

- Electrical Layers
  - Top Layer
  - Mid Layer
  - Bottom Layer
- Mechanical Layers
  - Board Outlines and Cutouts
  - Drill Details

- Documentation Layers
  - Components Outlines
  - Reference Designation
  - Text

Keywords & Their Description **1 Hrs**

- Footprint
- Pad stacks
- Vias
- Tracks
- Color of Layers
- PCB Track Size Calculation Formula

PCB Materials **1 Hrs**

- Standard FR-4 Epoxy Glass
- Multifunctional FR-4
- Tetra Functional FR-4
- NelcoN400-6
- GETEK
- BT Epoxy Glass
- Cyanate Aster
- Plyimide Glass
- Teflon

Rules for Track **1 Hrs**

- Track Length
- Track Angle
- Rack Joints
- Track Size

Hands on Practice_____ 2 Hrs

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
ECE
Ghaziabad

Topic 5: Lab practice and designing concepts

Starting the PCB designing **2 Hrs**

- Understanding the schematic Entry
- Creating Library & Components
- Drawing a Schematic
- Flat Design / hierarchical Design
- Setting up Environment for PCB
- Design a Board

Auto routing **1 Hrs**

- Introduction to Auto routing
- Setting up Rules
- Defining Constraints
- Auto router Setup

PCB Designing Practice **2 Hrs**

- PCB Designing of Basic and Analog Electronic Circuits
- PCB Designing of Power Supplies
- PCB Designing of Different Sensor modules
- PCB Designing of Electronics Projects
- PCB Designing of Embedded Projects

Post Designing & PCB Fabrication Process **4 Hrs**

- Printing the Design
- Etching
- Drilling
- Interconnecting and Packaging electronic Circuits (IPC) Standards
- Gerber Generation
- Soldering and De-soldering
- Component Mounting
- PCB and Hardware Testing

Hands on practice (Project work) **8 Hrs**

- Making the schematic of Academic and Industrial projects
- PCB Designing of these projects
- Soldering and De-soldering of components as per Design
- Testing and Troubleshooting Methods

Theory Hours	Lab Hours	Total
20 hours	20 Hours	40 Hours

Mr. Prabhash Singh
Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College
Ghaziabad

ECE

COURSE OUTCOMES

Of

PCB DESIGN

Upon the completion of this course, students will demonstrate the ability to:

1. **Understanding of PCB Basics:**
- Knowledge of basic concepts related to printed circuit boards, including layers, traces, pads etc.

2. **Electronic Component Familiarity:**
- Identification and understanding of various electronic components commonly used in PCB design.

3. **PCB Layout Design:**
- Hands-on experience in designing PCB layouts using dedicated software tools.
- Placement and routing of components on the PCB.

4. **Design for Manufacturability (DFM):**
- Knowledge of design considerations that impact the manufacturability of PCBs.
- Implementing DFM principles to optimize the manufacturing process.

5. **Design Rule Checking (DRC):**
- Implementing and performing design rule checks to identify and correct potential issues.

6. **Prototyping and Testing:**
- Understanding the prototyping process for PCBs.
- Testing and debugging prototypes for functionality and performance.

R.D. Engineering College Ghaziabad
Dr. Vishal Upadhyay

Director
R.D. Engineering College
Duhai, Ghaziabad

R D Engineering College, Ghaziabad

Schedule-Add On Course for B.Tech ECE-III sem

PCB Design

Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	14-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
2	21-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
3	28-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
4	05-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
5	12-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
6	19-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
7	26-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
8	02-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
9	09-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
10	16-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM

Mr. Prabhash Singh
Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College
Duhai Ghaziabad
ECE

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow

Date: 4th Sep, 2019

Notice

Add on Course-IoT

From: Program Coordinator	To: All the ECE 3rd year Students(5th Sem)

All the students of ECE (III year) V-Sem are hereby informed that department is going to run an add on course on IoT Internet of Things from 14th Sep 2019.

This IoT Internet of Things Course Syllabus is designed after the consultation with Industry Experts. This IoT Internet of Things Course Syllabus covers in-depth knowledge of IOT fundamentals, Arduino Simulation, Sensor & Actuators, ESP8266 Wi-Fi module, IoT Protocols and Cloud Platforms for IoT with live Projects.

All Students are required to attend this course.

Mr. Sanjeev Sharma

(Program Coordinator)

Director
R.D. Engineering College
Duhai, Ghaziabad

Dr. Vishal Upmanu

(HOD,ECE)

Head
ECE
Ghaziabad

CC:

Director

Dean Academics

IQAC

Departmental Notice Board

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow

Syllabus- Add On Course for B.Tech ECE – V Sem

IoT

Session 2019-20

This Course focuses on hands-on IoT concepts such as sensing, actuation and communication. It covers the development of Internet of Things (IoT) prototypes—including devices for sensing, actuation, processing, and communication—to help you develop skills and experiences. The Internet of Things (IoT) is the next wave, world is going to witness. Today we live in an era of connected devices the future is of connected things.

Topic 1. Introduction to IoT **3 Hrs**

- Understanding IoT fundamentals
- IoT Architecture and protocols
- Various Platforms for IoT
- Real time Examples of IoT
- Overview of IoT components and IoT Communication Technologies
- Challenges in IoT

Topic 2. Arduino Simulation Environment **3 Hrs**

- Arduino Uno Architecture
- Setup the IDE, Writing Arduino Software
- Arduino Libraries
- Basics of Embedded C programming for Arduino
- Interfacing LED, push button and buzzer with Arduino
- Interfacing Arduino with LCD

Hands on Practice_____ **2 Hrs**

Topic 3. Sensor & Actuators with Arduino **2 Hrs**

- Overview of Sensors working
- Analog and Digital Sensors
- Interfacing of Temperature, Humidity, Motion, Light ,

Director R.D. Engineering College Ghaziabad

Dr. Vishal Upmanu ECE R.D. Engineering College Ghaziabad

- Interfacing of Actuators with Arduino.
- Interfacing of Relay Switch and Servo Motor with Arduino

Hands on Practice _____ **3 Hrs**

Topic 4. Basic Networking with ESP8266 WiFi module **3 Hrs**

- Basics of Wireless Networking
- Introduction to ESP8266 Wi-Fi Module
- Various Wi-Fi library
- Web server- introduction, installation, configuration
- Posting sensor(s) data to web server

Hands on Practice _____ **2 Hrs**

Topic 5. IoT Protocols **2 Hrs**

- M2M vs. IoT
- Communication Protocols

Topic 6. Cloud Platforms for IoT **3 Hrs**

- Virtualization concepts and Cloud Architecture
- Cloud computing, benefits
- Cloud services -- SaaS, PaaS, IaaS
- Cloud providers & offerings
- Study of IoT Cloud platforms
- Interfacing ESP8266 with Web services

Hands on Practice _____ **3 Hrs**

Topic 7. Project _____ **6 Hrs**

Therory Hours	Lab Hours	Total
16 hours	16 Hours	32 Hours

Mr.Sanjeev Sharma
Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad

Dr. Vishal Upmanu
HOD
CSE
R. D. Engineering College
Ghaziabad

COURSE OUTCOMES

Of

IOT

Students will be explored to the interconnection and integration of the physical world and the cyber space. They are also able to design & develop IOT Devices.

1. **Understanding of IoT Concepts:**
   - Define and explain the basic concepts and principles of the Internet of Things.
   - Understand the components and architecture of IoT systems.

2. **IoT Platforms and Frameworks:**
   - Familiarity with popular IoT platforms and frameworks.
   - Hands-on experience with setting up and using IoT platforms for data management.

3. **Data Acquisition and Processing:**
   - Collecting and processing data from IoT devices.
   - Analyzing and interpreting data collected from various sensors.

4. **Security in IoT:**
   - Understanding the security challenges in IoT.
   - Implementing security measures to protect IoT devices and data.

5. **Cloud Computing for IoT:**
   - Integration of IoT with cloud computing platforms.
   - Storing and retrieving data from the cloud in an IoT context.

Director
R.D. Engineering College
Duhai, Ghaziabad

Dr. Vishal Upmanyu
Head
ECE
R.D. Engineering College
Ghaziabad

R D Engineering College, Ghaziabad

Schedule-Add On Course for B.Tech ECE-V sem

IoT

Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	14-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
2	21-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
3	28-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
4	05-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
5	12-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
6	19-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
7	26-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
8	02-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
9	09-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
10	16-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM

Mr. Prabhash Singh
Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
ECE
Ghaziabad

Dr. Vishal Jain

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow

Date: 4th Sep, 2019

Notice

Add on Course- Advanced Excel

From: Program Coordinator	To: All the ECE 4th year Students(7th Sem)

All the students of EC VII Sem, IV year are hereby informed that department is going to run an add on course on Advance excel from 14th Sep 2019.

This Advanced Microsoft Excel Course Syllabus is designed after the consultation with Industry Experts. This Advanced Excel Course Syllabus covers in-depth knowledge of pivot tables, audit and analyze worksheet data, VBA Macro, utilize data tools, collaborate with others, and create and manage macros with live Projects.

All Students are required to attend this course.

Director
R.D. Engineering College
Duhai, Ghaziabad

Dr. Vishal Upmanu

Dr. Vishal Upmanu

(Program Coordinator)

R.D. Engineering College Ghaziabad ECE Dr. Vishal Upmanu

Dr. Vishal Upmanu

(HOD, ECE)

CC:

Director

Dean Academics

IQAC

Departmental Notice Board

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow

Syllabus- Add On Course for B.Tech ECE – VII Sem

Advanced Excel

Session 2019-20

This Advanced Microsoft Excel Course Syllabus is designed after the consultation with Industry Experts. This Advanced Excel Course Syllabus covers in-depth knowledge of pivot tables, audit and analyze worksheet data, VBA Macro, utilize data tools, collaborate with others, and create and manage macros with live Projects.

This advanced Excel course syllabus is designed for the intermediate Excel user who desires to learn more advanced skills. Learn the most advanced formulas, functions, charts and types of financial analysis to be an Excel power user.

Topic 1 Excel Introduction, Customizing Excel and using basic functions **1 Hrs**

- An overview of the screen, navigation and basic spreadsheet concepts
- Various selection techniques
- Shortcut Keys
- Customizing the Ribbon • Using and Customizing AutoCorrect
- Changing Excel's Default Options
- Using Functions – Sum, Average, Max,Min, Count, Counta
- Absolute, Mixed and Relative Referencing

Topic 2 Formatting and Proofing **1 Hrs**

- Currency Format, Format Painter
- Formatting Dates
- Custom and Special Formats
- Formatting Cells with Number formats, Font formats, Alignment, Borders
- Basic conditional formatting

Hands on Practice **2 Hrs**

Topic 3 Mathematical Functions and Protecting Excel **1 Hrs**

- SumIf, SumIfs CountIf, CountIfs AverageIf, AverageIfs, Nested IF, IFERROR Statement, AND, OR, NOT
- File Level Protection
- Workbook, Worksheet Protection

Topic 4 Text Functions and Date and Time Functions **1 Hrs**

- Upper, Lower, Proper
- Left, Mid, Right
- Trim, Len, Exact
- Concatenate
- Find, Substitute
- Today, Now
- Day, Month, Year
- Date, Date if, DateAdd
- EOMonth, Weekday

Hands on Practice **2 Hrs**

Topic 5 Advanced Paste Special Techniques in Excel 2013 / 2016 & 365 **3 Hrs**

- Paste Formulas, Paste Formats
- Paste Validations
- Transpose Tables
- New Charts – Tree map & Waterfall
- Sunburst, Box and whisker Charts

Director
R.D. Engineering College
Duhai, Ghaziabad

Dr. Vishal Goyal
R.D. Engineering College
HoD ECE
Ghaziabad

- Combo Charts – Secondary Axis
- Adding Slicers Tool in Pivot & Tables
- Using Power Map and Power View
- Forecast Sheet
- Sparklines -Line, Column & Win/ Loss
- Using 3-D Map
- New Controls in Pivot Table – Field, Items and Sets
- Various Time Lines in Pivot Table
- Auto complete a data range and list
- Quick Analysis Tool
- Smart Lookup and manage Store Sorting and Filtering
- Filtering on Text, Numbers & Colors
- Sorting Options
- Advanced Filters on 15-20 different criteria(s) Printing Workbooks
- Setting Up Print Area
- Customizing Headers & Footers
- Designing the structure of a template
- Print Titles –Repeat Rows / Columns

Hands on Practice **3 Hrs**

Topic 6 Advance Excel What If Analysis **2 Hrs**

- Goal Seek
- Scenario Analysis
- Data Tables (PMT Function)
- Solver Tool

Topic 7 Logical Functions **2 Hrs**

- If Function
- How to Fix Errors – if error
- Nested If
- Complex if and or functions

Hands on Practice **2 Hrs**

Topic 8 Data Validation **1 Hrs**

- Number, Date & Time Validation
- Text and List Validation
- Custom validations based on formula for a cell
- Dynamic Dropdown List Creation using Data Validation – Dependency List

Topic 9 Lookup Functions **1 Hrs**

- Vlookup / HLookup
- Index and Match
- Creating Smooth User Interface Using Lookup
- Nested VLookup
- Reverse Lookup using Choose Function
- Worksheet linking using Indirect
- Vlookup with Helper Column

Hands on Practice **2 Hrs**

Topic 10 Pivot Tables **2 Hrs**

- Creating Simple Pivot Tables
- Basic and Advanced Value Field Setting
- Classic Pivot table
- Choosing Field
- Filtering PivotTables
- Modifying PivotTable Data
- Grouping based on numbers and Dates
- Calculated Field & Calculated Items
- Arrays Functions
- What are the Array Formulas, Use of the Array Formulas?
- Basic Examples of Arrays (Using ctrl+shift+enter).
- Array with if, len and mid functions formulas.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Dr. Vishal Sharma
Head
ECE
Ghaziabad

• Advanced Use of formulas with Array.

Hands on Practice _____ **3 Hrs**

Topic 11 Charts and slicers and Excel Dashboard **2 Hrs**

- Various Charts i.e. Bar Charts / Pie Charts / Line Charts
- Using SLICERS, Filter data with Slicers
- Manage Primary and Secondary Axis
- Adding Tables and Charts to Dashboard
- Adding Dynamic Contents to Dashboard

Hands on Practice _____ **2 Hrs**

Topic 12 VBA Macro **3 Hrs**

Introduction to VBA

- What Is VBA? What Can You Do with VBA?
- Recording a Macro
- Procedure and functions in VBA

Variables in VBA

- What is Variables?
- Using Non-Declared Variables
- Variable Data Types
- Using Const variables

Message Box and Input box Functions

- Customizing Msgboxes and Input box
- Reading Cell Values into Messages
- Various Button Groups in VBA

If and select statements

- Simple If, Elseif Statements
- Defining select case statements

Looping in VBA

- Introduction to Loops and its Types
- The Basic Do and For Loop
- Exiting from a Loop
- Advanced Loop Examples

Mail Functions – VBA

- Using Outlook Namespace
- Outlook Configurations, MAPI
- Worksheet / Workbook Operations
- Merge Worksheets using Macro
- Merge multiple excel files into one sheet
- Split worksheets using VBA filters
- Worksheet copiers

Hands on Practice _____ **4 Hrs**

Therory Hours	Lab Hours	Total
20 hours	20 Hours	40 Hours

R.D. Engineering College Head Upmanu DEPARTMENT OF MCA Ghaziabad

Director R.D. Engineering College Duhai, Ghaziabad

Dr. Vishal Upmanu
Program Coordinator

ECE

COURSE OUTCOMES

Of

ADVANCED EXCEL

The course outcomes for an Advanced Excel course can vary depending on the specific content and objectives of the course. However, here are some common outcomes you might expect from an Advanced Excel course:

1. **Advanced Formulas and Functions:**
- Ability to use advanced functions such as VLOOKUP, HLOOKUP, INDEX-MATCH, and nested functions.
- Understanding and implementing array formulas and logical functions.

2. **Data Analysis and Visualization:**
- Proficiency in using PivotTables and Pivot Charts for data analysis.
- Creating and customizing various types of charts to visualize data effectively.
- Understanding and using data validation and conditional formatting.

3. **Data Management:**
- Sorting and filtering data efficiently.
- Combining data from multiple sources and cleaning data for analysis.

4. **Advanced Charting and Graphs:**
- Creating complex charts like waterfall charts, radar charts, and bubble charts.
- Customizing and formatting charts for professional presentations.

5. **Collaboration and Sharing:**
- Sharing and protecting workbooks.
- Collaborating on Excel files using features like Track Changes.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Dr. Vishal Upmanu
Head
ECE
Ghaziabad

R D Engineering College, Ghaziabad

Schedule-Add On Course for B.Tech ECE-VII sem

Advanced Excel

Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	14-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
2	21-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
3	28-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
4	05-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
5	12-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
6	19-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
7	26-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
8	02-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
9	09-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
10	16-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM

Dr. Vishal Upmanu
Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad

Department of Mechanical Engineering

AICTE ID: 1-3548321

College Code: 231

R. D. ENGINEERING COLLEGE

Approved by AICTE New Delhi & Affiliated to Dr. APJ Abdul Kalam Technical University, Lucknow under the aegis of IQAC

Date…03 Sep 2019

Department of Mechanical Engineering

Notice

All the students of ME III Sem, 2nd year are hereby informed that department is going to run an add on course on AUTO CAD from 14th Sep 2019.
This Auto CAD Course Syllabus is designed after the consultation with Industry Experts which covers in-depth knowledge of design.

All Students are required to register this course.

Prof. Sanjay Paliwal
(Head, ME)

R.D. Engineering College Head ME

CC:
Director
IQAC
Departmental Notice Board
Encls:
Syllabus of course
Schedule of course
Course Contents

Director
R.D. Engineering College
Duhai, Ghaziabad

R D Engineering College, Ghaziabad

Auto CAD

Add On Course for B. Tech (ME, III Sem) Session 2019-20

Syllabus

Beginner AutoCAD

Learn basic drawing and modifying techniques for drafting and technical drawing, using AutoCAD to create drawings that can be used to build and real objects both mechanical andarchitectural. We'll cover basic methods of printing and plotting layouts and sheets, working between model space and paper space, and scaling drawings through viewports.

Course Outline

1: Getting Started with AutoCAD

- Opening and Creating Drawings
- Exploring the AutoCAD interface
- Zooming and Panning

2: Basic Drawing & Editing Commands

- Using the Mouse, Keyboard, and Enter Key to work quickly and efficiently in AutoCAD Lines
- Circles
- Rectangles

3: Creating a Simple Drawing

- Creating Simple Drawings
- Using Modify tools to arrange an office layout

4: Drawing Precision in AutoCAD

- Polar and Ortho Tracking Entering
- Coordinates and AnglesObject
- Snaps and Tracking

5: Making Changes in Your Drawing

- Move
- Copy
- Rotate
- Mirror
- Scale
- Using the reference option with the Scale Tool

6: Drawing Templates

- Using Template Files (.dwt) to Make New Drawing
- Exploring what Settings and Elements are saved with Templates

7: Organizing Your Drawing with Layers

- Layer States
- Properties by Layer
-

R.D. Engineering College Head ME

Director
R.D. Engineering College
Duhai, Ghaziabad

Layer Tools

8: Object Types

- Polylines
- Arcs
- Polygons
- Ellipses

9: Editing Commands

- Trim and Extend
- Fillet and Chamfer
- Polyline Edit and Spline
- Offset and Explode Join

10: Inserting Blocks

- The Insert Block Command Inserting

  Blocks with Tool PalettesDynamic

  Blocs

  Migrating Blocks and other Elements between Drawings with Design Center

11: Adding Dimensions

- Using Dimensioning Tools
- Dimensioning in a Layout Tab vs. the Model TabUsing
- Dimension Styles
- Editing Dimensions

Theory/ Lab	Total Hours
32 Hrs	32

Mr. Pawan Yadav
Trainer

Prof. Sanjay Paliwal
Head ME

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. ENGINEERING COLLEGE, GHAZIABAD
DEPARTMENT OF MECHANICAL ENGINEERING

COURSE OUTCOME (2019-20)

Auto CAD

Course Description

Introduces Autodesk's AutoCAD software as a design and drafting tool. Introduces basic 2D CAD commands, command interface, workspace, viewports and printing concepts. Covers creation, retrieval and modification of 2D drawing files that meet industry standards with an emphasis on mechanical design for the manufacturing industry.

Intended Outcomes for the course

1. Upon completion of the course students will be able to:
2. Utilize the power and precision of AutoCAD as a drafting and design tool used in the mechanical design and manufacturing industries.
3. Apply basic CAD concepts to develop and construct accurate 2D geometry through creation of basic geometric constructions.
4. Create, manipulate and edit 2D drawings and figures.
5. Apply elements of mechanical drafting such as layers, dimensions, drawing formats, and 2D figures in projects with a focus on ANSI industry standards.

R.D. Engineering College Head ME

Director
R.D. Engineering College
Duhai, Ghaziabad

R D Engineering College, Ghaziabad

AUTO CAD TRAINING SCHEDULE

Add On Course for B.Tech (ME , III SEM)

Session 2019-20

SN	Date	Day	Timings (Theory/ Lab)
1	14-09-2019	SAT	09:00AM - 11:00AM(Introductory Session)
2	21-09-2019	SAT	09:00AM - 12:00PM
3	28-09-2019	SAT	09:00AM - 12:00PM
4	05-10-2019	SAT	09:00AM - 12:00PM
5	12-10-2019	SAT	09:00AM - 12:00PM
6	19-10-2019	SAT	09:00AM - 12:00PM
7	26-10-2019	SAT	09:00AM - 12:00PM
8	02-11-2019	SAT	09:00AM - 12:00PM
9	09-11-2019	SAT	09:00AM - 12:00PM
10	16-11-2019	SAT	09:00AM - 12:00PM
11	23-11-2019	SAT	09:00AM - 12:00PM

Prof. Sanjay Paliwal
Head ME

Head ME

Director
R.D. Engineering College
Duhai, Ghaziabad

AICTE ID: 1-3548321

College Code: 231

R. D. ENGINEERING COLLEGE

Approved by AICTE New Delhi & Affiliated to Dr. APJ Abdul Kalam Technical University, Lucknow under the aegis of IQAC

Date…03 Sep 2019

Department of Mechanical Engineering

Notice

All the students of ME Vth Sem, 3rd year are hereby informed that department is going to run an add on course on SOLID WORKS from 19th Sep 2019.
This SOLID WORKS Course Syllabus is designed after the consultation with Industry Experts which covers in-depth knowledge of design.

All Students are required to register this course.

R. D. Engineering College Head ME

Prof. Sanjay Paliwal
(Head, ME)

CC:
Director
IQAC
Departmental Notice Board
Encls:
Syllabus of course
Schedule of course
Course Contents

Director
R.D. Engineering College
Duhai, Ghaziabad

SOLIDWORKS Essentials Course

Duration:

Prerequisites:

Course Outline

SolidWorks Essentials teaches you how to use the SolidWorks mechanical design automation software to build parametric models ofparts and assemblies, and how to make drawings of those parts and assemblies.

The main topics covered include:

Lesson 1: SolidWorks Basics and theUser Interface

File References
Opening Files
The SolidWorks User Interface
Using the Command Manager

Lesson 2: Introduction to Sketching

2D Sketching
Saving Files
Sketching
Sketch Relations
Dimensions
Extrude

Lesson 3: Basic Part Modeling

Basic Modeling
Terminology
Boss Feature
Cut Feature
Dimensioning
Filleting
Editing Tools

Lesson 4: Patterning

Why Use Patterns?
Linear Pattern
Circular Patterns
Mirror Patterns

Lesson 5: Revolved Features

Revolved Features
Building the Rim
Edit Material

Lesson 6: Editing: Design Changes

Part Editing
Design Changes

Lesson 7: Assembly

Creating a New Assembly
Position of the First Component
Adding Components
Mating Components

R.D. Engineering College Head ME

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. ENGINEERING COLLEGE, GHAZIABAD
DEPARTMENT OF MECHANICAL ENGINEERING

COURSE OUTCOME (2019-20)

SOLID WORK

Solid works is an engineering software package that allows engineers and designers to create detailed 3-dimensional representations of their ideas. These 3d models can then be used for virtual prototyping and simulation, blueprints or specifications, and photorealistic renders among other things. In this Solid works basic training course, you will learn the basics of how to create parts, assemblies, and drawings using the Solid works software package.

Solid Works Essentials teaches students how to use the Solid Works mechanical design automation software to build parametric models of parts and assemblies, and how to make drawings of those parts and assemblies.

Learning Outcomes

Upon completion of training, students will be able to:

1. Understand the underlying concepts of 3d modelling
2. Create basic to intermediate solid models using Solid works software
3. Detail out blueprints based on solid models or assemblies
4. Compose an assembly of multiple parts

R.D. Engineering College Head ME

Director
R.D. Engineering College
Duhai, Ghaziabad

R D Engineering College, Ghaziabad

SOLID WORK TRAINING SCHEDULE

Add On Course for B.Tech (ME , V SEM)

2019-20

SN	Date	Day	Timings (Theory/ Lab)
1	19-09-2019	SAT	10:00AM - 12:00PM(Introductory Session)
2	26-09-2019	SAT	10:00 AM - 1.00 PM
3	03-10-2019	SAT	10:00 AM - 1.00 PM
4	10-10-2019	SAT	10:00 AM - 1.00 PM
5	17-10-2019	SAT	10:00 AM - 1.00 PM
6	24-10-2019	SAT	10:00 AM - 1.00 PM
7	31-10-2019	SAT	10:00 AM - 1.00 PM
8	07-11-2019	SAT	10:00 AM - 1.00 PM
9	14-11-2019	SAT	10:00 AM - 1.00 PM
10	21-11-2019	SAT	10:00 AM - 1.00 PM
11	28-11-2019	SAT	10:00 AM - 1.00 PM

R.D. Engineering College Head ME

Prof. Sanjay Paliwal
Head ME

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow

Date: 3rd Sep, 2019

Notice

Add on Course- Advanced Excel

From: Program Coordinator	To: All the ME 4th year Students(7th Sem)

All the students of ME VII Sem, IV year are hereby informed that department is going to run an add on course on Advance excel from 14th Sep 2019.

This Advanced Microsoft Excel Course Syllabus is designed after the consultation with Industry Experts. This Advanced Excel Course Syllabus covers in-depth knowledge of pivot tables, audit and analyze worksheet data, VBA Macro, utilize data tools, collaborate with others, and create and manage macros with live Projects.

All Students are required to attend this course.

Dr. Vishal Upmanu

Dr. Vishal Upmanu
(Program Coordinator)

Prof. Sanjay Paliwal
(HOD, ME)

CC:

Director

Dean Academics

IQAC

Departmental Notice Board

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow

Syllabus- Add On Course for B.Tech ME VII Sem

Advanced Excel

Session 2019-20

This Advanced Microsoft Excel Course Syllabus is designed after the consultation with Industry Experts. This Advanced Excel Course Syllabus covers in-depth knowledge of pivot tables, audit and analyze worksheet data, VBA Macro, utilize data tools, collaborate with others, and create and manage macros with live Projects.

This advanced Excel course syllabus is designed for the intermediate Excel user who desires to learn more advanced skills. Learn the most advanced formulas, functions, charts and types of financial analysis to be an Excel power user.

Topic 1 — Excel Introduction, Customizing Excel and using basic functions — **1 Hrs**

- An overview of the screen, navigation and basic spreadsheet concepts
- Various selection techniques
- Shortcut Keys
- Customizing the Ribbon • Using and Customizing AutoCorrect
- Changing Excel's Default Options
- Using Functions – Sum, Average, Max,Min, Count, Counta
- Absolute, Mixed and Relative Referencing

Topic 2 — Formatting and Proofing — **1 Hrs**

- Currency Format, Format Painter
- Formatting Dates
- Custom and Special Formats
- Formatting Cells with Number formats, Font formats, Alignment, Borders
- Basic conditional formatting

Hands on Practice — **2 Hrs**

Topic 3 — Mathematical Functions and Protecting Excel — **1 Hrs**

- SumIf, SumIfs CountIf, CountIfs AverageIf, AverageIfs, Nested IF, IFERROR Statement, AND, OR, NOT
- File Level Protection
- Workbook, Worksheet Protection

Topic 4 — Text Functions and Date and Time Functions — **1 Hrs**

- Upper, Lower, Proper
- Left, Mid, Right
- Trim, Len, Exact
- Concatenate
- Find, Substitute
- Today, Now
- Day, Month, Year
- Date, Date if, DateAdd
- EOMonth, Weekday

Hands on Practice — **2 Hrs**

Topic 5 — Advanced Paste Special Techniques in Excel 2013 / 2016 & 365 — **3 Hrs**

- Paste Formulas, Paste Formats
- Paste Validations
- Transpose Tables
- New Charts – Tree map & Waterfall
- Sunburst, Box and whisker Charts

Head ME

Director
R.D. Engineering College
Duhai, Ghaziabad

- Combo Charts – Secondary Axis
- Adding Slicers Tool in Pivot & Tables
- Using Power Map and Power View
- Forecast Sheet
- Sparklines -Line, Column & Win/ Loss
- Using 3-D Map
- New Controls in Pivot Table – Field, Items and Sets
- Various Time Lines in Pivot Table
- Auto complete a data range and list
- Quick Analysis Tool
- Smart Lookup and manage Store Sorting and Filtering
- Filtering on Text, Numbers & Colors
- Sorting Options
- Advanced Filters on 15-20 different criteria(s) Printing Workbooks
- Setting Up Print Area
- Customizing Headers & Footers
- Designing the structure of a template
- Print Titles –Repeat Rows / Columns

Hands on Practice_____ **3 Hrs**

Topic 6 Advance Excel What If Analysis **2 Hrs**

- Goal Seek
- Scenario Analysis
- Data Tables (PMT Function)
- Solver Tool

Topic 7 Logical Functions **2 Hrs**

- If Function
- How to Fix Errors – if error
- Nested If
- Complex if and or functions

Hands on Practice_____ **2 Hrs**

Topic 8 Data Validation **1 Hrs**

- Number, Date & Time Validation
- Text and List Validation
- Custom validations based on formula for a cell
- Dynamic Dropdown List Creation using Data Validation – Dependency List

Topic 9 Lookup Functions **1 Hrs**

- Vlookup / HLookup
- Index and Match
- Creating Smooth User Interface Using Lookup
- Nested VLookup
- Reverse Lookup using Choose Function
- Worksheet linking using Indirect
- Vlookup with Helper Column

Hands on Practice_____ **2 Hrs**

Topic 10 Pivot Tables **2 Hrs**

- Creating Simple Pivot Tables
- Basic and Advanced Value Field Setting
- Classic Pivot table
- Choosing Field
- Filtering PivotTables
- Modifying PivotTable Data
- Grouping based on numbers and Dates
- Calculated Field & Calculated Items
- Arrays Functions
- What are the Array Formulas, Use of the Array Formulas?
- Basic Examples of Arrays (Using ctrl+shift+enter).

Director
R.D. Engineering College
Duhai, Ghaziabad

Engineering College
Head
ME

- Array with if, len and mid functions formulas.
- Advanced Use of formulas with Array.

Hands on Practice _____ **3 Hrs**

Topic 11 Charts and slicers and Excel Dashboard **2 Hrs**

- Various Charts i.e. Bar Charts / Pie Charts / Line Charts
- Using SLICERS, Filter data with Slicers
- Manage Primary and Secondary Axis
- Adding Tables and Charts to Dashboard
- Adding Dynamic Contents to Dashboard

Hands on Practice _____ **2 Hrs**

Topic 12 VBA Macro **3 Hrs**

Introduction to VBA

- What Is VBA? What Can You Do with VBA?
- Recording a Macro
- Procedure and functions in VBA

Variables in VBA

- What is Variables?
- Using Non-Declared Variables
- Variable Data Types
- Using Const variables

Message Box and Input box Functions

- Customizing Msgboxes and Input box
- Reading Cell Values into Messages
- Various Button Groups in VBA

If and select statements

- Simple If, Elseif Statements
- Defining select case statements

Looping in VBA

- Introduction to Loops and its Types
- The Basic Do and For Loop
- Exiting from a Loop
- Advanced Loop Examples

Mail Functions – VBA

- Using Outlook Namespace
- Outlook Configurations, MAPI
- Worksheet / Workbook Operations
- Merge Worksheets using Macro
- Merge multiple excel files into one sheet
- Split worksheets using VBA filters
- Worksheet copiers

Hands on Practice _____ **4 Hrs**

Therory Hours	Lab Hours	Total
20 hours	20 Hours	40 Hours

Dr. Vishal Upmanu

Mr. Vishal Upmanu
Program Coordinator

R.D. Engineering College
Head

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. ENGINEERING COLLEGE, GHAZIABAD
DEPARTMENT OF MECHANICAL ENGINEERING

COURSE OUTCOME (2019-20)

Advanced Excel

The Advanced Excel course shows you how to work with databases in Microsoft Excel using filtering, sorting and subtotals.

This training course introduces participants to PivotTables, Macros and Hyperlinks and teaches logical, lookup, reference, and statistical functions.

If you are experienced in designing and modifying spreadsheets, can write formulas and have worked with IF and VLOOKUP functions, this advanced Excel course is for you.

Learning Outcomes

After completion of the Advanced Excel course you will be able to:

- Use advanced functions and productivity tools to assist in developing worksheets
- Manipulate data lists using Outline, Auto filter and PivotTables
- Use Consolidation to summaries and report results from multiple worksheets
- Record repetitive tasks by creating Macros
- Use Hyperlinks to move around worksheets.

R.D. Engineering College Head ME

Director
R.D. Engineering College
Duhai, Ghaziabad

R D Engineering College, Ghaziabad

Schedule-Add On Course for B.Tech ME-VII sem

Advanced Excel

Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	14-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
2	21-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
3	28-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
4	05-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
5	12-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
6	19-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
7	26-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
8	02-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
9	09-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
10	16-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM

Dr. Vishal Upmanu

Mr. Vishal Upmanu
Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad

Department of Civil Engineering

R. D. ENGINEERING COLLEGE, GHAZIABAD

(Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow)

Date: 9th Sep, 2019

NOTICE

ADD ON COURSE- CAD

From: Program Coordinator	To: All the CE 2nd year Students(3rd Sem)

All the students of CE II year (III Sem) are hereby informed that department is going to run an add on course on **CAD** from 14th Sep 2019.

This **CAD** Course Syllabus is designed after the consultation with Industry Experts and Syllabus covers in-depth knowledge of **CAD software. Students use CAD to create base maps**. It supports the creation of better construction documentation. Computer-aided drafting, or CAD, was seen as a pleasure rather than a need in the civil engineering sector.

All Students are required to attend this course.

Mr. Ahirudh Kumar

(Program Coordinator)

Dr. Pankaj Kumar Singh

(HOD,CE)

CC:

Director

Dean Academics

IQAC

Departmental Notice Board

Director
R.D. Engineering College
Duhai, Ghaziabad

R D ENGINEERING COLLEGE, GHAZIABAD
CAD TRAINING SYLLABUS
ADD ON COURSE FOR B.TECH (CE)-III SEM
SESSION 2019-20
SYLLABUS & FEATURES

CAD is a software application that is used to create drafting solutions.

It may be used to develop blueprints for bridges, buildings, and computer chips, among other things.

For drafting. it provides 2D and 3D application features. CAD is commercial software that was initially designed as a desktop application

CAD creates designs; generate model drafts or blueprints in 3D on a computer using the CAD software.

The predominant topics covered in the program includes Analysis of Space Frames, Sketch Entities and Sketch Tools, Geometry and Dimensional Constraints, Interactive Design, and Smart Dimensions..

Features of CAD:

3D Presentations. Visualizing your layouts can be challenging especially if you're forced to look at it on a flat surface.

Smart tools. Smart or automated tools are one of the general features of CAD software.

Preset models.

Collaboration tools.

Simulation tools.

Director
R.D. Engineering College
Duhai, Ghaziabad

College
R.D. Engineering

R D ENGINEERING COLLEGE, GHAZIABAD

CAD TRAINING SYLLABUS

ADD ON COURSE FOR B.TECH (CE)-III SEM

SESSION 2019-20

TOPIC 1	CONTENT	INDEX
	Introduction	**1 HRS**
	Intro	
	User Interface	
	Command Description	
	Use of Mouse	
	Use of keyboard	
	Various Features	
	Civil vs Mechnical	
	Use in Industry	
	LAB	**1 HR**
Topic 2	**Fundamentals1 HRS**	
	Line	
	Co-ordinate System	
	Absolute	
	Relative Rectangular	
	Relative Polar	
	Pick point Method	
	Zoom & Erase	
	LAB	**1 HRS**
Topic 3	**Understanding Circle**	**1 HRS**
	Line	
	Co-ordinate System	
	Absolute	
	Relative Rectangular	
	Relative Polar	
	Pick point Method	
	Zoom & Erase	
	LAB	**1 HRS**

Director
R.D. Engineering College
Ghaziabad

R.D. Engineering College Head

Topic 4	Introduction to Product Design Cycle	1 HRS
	LAB	1 HRS
Topic 5	Views, Camera, Walk-through, Render & Solar Study	1 HRS
	LAB	1 HRS
Topic 6	Types of Lines & Circle	1 HRS
	LAB	1 HRS
Topic 7	Types of Polygons & Rectangle	1 HRS
	LAB	1 HRS
Topic 8	Draw Tools	1 HRS
	LAB	1 HRS
Topic 9	Drafting Setting & Option	1 HRS
	LAB	1 HRS
Topic 10	Dimension & Styles Setting	1 HRS
	LAB	1 HRS
Topic 11	Modify Tools	1 HRS
	LAB	1 HRS
Topic 12	Text & Layer Formatting	1 HRS
	LAB	1 HRS
Topic 13	Blocks & Design Libraries	1 HRS
	LAB	1 HRS
Topic 14	Dynamic Block & W Block	1 HRS
	LAB	1 HRS

Director
R.D. Engineering College
Duhai, Ghaziabad

Topic 15	Layout & Page Setup	1 HRS
	LAB	1 HRS
Topic 16	Plotting Tools	1 HRS
	LAB	1 HRS
Topic 17	Parametric Tools	1 HRS
	LAB	1 HRS
Topic 18	Types of Projection & Elevation, Sectional Views	1 HRS
	LAB	1 HRS
Topic 19	Introduction to 3D TOOLS - Extrudes, Revolve, Sweep, Loft	1 HRS
	Solid Editing Tools, Advanced 3D Modelling Tools, Rendering Tools, Animation Tools	
	LAB	1 HRS
Topic 20	LIVE PROJECT	3 HRS

Theory Hours	Lab Hours	Total
18 hours	22 Hours	40 Hours

Mr. Aniruth Kumar
Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr. APJ Abdul Kalam Technical University, Lucknow.

Department of Civil Engineering

COURSE OUTCOME - CAD

The course outcomes of a Computer-Aided Design (CAD) course will depend on the specific objectives and curriculum of the course. However, I can provide you with a general list of potential outcomes that one might expect from a CAD course:

Understanding of CAD Software: Students should gain a comprehensive understanding of the CAD software being used in the course. This includes proficiency in using the interface, tools, and features of the software.

2D Drafting Skills: Mastery of 2D drafting is often a fundamental component of CAD courses. This includes creating accurate and detailed technical drawings using CAD software.

Geometric Dimensioning and Tolerancing (GD&T): Understanding how to apply GD&T principles is crucial in CAD for creating accurate and standardized technical drawings.

Assembly Design: Knowledge of how to create and manage assemblies is important for designing complex systems or products with multiple components.

CAD Standards and Practices: Understanding industry-standard practices and adhering to them in design work is a key outcome. This includes considerations for layering, naming conventions, and file management.

Problem Solving and Critical Thinking: CAD courses often require students to apply problem-solving skills to design challenges and encourage critical thinking in the design process.

Documentation and Technical Drawing: Producing accurate and detailed technical drawings with proper documentation is a key outcome, as these drawings are often used for manufacturing or construction purposes.

Awareness of Industry Trends: Keeping up with the latest trends and advancements in CAD technology and industry practices is essential for students to stay relevant in the field.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CE

R D ENGINEERING COLLEGE

CAD

ADD ON COURSE FOR B.TECH - CE-III SEM

SESSION 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	14-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
2	21-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
3	28-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
4	05-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
5	12-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
6	19-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
7	26-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
8	02-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
9	09-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
10	16-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM

Mr. Anirudh Kumar
Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. ENGINEERING COLLEGE, GHAZIABAD

(Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow)

Date: 6th Sep, 2019

NOTICE

ADD ON COURSE- REVIT/STADDPRO

From: Program Coordinator	To: All the CE 3rd year Students(5th Sem)

All the students of CE III year (V Sem) are hereby informed that department is going to run an add on course on **REVIT/STADDPRO** from 14th Sep 2019.

This **REVIT/STADDPRO** Course Syllabus is designed after the consultation with Industry Experts. And Syllabus covers in-depth knowledge of ETABS is an engineering software product that caters to **multi-story building analysis and design** with live Projects and **MSP** is used in Architecture, Construction, and engineering industry for periodic control of work, coordination with subcontractors, pre-planning of work, scheduling, claims analysis, tracking, bidding, design development, cost management, and maintenance with live Project.

All Students are required to attend this course.

Mr. Dharmendra Kumar

(Program Coordinator)

Dr. Pankaj Kumar Singh

(HOD,CE)

CC:

Director

Dean Academics

IQAC

Departmental Notice Board

Director
R.D. Engineering College
Duhai, Ghaziabad

R D ENGINEERING COLLEGE, GHAZIABAD
REVIT/STADDPRO TRAINING SYLLABUS
ADD ON COURSE FOR B.TECH (CE)-V SEM
SESSION 2019-20
SYLLABUS & FEATURES

This course is focused on the building design space and will help students capture ideas; communicate designs to various stakeholders, 3D Modeling, Building Information Modeling and Project Planning Management. This is possible by the inclusion of advanced tools.

Objective:

This course provides the participants a combination of software tools to manage the entire lifecycle of building projects. As building projects also includes project management these concepts and tools are covered as well.

Revit is built for Building modeling information. Revit software includes features for building architectural design, MEP and structural engineering, and construction. STAAD stands for Structural Analysis and Designing.

Revit design **allows designers to develop and execute complex work on time while also providing realistic, high-quality 3D visuals to the client**. Revit modeling services, which include Revit 3D models, Revit drafting, and Revit design, allow for a clear representation of the genuine architectural structure.

Revit is used **to coordinate all data inputs (including CAD) and produce federated project deliverables**. Both programs are often used within the same firm, with BIM and CAD specialists working on different elements of a project.

Features:

Interoperability improvements. Connect form making to documentation with improved Revit interoperability for tools like Rhino and FormIt Pro.

Shared parameters in key schedules.

Improved rebar modelling, detailing.

Tapered walls.

Native PDF export.

Improved documentation efficiency.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D

REVIT TRAINING SYLLABUS
ADD ON COURSE FOR B.TECH (CE)-V SEM
SESSION 2019-20

TOPIC	CONTENT	INDEX
Topic 1	Introduction to BIM & Revit Architecture	1 HRS
	Lab	1 HRS
Topic 2	Structural Element	1 HRS
	Lab	1 HRS
Topic 3	Place and modify Walls & Complex Walls	1 HRS
	Lab	1 HRS
Topic 4	Sheets and Title Blocks	1 HRS
	Lab	1 HRS
Topic 5	Views, Camera, Walk-through, Render & Solar Study	1 HRS
	Lab	1 HRS
Topic 6	In-Place Families	1 HRS
	Lab	1 HRS
Topic 7	Place Doors, Windows & Components	1 HRS
	Lab	1 HRS
Topic 8	Family Creation	1 HRS
	Lab	1 HRS
Topic 9	Site Design	1 HRS
	Lab	1 HRS
Topic 10	Dimensions and Constraints	1 HRS
	Lab	1 HRS
Topic 11	**LIVE PROJECT** (LAB)	3 HRS

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D Engineering College
Head CE

STADD TRAINING SYLLABUS
ADD ON COURSE FOR B.TECH (CE)-V SEM
SESSION 2019-20

Topic 1	**Introduction to Structural Engineering**	2 HRS
	Introduction to STAAD.Pro V8i	
	Model Generation and Editing	
	Assigning loads	
	Automatic load generations:	
	Lab	1 HRS
Topic 2	**Slab, Wind and Moving loads**	1 HRS
	Creating Load Combinations	
	Concrete Design	
	Lab	1 HRS
Topic 3	**Column and Beam design**	1 HRS
	Seismology	
	Seismic Analysis and Design	
	Dynamic Analysis	
	Response Spectrum	
	Time History Analysis	
	Lab	1 HRS
Topic 4	FEM / FEA	1 HRS
	Introduction	
	Water Tank Design	
	Slab Design	
	Staircase Design	

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D Engineering College

	Shear wall Design	
	Bridge Deck design using STAAD.Beava	
	Lab	1 HRS
Topic 5	Steel Design	1 HRS
	Introduction	
	Steel Frame Structure Design	
	Overhead Transmission Line Towers Design.	
	Steel Structure design with Pushover Analysis	
	Lab	1 HRS
Topic 6	Foundation Designs	1 HRS
	Isolate, Combined, Strip, Mat and Pile Cap	
	Report Generation and Plotting	
	Lab	1 HRS
Topic 7	**LIVE PROJECT (LAB)**	3 HRS

Theory Hours	Lab Hours	Total
17 hours	23 Hours	40Hours

Mr. Dharmendra Kumar
Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CE

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr. APJ Abdul Kalam Technical University, Lucknow.

Department of Civil Engineering

COURSE OUTCOME - CAD

The course outcomes of a Computer-Aided Design (CAD) course will depend on the specific objectives and curriculum of the course. However, I can provide you with a general list of potential outcomes that one might expect from a CAD course:

Understanding of CAD Software: Students should gain a comprehensive understanding of the CAD software being used in the course. This includes proficiency in using the interface, tools, and features of the software.

2D Drafting Skills: Mastery of 2D drafting is often a fundamental component of CAD courses. This includes creating accurate and detailed technical drawings using CAD software.

Geometric Dimensioning and Tolerancing (GD&T): Understanding how to apply GD&T principles is crucial in CAD for creating accurate and standardized technical drawings.

Assembly Design: Knowledge of how to create and manage assemblies is important for designing complex systems or products with multiple components.

CAD Standards and Practices: Understanding industry-standard practices and adhering to them in design work is a key outcome. This includes considerations for layering, naming conventions, and file management.

Problem Solving and Critical Thinking: CAD courses often require students to apply problem-solving skills to design challenges and encourage critical thinking in the design process.

Documentation and Technical Drawing: Producing accurate and detailed technical drawings with proper documentation is a key outcome, as these drawings are often used for manufacturing or construction purposes.

Awareness of Industry Trends: Keeping up with the latest trends and advancements in CAD technology and industry practices is essential for students to stay relevant in the field.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CE

R D ENGINEERING COLLEGE

REVIT/STADDPRO

ADD ON COURSE FOR B.TECH - CE-V SEM

SESSION 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	14-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
2	21-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
3	28-09-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
4	05-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
5	12-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
6	19-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
7	26-10-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
8	02-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
9	09-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM
10	16-11-2019	09:00AM - 11:00AM	11:00AM - 01:00PM

Mr. Dharmendra Kumar
Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D Engineering College
Head
CE

R. D. ENGINEERING COLLEGE, GHAZIABAD

(Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow)

Date: 6th Sep, 2019

NOTICE

ADD ON COURSE-ETABS/AUTOCAD/MSP

From: Program Coordinator	To: All the CE 4th year Students(7th Sem)

All the students of CE IV year (VII Sem) are hereby informed that department is going to run an add on course on **ETABS/AUTOCAD/MSP** from 14th Sep 2019.

This ETABS provides like intuitive and integrated features make applications of any complexity practical to implement. Interoperability with a series a design and documentation platform makes ETABS a coordinated and productive tool for design which range from simple 2D frames to elaborate modern high rises. Although quick and easy for simple structure, ETABS can also handle the largest and most complex building models, including a wide range of geometrical nonlinear behaviours.

All Students are required to attend this course.

Dr. Pankaj Kumar Singh

(Program Coordinator)

Dr. Pankaj Kumar Singh

(HOD, CE)

CC:

Director

Dean Academics

IQAC

Departmental Notice Board

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
CE

R D ENGINEERING COLLEGE, GHAZIABAD
ETABS/AUTOCAD/MSP TRAINING SYLLABUS
ADD ON COURSE FOR B.TECH (CE)-V SEM
SESSION 2019-20
SYLLABUS & FEATURES

This ETABS provides like intuitive and integrated features make applications of any complexity practical to implement. Interoperability with a series a design and documentation platform makes ETABS a coordinated and productive tool for design which range from simple 2D frames to elaborate modern high rises. Although quick and easy for simple structure, ETABS can also handle the largest and most complex building models, including a wide range of geometrical nonlinear behaviours.

FEATURES OF ETABS COURSE:

» ETABS offers a single user interface to perform: Modelling, Analysis, Design, Detailing and Reporting.
» A model explorer is available for quick access to objects properties and forms.
» Direct graphics with hardware accelerated graphics allow for navigation of models with flythrough and fast rotation.
» ETABS has wide selection of templates for quickly starting anew model.
» Plan views and elevation views are automatically generated at every grid line.
» Many drawing and drafting utilities are built into ETABS to enhance the engineers modelling experience.
» ETABS data can be viewed and edited using onscreen dock able tables.
» Engineers have many options when it comes to mesh generation.
» ETABS has built in library of standard concrete, Steel, and composite sections of both US and International standard sections.
» Shell elements are used to model wall, floor and ramps.
» Link elements are available for users to accurately represent the behavior of the structure.
» Users can create and apply hinge properties to perform pushover analysis.
» Nonlinear behavior can be modelled for frame elements using fiber hinges.
» Rigid, semi rigid and flexible floor diaphragms can be created.
» ETABS will automatically generate and apply seismic and wind loads based on various international codes.
» Its dynamic analysis capabilities include calculation of vibration modes using Ritz or Eigen vectors, response spectrum analysis and time history analysis for both linear and non-linear behavior.
» Incremental construction sequences modelling and loading can be modelled in ETABS. Fully integrated steel connection design including members sizing is also available.
» Rendered views can be used to create images to include in client reports.
» ETABS has multiple lighting option shadows and texture options to create images of your structure.
» ETABS has complete drawing generation capabilities.
» The report generation features include an indexed table of contents, models definition information and analysis and design results in a tabulated format.
» Reports are viewable within ETABS with live documents navigation connected to the model explorer and directly exportable to MS word.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Head CE

ETABS Classes can handle the following types of system and analyses easily:

»Multi story commercial, government and health care facilities.
»Parking garages with circular and linear ramps.
»Staggered truss building.
»Building with steel, concrete, composite or joist floor farming.
»Building based on multiple/ rectangular or cylindrical grid system.
»Flat and waffle slab concrete building.
»P-Delta analysis with static or dynamic analysis
»Foundation / supports settlement.
»Non-linear static pushover.
»Building with base Isolators and Dampers.

R.D. Engineering College
Head
CE

Director
R.D. Engineering College
Duhai, Ghaziabad

R D ENGINEERING COLLEGE, GHAZIABAD
ETABS/AUTOCAD/MSP TRAINING SYLLABUS
ADD ON COURSE FOR B.TECH (CE)-VII SEM
SESSION 2019-20

Topic 1		Modeling of Building Structure	1 Hrs
	Lab		2 Hrs
Topic 2		Object Editing tools	1 Hrs
	Lab		2 Hrs
Topic 3		Property specification	2 Hrs
	Lab		2 Hrs
Topic 4		Loads & load combination	2 Hrs
	Lab		2 Hrs
Topic 5		Analysis of Building System	3 Hrs
	Lab		4 Hrs
Topic 6		Concrete Frame Design	2 Hrs
	Lab		3 Hrs
Topic 7		Shear Wall Design	2 Hrs
	Lab		3 Hrs
Topic 8		Steel Frame Design	2 Hrs
	Lab		3 Hrs
Topic 9		Steel connection & Joist Design	2 Hrs
	Lab		2 Hrs

Theory Hours	Lab Hours	Total
17 hours	23 Hours	40Hours

Dr. Pankaj Kumar Singh
Program Coordinator

R D Engineering College
Head CE

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr. APJ Abdul Kalam Technical University, Lucknow.

Department of Civil Engineering

COURSE OUTCOME - CAD

The course outcomes of a Computer-Aided Design (CAD) course will depend on the specific objectives and curriculum of the course. However, I can provide you with a general list of potential outcomes that one might expect from a CAD course:

Understanding of CAD Software: Students should gain a comprehensive understanding of the CAD software being used in the course. This includes proficiency in using the interface, tools, and features of the software.

2D Drafting Skills: Mastery of 2D drafting is often a fundamental component of CAD courses. This includes creating accurate and detailed technical drawings using CAD software.

Geometric Dimensioning and Tolerancing (GD&T): Understanding how to apply GD&T principles is crucial in CAD for creating accurate and standardized technical drawings.

Assembly Design: Knowledge of how to create and manage assemblies is important for designing complex systems or products with multiple components.

CAD Standards and Practices: Understanding industry-standard practices and adhering to them in design work is a key outcome. This includes considerations for layering, naming conventions, and file management.

Problem Solving and Critical Thinking: CAD courses often require students to apply problem-solving skills to design challenges and encourage critical thinking in the design process.

Documentation and Technical Drawing: Producing accurate and detailed technical drawings with proper documentation is a key outcome, as these drawings are often used for manufacturing or construction purposes.

Awareness of Industry Trends: Keeping up with the latest trends and advancements in CAD technology and industry practices is essential for students to stay relevant in the field.

Director
R.D. Engineering College
Duhai, Ghaziabad

R D ENGINEERING COLLEGE

ETABS/AUTOCAD/MSP

ADD ON COURSE FOR B.TECH - CE-VII SEM

SESSION 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	14-09-2018	09:00AM - 11:00AM	11:00AM - 01:00PM
2	21-09-2018	09:00AM - 11:00AM	11:00AM - 01:00PM
3	28-09-2018	09:00AM - 11:00AM	11:00AM - 01:00PM
4	05-10-2018	09:00AM - 11:00AM	11:00AM - 01:00PM
5	12-10-2018	09:00AM - 11:00AM	11:00AM - 01:00PM
6	19-10-2018	09:00AM - 11:00AM	11:00AM - 01:00PM
7	26-10-2018	09:00AM - 11:00AM	11:00AM - 01:00PM
8	02-11-2018	09:00AM - 11:00AM	11:00AM - 01:00PM
9	09-11-2018	09:00AM - 11:00AM	11:00AM - 01:00PM
10	16-11-2018	09:00AM - 11:00AM	11:00AM - 01:00PM

Dr. Pankaj Kumar Singh
Program Coordinator

R.D. Engineering College Head CE

Director
R.D. Engineering College
Duhai, Ghaziabad

Department of MBA

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow

Date: 05/08/2019

Notice

Add on Course-PDP

From: Program Coordinator	To: All the MBA IST Year Students (I st sem)

All the students of MBA IST Year (I Sem) are hereby informed that department is going to run an add on course on PDP from 10/08/2019.

This PDP course Syllabus is designed after the consultation with Industry Experts. This is a basic course for personality development. This program is designed to make student capable to speak according to industry norms.

All Students are required to attend this course.

R.D. Engineering College Head MBA

Mr.Sarthak Tyagi

(Program Coordinator)

Dr. Gaurav Bansal

(Head, MBA)

CC:

Director

Dean Academics

IQAC

Departmental Notice Board

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College, Ghaziabad (231)

Department of Management (MBA)

Add-on Course

Personality Development Programme Course Syllabus

For online certificate program of personality Development, it includes eight weeks comprises of the given below courses layout:-

1. **Week 1:** Define Personality, Determinants of Personality Development, Perception – Definition, Perceptual Process.
2. **Week 2:** Factors of Association – Relationship, Personality Traits, Developing Effective Habits, Emotional Intelligence.
3. **Week 3:** Motivation, Introspection, Self-Assessment, Self-Appraisal & Self-development, Sigmund Freud Id, Ego & Super Ego.
4. **Week 4:** Self Esteem and Maslow, Self Esteem & Erik Erikson, Mind Mapping, Competency Mapping & 360 Degree Assessment, Types of Personalities – Introvert, Extrovert & Ambivert person, Effective Communication & Its key aspects.
5. **Week 5:** Assertiveness, Decision-making skills, Conflict: Process & Resolution, Leadership & Qualities of Successful Leader.
6. **Week 6:** Interpersonal Relationship, Personality – Spiritual journey beyond the management of change, Good manners & Etiquties, Effective Speech, Understanding Body language, projective positive body language.
7. **Week 7:** Attitude – Concept -Significance -Factors affecting attitudes – Positive attitude–Advantages –Negative attitude-Disadvantages -Ways to develop a positive attitude,
8. **Week 8**:Carl Jung 's contribution to personality development theory.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
MBA

9. **Week 9:** Stress Management: Introduction, Causes, stress management techniques,
10. **Week 10:** Time management: Importance of time management, Techniques of time management, Time management styles.

Personality Development Programme

Here is the list of subjects studied in the personality development course:

- Presentation Skills
- Communication Skills
- Interpersonal Skills
- Work Place Etiquette
- Meeting / Telephone / Group Etiquette
- Body Language
- Self Confidence
- Positive Attitude
- Conversation English
- Pronunciations
- Story narrations, Verb Patterns
- Speech fluency
- Self Motivation
- Confidence Building
- Role Plays
- Reporting, Speaking habits
- Powerful Presentation Techniques
- Time management
- Voice modulation
- Stress Management
- Building a positive attitude – creative thinking
- Executive Corporate Attire / Formal Dressing

Theory Hours	Total
40 Hours(20+20)	40 Hours

Mr. Sarthak Tyagi

Program Coordinator

R.D. Engineering College Head MBA

Director
R.D. Engineering College
Duhai, Ghaziabad

R D Engineering College, Ghaziabad

ADVANCE EXCEL

Add On Course for MBA (Ist Sem) Session 2019-20

PDP COURSE OUTCOME AFTER COMPLETION

The course outcomes after completion of a program or course depend on the specific nature and goals of that particular educational or training initiative. Below are general types of outcomes that individuals might expect after completing different types of courses.

Some common course outcomes are:

1. Gain a deep understanding of the subject matter covered in the course.
2. Acquire knowledge of key theories, principles, and concepts.
3. Develop practical skills relevant to the course content.
4. Acquire hands-on experience through practical exercises, projects, or simulations.
5. Enhance critical thinking abilities.

R.D. Engineering College Head MBA

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D.ENGINEERING COLLEGE, GHAZIABAD

Schedule-Add On Course for MBA I[ST] Year I Sem

PDP

Session 2019-2020

SN	Date	Timings (Theory)	Timings (Lab)
1	10/08/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
2	17/08/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
3	24/08/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
4	07/09/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
5	14/09/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
6	21/09/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
7	28/09/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
8	05/10/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
9	12/10/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
10	19/10/2019	10:00AM - 12:00PM	02:00PM - 04:00PM

Mr. Sarthak Tyagi

Program Coordinator

R.D. Engineering College Head MBA

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow

Date: 08th Aug, 2019

Notice

Add on Course- Advanced Excel

From: Program Coordinator	To: All the MBA 2nd year Students(3rd Sem)

All the students of MBA III Sem, II year are hereby informed that department is going to run an add on course on Advance excel from 17th Aug. 2019.

This Advanced Microsoft Excel Course Syllabus is designed after the consultation with Industry Experts. This Advanced Excel Course Syllabus covers in-depth knowledge of pivot tables, audit and analyze worksheet data, VBA Macro, utilize data tools, collaborate with others, and create and manage macros with live Projects.

All Students are required to attend this course.

Dr. Vishal Upmanu

Dr. Vishal Upmanu

(Program Coordinator)

Dr. Gaurav Bansal

(HOD, MBA)

CC:

Director

Dean Academics

IQAC

Departmental Notice Board

Director
R.D. Engineering College
Duhai, Ghaziabad

R. D. Engineering College, Ghaziabad

Approved by AICTE & Affiliated to Dr.APJ Abdul Kalam Technical University, Lucknow

Syllabus- Add On Course for MBA– III Sem

Advanced Excel

Session 2019-20

This Advanced Microsoft Excel Course Syllabus is designed after the consultation with Industry Experts. This Advanced Excel Course Syllabus covers in-depth knowledge of pivot tables, audit and analyze worksheet data, VBA Macro, utilize data tools, collaborate with others, and create and manage macros with live Projects.

This advanced Excel course syllabus is designed for the intermediate Excel user who desires to learn more advanced skills. Learn the most advanced formulas, functions, charts and types of financial analysis to be an Excel power user.

Topic 1 Excel Introduction, Customizing Excel and using basic functions **1 Hrs**

- An overview of the screen, navigation and basic spreadsheet concepts
- Various selection techniques
- Shortcut Keys
- Customizing the Ribbon • Using and Customizing AutoCorrect
- Changing Excel's Default Options
- Using Functions – Sum, Average, Max,Min, Count, Counta
- Absolute, Mixed and Relative Referencing

Topic 2 Formatting and Proofing **1 Hrs**

- Currency Format, Format Painter
- Formatting Dates
- Custom and Special Formats
- Formatting Cells with Number formats, Font formats, Alignment, Borders
- Basic conditional formatting

Hands on Practice **2 Hrs**

Topic 3 Mathematical Functions and Protecting Excel **1 Hrs**

- SumIf, SumIfs CountIf, CountIfs AverageIf, AverageIfs, Nested IF, IFERROR Statement, AND, OR, NOT
- File Level Protection
- Workbook, Worksheet Protection

Topic 4 Text Functions and Date and Time Functions **1 Hrs**

- Upper, Lower, Proper
- Left, Mid, Right
- Trim, Len, Exact
- Concatenate
- Find, Substitute
- Today, Now
- Day, Month, Year
- Date, Date if, DateAdd
- EOMonth, Weekday

Hands on Practice **2 Hrs**

Topic 5 Advanced Paste Special Techniques in Excel 2013 / 2016 & 365 **3 Hrs**

- Paste Formulas, Paste Formats
- Paste Validations
- Transpose Tables

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Head MBA

- New Charts – Tree map & Waterfall
- Sunburst, Box and whisker Charts
- Combo Charts – Secondary Axis
- Adding Slicers Tool in Pivot & Tables
- Using Power Map and Power View
- Forecast Sheet
- Sparklines -Line, Column & Win/ Loss
- Using 3-D Map
- New Controls in Pivot Table – Field, Items and Sets
- Various Time Lines in Pivot Table
- Auto complete a data range and list
- Quick Analysis Tool
- Smart Lookup and manage Store Sorting and Filtering
- Filtering on Text, Numbers & Colors
- Sorting Options
- Advanced Filters on 15-20 different criteria(s) Printing Workbooks
- Setting Up Print Area
- Customizing Headers & Footers
- Designing the structure of a template
- Print Titles –Repeat Rows / Columns

Hands on Practice **3 Hrs**

Topic 6 Advance Excel What If Analysis **2 Hrs**

- Goal Seek
- Scenario Analysis
- Data Tables (PMT Function)
- Solver Tool

Topic 7 Logical Functions **2 Hrs**

- If Function
- How to Fix Errors – if error
- Nested If
- Complex if and or functions

Hands on Practice **2 Hrs**

Topic 8 Data Validation **1 Hrs**

- Number, Date & Time Validation
- Text and List Validation
- Custom validations based on formula for a cell
- Dynamic Dropdown List Creation using Data Validation – Dependency List

Topic 9 Lookup Functions **1 Hrs**

- Vlookup / HLookup
- Index and Match
- Creating Smooth User Interface Using Lookup
- Nested VLookup
- Reverse Lookup using Choose Function
- Worksheet linking using Indirect
- Vlookup with Helper Column

Hands on Practice **2 Hrs**

Topic 10 Pivot Tables **2 Hrs**

- Creating Simple Pivot Tables
- Basic and Advanced Value Field Setting
- Classic Pivot table
- Choosing Field
- Filtering PivotTables
- Modifying PivotTable Data
- Grouping based on numbers and Dates
- Calculated Field & Calculated Items

R.D. Engineering College Head MBA

Director
R.D. Engineering College
Duhai, Ghaziabad

- Arrays Functions
- What are the Array Formulas, Use of the Array Formulas?
- Basic Examples of Arrays (Using ctrl+shift+enter).
- Array with if, len and mid functions formulas.
- Advanced Use of formulas with Array.

Hands on Practice _____ 3 Hrs

Topic 11 Charts and slicers and Excel Dashboard 2 Hrs

- Various Charts i.e. Bar Charts / Pie Charts / Line Charts
- Using SLICERS, Filter data with Slicers
- Manage Primary and Secondary Axis
- Adding Tables and Charts to Dashboard
- Adding Dynamic Contents to Dashboard

Hands on Practice _____ 2 Hrs

Topic 12 VBA Macro 3 Hrs

Introduction to VBA

- What Is VBA? What Can You Do with VBA?
- Recording a Macro
- Procedure and functions in VBA

Variables in VBA

- What is Variables?
- Using Non-Declared Variables
- Variable Data Types
- Using Const variables

Message Box and Input box Functions

- Customizing Msgboxes and Input box
- Reading Cell Values into Messages
- Various Button Groups in VBA

If and select statements

- Simple If, Elseif Statements
- Defining select case statements

Looping in VBA

- Introduction to Loops and its Types
- The Basic Do and For Loop
- Exiting from a Loop
- Advanced Loop Examples

Mail Functions – VBA

- Using Outlook Namespace
- Outlook Configurations, MAPI
- Worksheet / Workbook Operations
- Merge Worksheets using Macro
- Merge multiple excel files into one sheet
- Split worksheets using VBA filters
- Worksheet copiers

Hands on Practice _____ 4 Hrs

Theory Hours	Lab Hours	Total
16 hours	16 Hours	32 Hours

Dr. Vishal Upmanu

Dr. Vishal Upmanu
Program Coordinator

R.D. Engineering College Head MBA

Director
R.D. Engineering College
Duhai, Ghaziabad

R D Engineering College, Ghaziabad

ADVANCE EXCEL

Add On Course for MBA (III Sem) Session 2019-20

ADVANCE EXCEL COURSE OUTCOME AFTER COMPLETION

Upon completion of an Advanced Excel course, Students can expect to achieve a range of outcomes that enhance their proficiency in using Microsoft Excel for complex data analysis, reporting, and decision-making.

Some common course outcomes are:

1. Mastery of advanced Excel formulas and functions, including nested functions, array formulas, and lookup functions like INDEX-MATCH.
2. Competence in using PivotTables and Pivot Charts for efficient data summarization and analysis.
3. Ability to clean, transforms, and manipulates data effectively using advanced techniques.
4. Advanced charting skills and customization options for effective data visualization.
5. Competence in conducting scenario analysis and using Excel's Scenario Manager.

R.D. Engineering College Head MBA

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D.ENGINEERING COLLEGE, GHAZIABAD

Schedule-Add On Course for MBA-III sem

Advanced Excel

Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	24/08/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
2	07/09/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
3	14/09/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
4	21/09/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
5	28/09/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
6	05/10/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
7	12/10/2019	10:00AM - 12:00PM	02:00PM - 04:00PM
8	19/10/2019	10:00AM - 12:00PM	02:00PM - 04:00PM

Dr. Vishal Upmanu

Dr. Vishal Upmanu
Program Coordinator

R.D. Engineering College Head MBA

Director
R.D. Engineering College
Duhai, Ghaziabad

Department of MCA

R. D. Engineering College, Ghaziabad
Department of Master of Computer Application

Date: 12th,Jan 2020

Notice

All the students of MCA IV Sem, II year are hereby informed that department is going to run an add on course on Advanced Java 20th Jan 2020

This Advanced Java Course Syllabus is designed to bridge the curriculum and industry gap. After completing the course you will be able to do some basic project to enhance your skills.

All Students are required to attend this course.

Prof. Ashutosh Pradhan

(Head, MCA)

R.D. Engineering College Head MCA

Director
R.D. Engineering College
Duhai, Ghaziabad

CC: ss

Director

IQAC

Departmental Notice Board

Encls:

Syllabus of course

Schedule of course

Course Contents

R D ENGINEERING COLLEGE, GHAZIABAD

ADVANCED JAVA TRAINING

Add On Course for MCA

SESSION 2019-20

Curriculum objectives

1. **Mastery of Java syntax and object-oriented programming (OOP)**

Participants should be proficient in Java syntax and be able to design and implement complex class hierarchies, use inheritance and polymorphism effectively, and understand advanced topics such as abstract classes, interfaces, and lambda expressions.

2. **Proficiency in concurrency and multithreading**

Participants should be able to design and implement concurrent and multithreaded programs using Java's threading model. They should be able to use Java's synchronization constructs such as locks, semaphores, and monitors to ensure thread safety and avoid race conditions.

3. **Expertise in Java web development**

Participants should be able to develop web applications using Java frameworks such as Spring, Hibernate, and Struts. They should be able to create and deploy web applications, work with databases, and understand web security issues.

4. **Mastery of Java collections and data structures**

Participants should be able to work with Java collections and data structures such as lists, maps, and queues. They should be able to use Java's built-in collections framework and understand how to implement custom data structures.

5. **Familiarity with Java I/O and networking**

Participants should be able to work with Java I/O and networking APIs to read and write data from various sources and communicate over network protocols such as TCP/IP and HTTP.

6. **Proficiency in software engineering principles and design patterns**

Participants should be familiar with software engineering principles such as design patterns, SOLID principles, and code refactoring. They should be able to write maintainable, scalable, and reusable code using these principles.

7. **Understanding of Java memory management and garbage collection**

Participants should understand Java's memory management and garbage collection model. They should be able to optimize Java applications by reducing memory usage and managing object lifetimes.

8. **Familiarity with Java performance tuning and profiling**

Participants should be able to profile and tune the performance of Java applications using tools such as JProfiler and VisualVM. They should be able to identify performance bottlenecks and optimize Java code for speed and efficiency.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
MCA

Overall, an advanced Java training course should provide participants with a deep understanding of Java programming and enable them to apply their knowledge to solve complex programming problems in various domains.

Duration

Approximately 36 hours, when delivered synchronously by an educator. Detailed timings are provided below. Actual delivery times will vary from class to class and depending on the delivery format.

Delivery methods

This course can be delivered in person with synchronous lectures or with digital training models that students can complete in dependently.

Learning resources

- Lecture materials
- Online multiple-choice knowledge checks
- Lab exercises
- Digital training(optional)
- Video introductions
- Video demos
- Example solutions

Course timing

This table provides the suggested durations for all course activities. Note that the total classroom time for all the modules in this course is 36hours.Items that are not applicable are marked NA.

Module Title	Lecture(Hrs)	Activity/Lab/Demo(Hrs)	Total Module(Hrs)
Course Introduction	1	NA	2
Module1:**Introduction to Advanced java**		1	
Module2:Multithreading	1	1	2
Module3:Exception Handling	1	1	2
Module4:JAVA IO	1	1	2
Module5:Networking	1	1	2
Module6:Java Database Connectivity(JDBC)	1	1	2
Module7:Advanced JDBC	1	1	2
Module8:Servlets	1	1	2
Module 9:Java Server Pages (JSP)	1	1	2
Module10:Java Beans	1	1	2
Module11:Enterprise Java Beans (EJB)	1	1	2
Module12:Java Persistence API (JPA)	1	1	2
Module13:Spring Framework	1	1	2

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Head MCA

Module14:Hibernate	1	1	2
Module15:Web Services	1	1	2
Module16:Security	1	1	2
Module17:Design Patterns	1	1	2
Module18: Final Touch.	1	1	2
Total Course Time	18	18	36

Module sections

This section lists the module sections in this course.

Course Introduction

- Course objectives and overview

Module 1: Introduction to Advanced Java

- Overview of Advanced Java
- Benefits of Advanced Java
- Features of Advanced Java
- Terminology (JVM, JRE, JDK, bytecode, etc.)
- Introduction to Eclipse IDE for Java development

Module 2: Multithreading

- Introduction to multithreading
- Creating threads
- Thread synchronization
- Thread pools
- Thread safety and atomicity
- Deadlocks and solutions

Module 3: Exception Handling

- Types of exceptions
- Try-catch statements
- Throwing exceptions
- Checked and unchecked exceptions
- Custom exception handling

Module 4: Java IO

- Introduction to IO operations
- File IO
- Byte streams vs character streams
- Buffered streams
- Object IO

Module 5: Networking

- Introduction to networking

Director
R.D. Engineering College
Duhai; Ghaziabad

R.D. Engineering College
Head
MCA

- Socket programming in Java
- Client-server communication
- Multithreaded servers
- Remote Method Invocation (RMI)

Module 6: Java Database Connectivity (JDBC)

- Introduction to JDBC
- Connecting to databases
- Executing SQL queries
- Working with result sets
- Batch processing

Module 7: Advanced JDBC

- Prepared Statement vs Statement
- Stored procedures
- Transactions
- Connection pooling
- Data source objects

Module 8: Servlets

- Introduction to servlets
- Servlet lifecycle
- Handling HTTP requests and responses
- Session management
- Filters

Module 9: Java Server Pages (JSP)

- Introduction to JSP
- JSP lifecycle
- JSP directives and actions
- Implicit objects
- Scriptlets and expressions

Module 10: JavaBeans

- Introduction to JavaBeans
- Properties and methods
- Event handling
- Bound and constrained properties
- Design patterns

Module 11: Enterprise JavaBeans (EJB)

- Introduction to EJB
- Session beans
- Entity beans
- Message-driven beans
- EJB lifecycle

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College Head MCA

Module 12: Java Persistence API (JPA)

- Introduction to JPA
- Object-relational mapping (ORM)
- Annotations
- Persistence units
- CRUD operations

Module 13: Spring Framework

- Introduction to Spring Framework
- Inversion of Control (IoC)
- Dependency Injection (DI)
- Spring MVC
- Spring Data JPA

Module 14: Hibernate

- Introduction to Hibernate
- Object-relational mapping (ORM)
- Annotations and mapping files
- HQL and criteria queries
- Caching and lazy loading

Module 15: Web Services

- Introduction to web services
- SOAP vs REST
- Creating SOAP web services in Java
- Creating RESTful web services in Java
- JAX-RS

Module 16: Security

- Introduction to security
- Authentication and authorization
- Basic authentication
- Digest authentication
- Form-based authentication

Module 17: Design Patterns

- Introduction to design patterns
- Creational patterns
- Structural patterns
- Behavioral patterns
- Singleton, Factory, Adapter, Observer, Command, and Template Method patterns

Module 18: Minor Project

- Participants will work on a final project that applies the concepts learned throughout the course. The project should involve Advanced Java principles and at least one other topic covered in the course (e.g. web services, Spring Framework, etc.). Participants

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
MCA

will present their projects and receive feedback from the instructor and other participants.

Director
R.D. Engineering College
Duhai, Ghaziabad

ADVANCED JAVA TRAINING

COURSE OUTCOME

Understand the concepts related to Java Technology be able to put into use the advanced features of the Java language to build and compile robust enterprise grade applications Explore and understand use of Java Server Programming.

Provide a sound foundation to the students on the concepts, precepts and practices, in a field that is of immense concern to the industry and business Create dynamic web pages, using Servlets and JSP Make a reusable software component, using Java Bean Design and develop GUI applications using Swings Students learn skills to develop real time applications.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
MCA

R D Engineering College, Ghaziabad

ADVANCED JAVATraining Schedule

Add On Course for MCA II YEAR IV SEM

EVEN Sem. Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	20.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
2	21.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
3	22.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
4	23.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
5	24.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
6	27.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
7	28.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
8	29.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
9	30.01.2020	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
10	31.01.2021	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM

G Sharma

Program Coordinator

R.D. Engineering College Ghaziabad
Head MCA

R. D. Engineering College, Ghaziabad
Department of Master of Computer Application

Date: 2 SEP, 2019

Notice

All the students of MCA V Sem, III year are hereby informed that department is going to run an add on course on Core Python from 9 Sep 2019.

This Core Python Course Syllabus is designed to bridge the curriculum and industry gap. After completing the course you will be able to do some basic project to enhance your skills.

All Students are required to attend this course.

Prof. Ashutosh Pradhan

(Head, MCA)

R.D. Engineering College Head MCA

Director
R.D. Engineering College
Duhai, Ghaziabad

CC:

Director

IQAC

Departmental Notice Board

Encls:

Syllabus of course

Schedule of course

Course Contents

R D ENGINEERING COLLEGE, GHAZIABAD

CORE PYTHON

Add On Course for MCA

SESSION 2019-20 ODD SEM

Curriculumobjectives

Uponcompletionofthis course,students will beabletodothefollowing:

- Understanding of core Python programming concepts
- Proficiency in object-oriented programming (OOP)
- Expertise in file handling and manipulation
- Mastery of web development with Python
- Proficiency in machine learning and data science
- Familiarity with other Python libraries and tools
- Understanding of Python best practices and code optimization

Duration

Approximately36 hours, whendeliveredsynchronouslybyeducator.Detailedtimingsareprovidedbelow. Actual delivery times will vary from class to class and depending on the delivery format.

Deliverymethods

This course can be delivered in person with synchronous lectures or with digital training models thatstudentscancompleteindependently.

Learningresources

- Lecturematerials
- Onlinemultiple-choiceknowledgechecks
- Labexercises
- Digitaltraining(optional)
- Videointroductions
- Videodemos
- Examplesolutions

Coursetiming

This table provides the suggested durations for all course activities. Note that the total classroom timeforallthemodulesinthiscourseis36hours.ItemsthatarenotapplicablearemarkedNA.

ModuleTitle	Lecture(Hrs)	Activity/Lab/Demo(Hrs)	Total Module(Hrs)
CourseIntroduction	1	NA	2
Module1: An Introduction to Python		1	
Module2:Beginning Python Basics	1	1	2
Module3: Python Program Flow	1	1	2
Module4:Functions& Modules	1	1	2

Director
R.D. Engineering College
Duhai, Ghaziabad

Head
MCA

R.D. Engineering College

Module5: Exceptions Handling	1	1	2
Module6: File Handling	1	1	2
Module7: Classes In Python	1	1	2
Module8: Generators and iterators	1	1	2
Module 9: Data Structures	1	1	2
Module10: Collections	1	1	2
Module11: Writing GUIs in Python (Tkinter)	1	1	2
Module12: Python SQL Database Access	1	1	2
Module13: Network Programming	1	1	2
Module14: Date and Time	1	1	2
Module15: Few more topics in-detailed	1	1	2
Module16: Regular Expression	1	1	2
Module17: Threads ESSENTIAL	1	1	2
Module18: Accessing API ESSENTIAL	1	1	2
TotalCourseTime	18	18	36

Modulesections

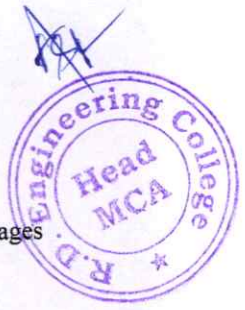
Thissectionliststhemodulesectionsinthiscourse.

Course Introduction

- Courseobjectivesandoverview

Module 1: An Introduction to Python

- What can Python do?
- Why Python?
- Good to know
- Python Syntax compared to other programming languages
- Python Install



Module 2: Beginning Python Basics

- The print statement
- Comments
- Python Data Structures & Data Types
- String Operations in Python
- Simple Input & Output
- Simple Output Formatting
- Operators in python

Module 3: Python Program Flow

- Indentation
- The If statement and its' related statement

- An example with if and it's related statement
- The while loop
- The for loop
- The range statement
- Break &Continue
- Assert
- Examples for looping

Module 4: Functions& Modules

- Create your own functions
- Functions Parameters
- Variable Arguments
- Scope of a Function
- Function Documentations
- Lambda Functions& map
- n Exercise with functions
- Create a Module
- Standard Modules

Module 5: Exceptions Handling

- Errors
- Exception handling with try
- handling Multiple Exceptions
- Writing your own Exception

Module 6: File Handling

- File handling Modes
- Reading Files
- Writing& Appending to Files
- Handling File Exceptions
- The with statement

Module 7: Classes In Python

- New Style Classes
- Creating Classes
- Instance Methods
- Inheritance
- Polymorphism
- Exception Classes & Custom Exceptions

Module 8: Generators and iterators

- Iterators
- Generators
- The Functions any and all
- With Statement
- Data Compression

Director
R.D. Engineering College
Duhai, Ghaziabad

Module 9: Data Structures

- List Comprehensions
- Nested List Comprehensions
- Dictionary Comprehensions
- Functions
- Default Parameters
- Variable Arguments
- Specialized Sorts

Module 10: Collections

- namedtuple()
- deque
- ChainMap
- Counter
- OrderedDict
- defaultdict
- UserDict
- UserList
- UserString

Module 11: Writing GUIs in Python (Tkinter)

- Introduction
- Components and Events
- An Example GUI
- The root Component
- Adding a Button
- Entry Widgets
- Text Widgets
- Check buttons

Module 12: Python SQL Database Access

- Introduction
- Installation
- DB Connection
- Creating DB Table
- INSERT, READ, UPDATE, DELETE operations
- COMMIT & ROLLBACK operation
- handling Errors

Module 13: Network Programming

- Introduction
- A Daytime Server
- Clients and Servers
- The Client Program
- The Server Program

Module 14: Date and Time

- sleep

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
MCA

- Program execution time
- more methods on date/time

Module 15: Few more topics in-detailed

- Filter
- Map
- Reduce
- Decorators
- Frozen set
- Collections

Module 16: Regular Expression

- Split
- Working with special characters, date, emails
- Quantifiers
- Match and find all
- character sequence and substitute
- Search method

Module 17: Threads ESSENTIAL

- Class and threads
- Multi-threading
- Synchronization
- Treads Life cycle
- use cases

Module 18: Accessing API ESSENTIAL

- Introduction
- Facebook Messenger
- Openweather

Module 19: DJANGO

- Django Overview
- Django Installation
- Creating a Project
- Usage of Project in depth Discussion
- Creating an Application
- Understanding Folder Structure
- Creating a Hello World Page
- Database and Views
- Static Files and Forms
- API and Security

CORE PYTHON TRAINING

COURSE OUTCOME

1. Build basic programs using fundamental programming constructs like variables, conditional logic, looping, and functions
2. Work with user input to create fun and interactive programs.
3. Create simple games with images, animations, and audio using our custom beginner-friendly programming library, Wizardlib.

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College
Head
MCA

R D Engineering College, Ghaziabad

CORE PYTHON Training Schedule

Add On Course for MCA III YEAR V SEM

Odd Sem. Session 2019-20

SN	Date	Timings (Theory)	Timings (Lab)
1	09.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
2	10.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
3	11.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
4	12.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
5	13.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
6	16.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
7	17.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
8	18.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
9	19.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM
10	20.09.2019	09:00 AM TO 10:50 AM	11:00 AM TO 12:50 PM

Engineering College · R.D. · Ghaziabad
Head MCA

Program Coordinator

Director
R.D. Engineering College
Duhai, Ghaziabad