



CAYMET's

Siddhant College of Engineering

Savitribai Phule Pune University, Pune

Fourth Year Computer Engineering (2015 Course)

COURSE OBJECTIVE & OUTCOMES

SEM I

Program Educational Objectives

1. To prepare globally competent graduates having strong fundamentals, domain knowledge, updated with modern technology to provide the effective solutions for engineering problems.
2. To prepare the graduates to work as a committed professional with strong professional ethics and values, sense of responsibilities, understanding of legal, safety, health, societal, cultural and environmental issues.
3. To prepare committed and motivated graduates with research attitude, lifelong learning, investigative approach, and multidisciplinary thinking.
4. To prepare the graduates with strong managerial and communication skills to work effectively as individual as well as in teams.

Program Outcomes

1. To apply knowledge of mathematics, science, engineering fundamentals, problem solving skills, algorithmic analysis and mathematical modeling to the solution of complex engineering problems.
2. To analyze the problem by finding its domain and applying domain specific skills
3. To understand the design issues of the product/software and develop effective solutions with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4. To find solutions of complex problems by conducting investigations applying suitable techniques.
5. To adapt the usage of modern tools and recent software.
6. To contribute towards the society by understanding the impact of Engineering on global aspect.
7. To understand environment issues and design a sustainable system.
8. To understand and follow professional ethics.

Subject Code & Name -410241 High Performance Computing

Course Objectives

1. To study parallel computing hardware and programming models
2. To be conversant with performance analysis and modelling of parallel programs
3. To understand the options available to parallelize the programs

4. To know the operating system requirements to qualify in handling the parallelization

Course Outcomes

On completion of the course, learner will be able to

1. Describe different parallel architectures, inter-connect networks, programming models
2. Develop an efficient parallel algorithm to solve given problem
3. Analyze and measure performance of modern parallel computing systems
4. Build the logic to parallelize the programming task

Subject Code &Name -410242 Artificial Intelligence and Robot

Course Objectives

1. To understand the concept of Artificial Intelligence (AI)
2. To learn various peculiar search strategies for AI
3. To acquaint with the fundamentals of mobile robotics
4. To develop a mind to solve real world problems unconventionally with optimality

Course Outcomes

On completion of the course, learner will be able to

1. Identify and apply suitable Intelligent agents for various AI applications
2. Design smart system using different informed search / uninformed search or heuristic approaches.
3. Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.
4. Apply the suitable algorithms to solve AI problems.

Subject Code &Name -410243 Data Analytics

Course Objectives

1. To develop problem solving abilities using Mathematics
2. To apply algorithmic strategies while solving problems
3. To develop time and space efficient algorithms
4. To study algorithmic examples in distributed, concurrent and parallel environments

Course Outcomes

On completion of the course, learner will be able to

1. Write case studies in Business Analytic and Intelligence using mathematical models
2. Present a survey on applications for Business Analytic and Intelligence
3. Provide problem solutions for multi-core or distributed, concurrent/Parallel environments

Subject Code &Name -Elective I-410244(D) Data Mining and Warehousing

Course Objectives

1. To understand the fundamentals of Data Mining
2. To identify the appropriateness and need of mining the data
3. To learn the pre-processing, mining and post processing of the data
4. To understand various methods, techniques and algorithms in data mining

Course Outcomes

On completion of the course, learner will be able to

1. Apply basic, intermediate and advanced techniques to mine the data
2. Analyze the output generated by the process of data mining
3. Explore the hidden patterns in the data
4. Optimize the mining process by choosing best data mining technique

Subject Code &Name - Elective II- 410245(B) Software Testing and Quality Assurance

Course Objectives

1. Introduce basic concepts of software testing
2. Understand white box, block box, object oriented, web based and cloud testing
3. Know in details automation testing and tools used for automation testing
4. Understand the importance of software quality and assurance software systems development.

Course Outcomes

On completion of the course, learner will be able to

1. Describe fundamental concepts in software testing such as manual testing, automation testing and software quality assurance.
2. Design and develop project test plan, design test cases, test data, and conduct test operations
3. Apply recent automation tool for various software testing for testing software
4. Apply different approaches of quality management, assurance, and quality standard to software system
5. Apply and analyze effectiveness Software Quality Tools

Subject Code &Name - 410246-Laboratory Practice I

Course Objectives and Outcomes

1. Practical hands on is the absolute necessity as far as employability of the learner is concerned.

2. The presented course is solely intended to enhance the competency by undertaking the laboratory assignments of the core courses.

Subject Code &Name: - 410247-Laboratory Practice II

Course Objectives and Outcomes

1. Practical hands on is the absolute necessity as far as employability of the learner is concerned.
2. The presented course is solely intended to enhance the competency by undertaking the laboratory assignments of the core courses.
3. Enough choice is provided to the learner to choose an elective of one's interest.

Subject Code &Name: - 410248 Project Work Stage I

Course Objectives

1. To Apply the knowledge for solving realistic problem
2. To develop problem solving ability
3. To Organize, sustain and report on a substantial piece of team work over a period of several months
4. To Evaluate alternative approaches, and justify the use of selected tools and methods
5. To Reflect upon the experience gained and lessons learned
6. To Consider relevant social, ethical and legal issues
7. To find information for yourself from appropriate sources such as manuals, books, research journals and from other sources, and in turn increase analytical skills.
8. To Work in TEAM and learn professionalism

Course Outcomes

On completion of the course, learner will be able to

1. Solve real life problems by applying knowledge.
2. Analyze alternative approaches, apply and use most appropriate one for feasible solution.
3. Write precise reports and technical documents in a nutshell.
4. Participate effectively in multi-disciplinary and heterogeneous teams exhibiting team work, Inter-personal relationships, conflict management and leadership quality.

Subject Code &Name: - 410249 Audit Course-I: Entrepreneurship Development

Course Objectives

1. To introduce the aspects of Entrepreneurship
2. To acquaint with legalities in product development

3. To understand IPR, Trademarks, Copyright and patenting
4. To know the facets of functional plans, Entrepreneurial Finance and Enterprise Management

Course Outcomes

1. Understand the legalities in product development
2. Undertake the process of IPR, Trademarks, Copyright and patenting
3. Understand and apply functional plans
4. Manage Entrepreneurial Finance
5. Inculcate managerial skill as an entrepreneur

SEM II

Subject Code &Name -410250 Machine Learning

Course Objectives

1. To understand human learning aspects and relate it with machine learning concepts.
2. To understand nature of the problem and apply machine learning algorithm.
3. To find optimized solution for given problem.

Course Outcomes

On completion of the course, learner will be able to

1. Distinguish different learning-based applications
2. Apply different pre-processing methods to prepare training data set for machine learning.
3. Design and implement supervised and unsupervised machine learning algorithm.
4. Implement different learning models
5. Learn Meta classifiers and deep learning concepts

Subject Code &Name -410251 Information and Cyber Security

Course Objectives

1. To offer an understanding of principle concepts, central topics and basic approaches in information and cyber security.
2. To know the basics of cryptography.
3. To acquire knowledge of standard algorithms and protocols employed to provide confidentiality, integrity and authenticity
4. To enhance awareness about Personally Identifiable Information (PII), Information Management, cyber forensics

Course Outcomes

On completion of the course, learner will be able to

1. Gauge the security protections and limitations provided by today's technology.
2. Identify information security and cyber security threats.
3. Analyze threats in order to protect or defend it in cyberspace from cyber-attacks.
4. Build appropriate security solutions against cyber-attacks

Subject Code & Name - Elective III 410252(C) Embedded and Real Time Operating Systems

Course Objectives

1. To understand a typical embedded system and its constituents

2. To learn the selection process of processor and memory for the embedded systems
3. To learn communication buses and protocols used in the embedded and real-time systems
4. To understand real-time operating system (RTOS) and the types of RTOS
5. To learn various approaches to real-time scheduling
6. To learn software development process and tools for RTOS applications

Course Outcomes

On completion of the course, learner will be able to

1. Recognize and classify embedded and real-time systems
2. Explain communication bus protocols used for embedded and real-time systems
3. Classify and exemplify scheduling algorithms
4. Apply software development process to a given RTOS application
5. Design a given RTOS based application

Subject Code &Name - Elective III 410252(D) Soft Computing and Optimization Algorithms

Course Objectives

1. To know the basics behind the Design and development intelligent systems in the framework of soft computing
2. To acquire knowledge of Artificial Neural Networks Fuzzy sets, Fuzzy Logic, Evolutionary computing and swarm intelligence
3. To explore the applications of soft computing
4. To understand the need of optimization

Course Outcomes

On completion of the course, learner will be able to

1. Apply soft computing methodologies, including artificial neural networks, fuzzy sets, fuzzy logic, fuzzy inference systems and genetic algorithms
2. Design and development of certain scientific and commercial application using computational neural network models, fuzzy models, fuzzy clustering applications and genetic algorithms in specified applications.

Subject Code &Name - Elective IV 410253(C) Cloud Computing

Course Objectives

1. To understand cloud computing concepts
2. To study various platforms for cloud computing

3. To explore the applications based on cloud computing

Course Outcomes

On completion of the course, learner will be able to

1. To install cloud computing environments.
2. To develop any one type of cloud
3. To explore future trends of cloud computing

Subject Code &Name – 410254 Laboratory Practice III

Course Objectives and Outcomes:

Practical hands on is the absolute necessity as far as employability of the learner is concerned. The presented course is solely intended to enhance the competency by undertaking the laboratory assignments of the core courses.

Subject Code &Name – 410255 Laboratory Practice IV

Course Objectives and Outcomes:

1. Practical hands on is the absolute necessity as far as employability of the learner is concerned.
2. The presented course is solely intended to enhance the competency by undertaking the laboratory assignments of the elective courses.
3. Enough choice is provided to the learner to choose an elective of one's interest

Subject Code &Name-410256 Project Work Stage II

Course Objectives

1. To follow SDLC meticulously and meet the objectives of proposed work
2. To test rigorously before deployment of system
3. To validate the work undertaken
4. To consolidate the work as furnished report.

Course Outcomes

On completion of the course, student will be able to–

1. Show evidence of independent investigation
2. Critically analyze the results and their interpretation.
3. Report and present the original results in an orderly way and placing the open questions in the right perspective. Link techniques and results from literature as well as actual research and future research lines with the research.

4. Appreciate practical implications and constraints of the specialist subject

Subject Code &Name- 410257 Audit Course- I: Business Intelligence

Course Objectives

1. To understand the concept of Business Intelligence
2. To know the details of Decision Support System
3. To inculcate the concepts of Data Warehousing
4. To understand the basics of design and management of BI systems

Course Outcomes

On completion of the course, student will be able to–

1. Apply the concepts of Business Intelligence in real world application
2. Explore and use the data warehousing wherever necessary
3. Design and manage practical BI systems

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