CITY ENGINEERING COLLEGE

Approved by AICTE New Delhi & Affiliated by VTU, Belagavi
Doddakallasandra, Off Kanakapura Main Road,
Next to Gokulam Apartment, Bangalore - 560 062.

CRITERION 1 – CURRICULAR ASPECTS

KEY INDICATOR: 1.2 Academic Flexibility.

Metric Number: 1.2.1 Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. Where the students of the institution have enrolled and successfully completed during the year 2023-24

Institutional programme brochure/notice for Certificate/Value added programs with course modules and outcomes

Sl. No.	Name of VAC/Certificate Course, MOOCs, SWAYAM, NPTEL
1	Elite Aptitude Enhancement: Mastering Verbal and Non-Verbal Skills
2	Innovative IoT Design
3	A Hands-on skilling workshop on bits and bytes of Networking using NS2
4	Time Management for Personal & Professional Productivity
5	Applied Machine Learning for Electronics Engineers
6	Leadership and Management
7	Aptitude and soft skills
8	Advanced Entrepreneurship Skills

CHIEF PATRON

**Dr. K R Paramahamsa,
Chairman,
AMC-City - Brooklyn Group of institution**

PATRONS

Dr. S Karunakara
Principal, CEC

Dr. Narayanaswamy Ramaiah,
Vice Principal , CEC

CONVENOR

Dr. Sowmya Naik PT,
HOD CSE & Executive Officer

COORDINATORS

Mrs. Vibhavi R N ,
Assistant Professor,
Department of CSE

Mrs. Archana Bhat,
Assistant Professor,
Department of CSE

ABOUT COLLEGE

City Engineering College, Bangalore affiliated to Visvesvaraya Technological University (VTU) is centrally located in Bangalore. The College has expanded over the last 19 years with sophisticated infrastructure as a part of the Institution's commitment to provide higher quality education in the area of Engineering. The highly facilitated landmark building – provides a perfect ambience for creativity and learning. City Engineering College is known for its academic excellence, friendly welcoming atmosphere and community spirit. Over large number of full time students study here in a wide range of programs. It is a centre of talented, experienced teachers who inspire and energize the students to achieve the best.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Value Added Course
On

ELITE APTITUDE ENHANCEMENT: MASTERING VERBAL AND NON-VERBAL SKILLS

6th to 11th May 2024

RESOURCE PERSON

Mr Prudhvi Raj ,
Freelance aptitude and
Soft skills trainer

CONTACT DETAILS
Mrs. Vibhavi R N, Asst.Prof, CSE
PH: 8123210232

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PRINCIPAL
CITY ENGINEERING COLLEGE
Kanakapura Main Road, Bangalore-560061.

ABOUT THE DEPARTMENT

The Department of Computer Science & Engineering was started in the year 2001 is known for imparting Quality education and carrying out cutting edge research. In addition to the UG program, PG CSE program and Research facilities for Ph.D. The department offers undergraduate program and has a comprehensive curriculum on topics related to software and hardware with an emphasis on theoretical and practical learning. It has well equipped, state of the art laboratories supported by highspeed Internet and wireless networks.

ABOUT RESOURCE PERSON

Prudhvi Raj, an experienced aptitude and soft skills trainer with a background in mechanical engineering and psychology, excels in teaching with a focus on individual student needs, effective communication, and problem-solving. He has trained students and professionals across over 150 colleges and various institutions in India, specializing in quantitative aptitude, logical reasoning, recruitment essentials, and soft skills. Known for his engaging teaching style and leadership abilities, Prudhvi is passionate about nurturing young talent and enjoys working in diverse environments.

ABOUT THE COURSE

Elite Aptitude Enhancement: Mastering Verbal and Non-Verbal Skills is a comprehensive program designed to boost proficiency in both spoken and written communication. It emphasizes vocabulary expansion and the precise use of grammar to ensure clarity and accuracy in expression. The course also focuses on critical thinking and logical reasoning, equipping participants with the skills to analyze and solve complex problems effectively. Additionally, it includes training in data interpretation, enabling individuals to understand and draw insights from various data sets. This intensive program aims to foster academic and professional success by enhancing essential verbal and non-verbal skills.

COURSE OUTCOMES

- Enhanced verbal and non-verbal communication skills
- Improved vocabulary and grammar usage
- Strengthened logical reasoning and problem-solving abilities
- Effective self-assessment and goal-setting techniques
- Consistent practice and progress tracking habits
- Increased proficiency in academic and professional contexts
- Preparation for real test conditions through mock tests
- Development of lifelong learning strategies and personal growth habit

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VALUE ADDED COURSE SYLLABUS

Course Name: Elite Aptitude Enhancement: Mastering Verbal and Non-Verbal Skills

Duration: 30 hours

Course Objectives:
- Develop a diverse and extensive vocabulary through targeted learning strategies.
- Master essential grammar rules to enhance writing and speaking clarity.
- Apply active reading techniques to understand and analyze complex texts.
- Develop critical thinking skills to evaluate arguments and identify logical patterns.
- Improve spatial visualization and proficiency in interpreting graphical data.

Module	Topic
Module 1: Introduction	**Course Overview:** Introduction to course objectives and structure. Importance of verbal and non-verbal skills in academic and professional settings. Initial self-assessment exercise. **Self-Assessment:** Conducting a comprehensive self-assessment to identify current strengths and areas for improvement. Setting personal goals for the course. Diagnostic tests and goal-setting worksheet.
Module 2: Verbal Aptitude	**Vocabulary Building:** Strategies for expanding vocabulary (contextual learning, mnemonics, word roots). Tools for learning new words (flashcards, vocabulary apps). Activities: Flashcards creation, vocabulary quizzes, word usage exercises. **Grammar and Usage:** Detailed study of essential grammar rules (syntax, punctuation, sentence structure). Common grammatical errors and how to avoid them. Activities: Grammar exercises, proofreading and editing practice, writing assignments.

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Module 3: Non-Verbal Aptitude	**Logical Reasoning:** Recognizing patterns, sequences, and logical relationships. Solving logic puzzles and brainteasers. Activities: Pattern recognition exercises, logical puzzles, reasoning tests. **Problem Solving:** Applying logical reasoning to solve complex problems. Breaking down problems into manageable steps. Developing and testing hypotheses. Activities: Problem-solving exercises, case studies, real-life scenario analysis.
Module 4: Practice and Application	**Consistent Practice:** Establishing a routine for regular practice and continuous improvement. Setting weekly practice goals and tracking progress. Activities: Weekly practice schedules, progress tracking logs, reflection journals. **Mock Tests:** Simulating real test conditions to assess progress and identify areas for improvement. Full-length practice tests and timed quizzes
Module 5: Real-World Application	**Career and Academic Skills:** Applying verbal and non-verbal skills in academic and professional contexts. Activities: Case studies, practical applications, interview practice. **Lifelong Learning:**Developing habits for continuous learning and personal growth. Activities: Lifelong learning strategies, resource recommendations.

Course Outcomes:
1. Broadened Vocabulary: Use an expanded vocabulary effectively in both written and verbal communication.
2. Grammatical Proficiency: Demonstrate accurate use of grammar in various forms of communication.
3. Advanced Reading Comprehension: Comprehend and interpret complex texts with greater efficiency and accuracy.
4. Enhanced Logical Reasoning: Solve logical problems and puzzles with improved accuracy and speed.
5. Improved Spatial and Data Skills: Visualize spatial relationships and interpret data from graphs and charts accurately.

Coordinator
 Mrs Vibhavi R N   **Dr. Sowmya Naik P T**
Assistant Professor   **HOD**

CHIEF PATRON

**Dr. K R Paramahamsa,
Chairman,
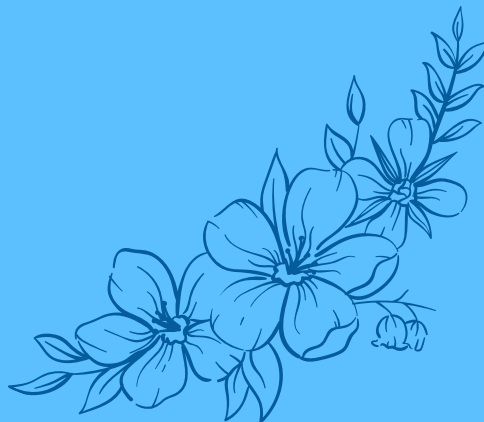AMC-City - Brooklyn Group of institution**

PATRONS

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Principal,CEC**

**Dr. Narayanaswamy Ramaiah,
Vice Principal , CEC**

CONVENER

**Dr. Sowmya Naik PT,
HOD CSE & Executive Officer**

COORDINATORS

**Mr. G A Girish,
Assistant Professor,
Department of CSE**

**Mrs. Shruthi B S,
Assistant Professor,
Department of CSE**

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Add On Course
On

Innovative IoT Design

26/2/2024- 1/3/2024

Resource Person

**Dr. Sreenivasa Shetty,
Professor, Dept. of CSE,AMCEC**

CONTACT DETAILS

**Mrs. Shruthi B S, Asst.Prof, CSE
PH: 9986639739**
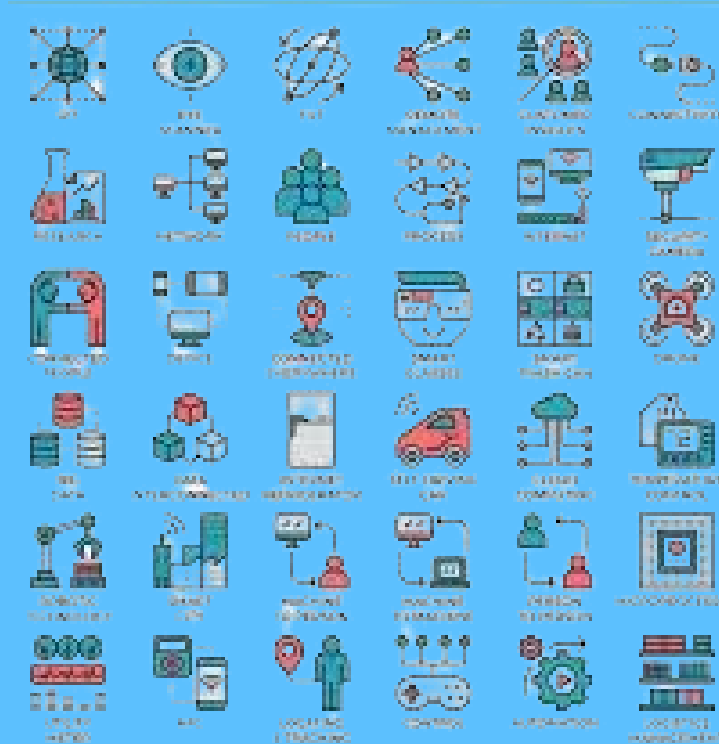
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About The Department

The Department of Computer Science & Engineering was started in the year 2001 is known for imparting Quality education and carrying out cutting edge research. In addition to the UG program, PG CSE program and Research facilities for Ph.D. The department offers undergraduate program and has a comprehensive curriculum on topics related to software and hardware with an emphasis on theoretical and practical learning. It has well equipped, state of the art laboratories supported by highspeed Internet and wireless networks.

About the Course

The "Advanced Entrepreneurship Skills" course is a meticulously designed value-added program aimed at bridging the significant gap between industry requirements and academic curricula. Tailored specifically for final year students, this course provides a robust foundation in entrepreneurial skills that are essential for the modern business landscape. By focusing on the development of innovative thinking, strategic planning, and effective problem-solving abilities, this program ensures that students are well-prepared to navigate the complexities of launching and managing successful ventures.

Course Outcomes

- Understanding IoT architecture .
- Applying design thinking principles for user-centric IoT solutions.
- Hands-on experience .
- Integration of IoT devices with cloud services, APIs, and web/mobile applications.
- Advanced IoT topics like edge computing, AI, and machine learning.

About Resource Person

Dr. Srinivasa Shetty is a Professor in the Department of Computer Science and Engineering at AMC Engineering College (AMCEC). He holds a Ph.D. and M.Tech in Computer Science and Engineering, and a B.E. in the same field. His research focuses on artificial intelligence, machine learning, data mining, big data analytics, computer networks, security, software engineering, and the Internet of Things (IoT).

He teaches courses on algorithms, operating systems, databases, networks, machine learning, and IoT. Dr. Shetty has held academic positions ranging from Assistant to Associate Professor before his current role. He has published numerous papers in reputed journals and conferences, and is a member of IEEE and ACM. His work has earned him several awards and he actively participate in professional service roles, such as journal reviewing and conference organizing. Outside of his professional commitments, he enjoys reading about emerging technologies and mentoring students.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
ADD ON COURSES SYLLABUS

Course Name: Innovative IoT Design   **Duration: 30 hours**

Course Objectives:

1. To provide participants with a foundational understanding of IoT, including its definition, history, architecture, and current trends.

2. To teach participants the principles and process of design thinking, enabling them to create innovative and user-focused IoT solutions.

3. To offer hands-on training with various IoT hardware components and software platforms, equipping participants with the skills to develop and prototype IoT projects.

4. To educate participants on integrating IoT devices with cloud services and applications, ensuring seamless operation and communication within IoT ecosystems.

5. To introduce participants to advanced IoT topics like edge computing, AI, and machine learning, and demonstrate their application in creating sophisticated IoT solutions.

	Topic
Module 1	Overview of IoT: Definition, History, and Importance; IoT Architecture: Sensors, Connectivity, Data Processing, and Applications; Current Trends and Future Prospects; Case Studies of Successful IoT Implementations
	Introduction to Design Thinking: Principles and Process; Empathy: Understanding User Needs and Challenges; Ideation Techniques: Brainstorming, Mind Mapping, and Sketching; Prototyping and Testing: Creating Low-Fidelity Prototypes
Module 2	Sensors and Actuators: Types and Applications; Microcontrollers and Development Boards (Arduino, Raspberry Pi, etc.); Connectivity Modules: Wi-Fi, Bluetooth, Zigbee, LoRa, etc.; Power Management for IoT Devices
	Setting Up Development Environments; Connecting and Configuring Sensors and Actuators; Building Simple IoT Projects; Troubleshooting Common Issues in IoT Prototyping
Module 3	Introduction to IoT Programming Languages (Python, C, C++); Overview of IoT Platforms and Frameworks (Node-RED, ThingSpeak, etc.); Data Collection, Storage, and Analysis; Security and Privacy in IoT
	Cloud Services for IoT: AWS IoT, Azure IoT, Google Cloud IoT; APIs and Web Services for IoT; Interfacing IoT Devices with Mobile and Web Applications; Case Study: Integrating IoT Solutions into Existing Systems

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Module 4	Edge Computing and Its Role in IoT; AI and Machine Learning in IoT Applications; IoT Analytics and Visualization Tools; IoT in Industry 4.0 and Smart Cities
	Defining Project Goals and Objectives; Team Formation and Role Assignment; Project Planning and Milestones; Initial Design and Development
Module 5	Continued Development and Testing; Troubleshooting and Optimization; Preparing Presentation and Demonstration
	Final Project Presentations; Peer and Instructor Feedback; Discussion on Future Steps and Learning Paths; Course Wrap-Up and Q&A

Course Outcomes:

- Participants will gain a thorough understanding of IoT architecture, including sensors, connectivity, data processing, and applications.
- Participants will be able to apply design thinking principles to develop user-centric IoT solutions, focusing on empathy, ideation, prototyping, and testing.
- Participants will acquire hands-on experience with IoT hardware (sensors, actuators, microcontrollers) and software (programming languages, IoT platforms), enabling them to build and troubleshoot IoT projects.
- Participants will learn to integrate IoT devices with cloud services, APIs, and web/mobile applications, ensuring interoperability and scalability of IoT solutions.
- Participants will understand advanced IoT topics such as edge computing, AI, and machine learning, and how to apply these concepts to create intelligent and autonomous IoT systems.

Coordinator
Mr. G A Girish   **Dr. Sowmya Naik P T**
Assistant Professor   **HOD**

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Kanakapura Main Road, Bangalore-560061

CHIEF PATRONS

Dr. K R PARAMAHAMSA, Chairman,
AMC – City Group of Institutions,Bengaluru

Mrs. GEETHA PARAMAHAMSA, Vice Chairperson,
AMC – City Group of Institutions,Bengaluru

Ms. MONICA KALLURI, Vice President,
AMC – City Group of Institutions,Bengaluru

Mr. RAHUL KALLURI, Executive Vice President,
AMC – City Group of Institutions,Bengaluru

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Dr. S Karunakara, Principal, CEC
Dr. Sowmya Naik, EO & Head, Dept. of CSE,CEC
Dr. S Vagdevi, Professor & Head CSE

COORDINATOR

Mrs. Nasrath B. K, Assistant Professor, Dept. of AIML

Resourse Person

Dr. Deepthi V S
Assistant Professor,
Dept. of CSE (Cyber Security), DSCE

About College

CITY ENGINEERING COLLEGE

City Engineering College was established in the year 2001 under Jayanagar Education Society and located in Vasanthpura, Kanakapura Road, Bengaluru. The Campus has spread out in 12 acres of land with unique style of buildings.

The institution believes in providing high quality education to the prospective professionals of the country forwhich necessary quality benchmarks have been put in place, in the areas of faculty recruitment, development, training & placement, teaching process, student's grooming, external academic audits and feedback systemfor academic enhancement.

About Program

- Design and Simulate Network Topologies.
- Implement and Analyse Network Protocols
- Collect and Analyse Simulation Data Performance Evaluation and Optimization
- Apply Simulation Techniques to Real-World Networking Problems.

ISO 9001:2015

City Engineering College

Doddakallasandra,Bangalore 560062
Presents
Value-added program
on

Bits & Bytes of Networking using NS 2

Date: 01-02-2024 & 07-02-2024
Venue: AIML Lab

Organized by Department
of
Artificial Intelligence & Machine Learning

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Department of Artificial Intelligence and Machine Learning

Topic: A Hands-on Skilling Workshop on Bits & Bytes of Networking using NS2

Course objective:

- Understand the Fundamentals of Network Simulation

- Acquire Proficiency in Using NS2.

- Design and Simulate Network Topologies.

- Implement and Analyse Network Protocols.

- Collect and Analyse Simulation Data

- Visualize Network Simulations

- Conduct Performance Evaluation and Optimization

- Apply Simulation Techniques to Real-World Networking Problems.

- Develop Skills in Network Research and Development

Syllabus

- Introduction Physical Layer

- Implement Three nodes point -to-point network

- Introduction to data link layer

- Implement transmission of ping messages/trace route over a network topology

- The Network Layer, implement an Ethernet LAN using n nodes and set multiple traffic nodes and plot congestion window for different source / destination

- Find the shortest path between vertices using bellman-ford algorithm

- The Transport Layer

- Congestion Control Algorithms, Application Layer, Internet protocols.

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Course outcome:

Upon successful completion of this course, students were able to:

- Confidently navigate and utilize the NS2 simulation environment.

- Write and modify TCL scripts to simulate various network scenarios. Successfully install and configure NS2 on different operating systems.

- Create and configure complex network topologies, including both wired and wireless networks. Define and simulate different types of network nodes, links, and traffic patterns.

- Design dynamic and scalable network simulations reflecting real-world conditions. Simulate key network protocols at different layers, such as TCP, UDP, and various routing protocols.

- Analyse and compare the performance of these protocols under different network conditions. Experiment with protocol parameters to observe their impact on network behaviour.

- Generate and interpret NS2 trace files to extract detailed simulation data. Use scripting tools like AWK and Perl to process and analyse large datasets.

Mrs. Nasrath B K
Co-ordinator
Assistant Professor
Department of AIML

Dr. S Vagdevi
HOD
Department of AIML

CHIEF PATRON

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Chairman,
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**Dr. Narayanaswamy Ramaiah,
Vice Principal , CEC**

CONVENER

**Dr. Sowmya Naik PT,
HOD CSE & Executive Officer**

COORDINATORS

**Mrs. Archana Bhat,
Assistant Professor,
Department of CSE**

**Mrs. Shruthi B S,
Assistant Professor,
Department of CSE**

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Value Added Course
On

TIME MANAGEMENT FOR PERSONAL & PROFESSIONAL PRODUCTIVITY

26th TO 30th DEC 2023

Resource Person

**Yashaswini M, Faculty & State
Program Coordinator - Karnataka
,The Art of Living earning) .**

CONTACT DETAILS

Mrs. Archana Bhat, Asst.Prof, CSE
PH: 9902381611

ABOUT COLLEGE

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ABOUT THE COURSE

Time Management for Personal & Professional Productivity is a comprehensive course designed to equip individuals with essential time management techniques. It focuses on strategies to boost productivity by prioritizing tasks, setting achievable goals, and minimizing distractions. The course also addresses methods for reducing stress through effective planning and time allocation, enabling individuals to handle both personal and professional responsibilities efficiently. By mastering these techniques, participants can achieve a balanced and fulfilling lifestyle, ensuring they make the most of their time. This holistic approach to time management not only enhances productivity but also promotes overall well-being and satisfaction

COURSE OUTCOMES

- Enhance productivity and reduce stress.
- Prioritize SMART goals for balanced lifestyle.
- Develop realistic schedules using planning tools.
- Overcome procrastination with practical strategies.
- Create personalized time management plans for work-life balance.

ABOUT RESOURCE PERSON

Yashaswini M is a Faculty & State Program Coordinator – Karnataka, The Art of Living. Professionally an Electronic and Communications Engineer, worked with Yahoo, passionately she is a volunteer and full-time faculty with The Art of Living.

For the past 14 years, she is actively involved with The Art of Living Organization with various service activities. She has managed different profiles like, content writer and SEO operator for Art of Living Digital team, Finance and Operations Manager, National Program Manager for The Art of Living children and teens programs, India. Here, she has contributed in organizational design and development by strategizing policies, devising organizational modules and operational modules that helped manage 4500+ teachers across India.

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Skabru

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VALUE ADDED COURSES SYLLABUS

Course Name: Time Management for Personal & Professional Productivity   **Duration: 30 hours**

<u>Syllabus</u>

Course Objectives:
- Understand the principles of effective time management.

- Develop skills to prioritize tasks and manage time efficiently.

- Learn techniques to set and achieve personal and professional goals.

- Enhance productivity through better planning and organization.

- Minimize stress and improve work-life balance by managing time effectively.

	Topic
Module 1	Introduction to Time Management - Benefits and challenges of time management - Self-Assessment - Identifying current time management habits - Time management self-assessment tools
	Goal Setting - Importance and types of goals - SMART goals - Prioritization Techniques - Urgent vs important tasks (Eisenhower Matrix)
Module 2	Planning Fundamentals - Importance of planning - Types of plans (daily, weekly, monthly) - Tools and software for planning
	Effective Scheduling - Creating realistic schedules - Time blocking - Buffer time and flexibility - To-Do Lists - Importance and types of to-do lists - How to create effective to-do lists
Module 3	Procrastination - Causes and techniques to overcome procrastination - Time management tools for procrastination

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	- Focus and Concentration - Techniques to improve focus - Managing distractions
	Energy Management - Understanding energy levels - Techniques to maintain high energy levels - Work-life balance
Module 4	Time Management Tools and Technology - Overview of popular tools - Digital vs analog tools - Choosing the right tool
	Batch Processing and Multitasking - Benefits of batch processing - Risks and effective techniques of multitasking - Decision Making
Module 5	Review and Reflect - Reviewing concepts learned - Reflecting on personal time management practices - Sharing experiences and insights
	Creating a Personal Time Management Plan - Steps to create a personalized plan - Setting up routines and habits - Continuous improvement - Course Conclusion - Summary of key takeaways - Final Q&A session - Course feedback and evaluation

Course Outcomes:
By the end of this course, participants will be able to:
1. Apply time management techniques to enhance personal and professional productivity.
2. Identify and overcome common time-wasting activities.
3. Set realistic and achievable goals.
4. Create and maintain effective schedules and to-do lists.
5. Implement strategies to balance work and personal life

Coordinator
 Mrs Archana Bhat

Dr. Sowmya Naik P T
HOD

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Five-day Value-Added course on

"Applied Machine learning for Electronic Engineers"

(26/12/2023 – 30/12/2023)
Organized by
Department of Electronics & Communication Engineering
City Engineering College
Bangalore 560062

Shylaja K
Assistant Professor
Dept. of Electronics & communication Engineering
Mobile: +91 9916780169
Email: shylajak@cityengineeringcollege.ac.in

Vishvakiran R.C
Assistant Professor
Dept. of Electronics & communication Engineering
Mobile: +91 9916780169
Email: vishvakiran@cityengineeringcollege.ac.in

Chief Patron

Dr. K.R. Paramahamsa
Chairman,
MBA, Ph.D. (USA). D. Lit
AMC – City group of Institutions, Bengaluru.

Patrons

Dr. Tippeswamy H N
Principal, CEC, Bengaluru

Dr. Narayana swamy Ramaiah
Vice- Principal, CEC, Bengaluru

Dr. Sowmya Naik P.T.
Executive Officer, CEC, Bengaluru

Convener
G.S Mallikarjuna
HOD, ECE, CEC, Bengaluru

Venue: VLSI Lab

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CITY ENGINEERING COLLEGE
Kanakapura Main Road, Bangalore-560061

About the College

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![City Engineering College building photograph]

About the ECE Department

The department of Electronics and communication engineering was started in the year 2001 is known for imparting quality education. The department has good infrastructure with experienced faculties. Organizes industrial visits, workshops, technical talks, project exhibitions and training programs regularly which helps in bridging the gap between academics and industry.

About the course

Machine learning is increasingly relevant for electronics engineers, offering powerful tools to analyse data, optimize processes, and create intelligent systems. This value-added course aims to equip third-semester ECE students with practical skills in machine learning, specifically tailored to applications in electronics engineering. It emphasizes hands-on learning through projects and assignments, ensuring students are well-prepared to apply machine learning techniques to real-world problems in their future careers. This interdisciplinary knowledge enables engineers to innovate and create smarter electronic systems capable of adapting to and learning from their environments.

Resource Person

Dr S. VAGDEVI
B.E., M.E., M.S., Ph.D.
HOD, Dept. of AI&ML,
CEC, Bengaluru

Guidelines

A test (assessment questions) will be conducted by the coordinators at the end of the program.
The certificates will be issued to those participants who have attended the program with minimum 80% attendance and scored minimum 60% marks in the test.

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Department of Electronics and Communication Engineering

Value Added Course on "**Applied Machine Learning for Electronics Engineers**"

SYLLABUS

Course Objectives:

1. To introduce fundamental concepts of machine learning and its applications in electronics engineering.
2. To enable students to apply machine learning techniques to solve real-world problems in electronics.
3. To foster critical thinking and analytical skills necessary for designing and implementing machine learning solutions.
4. To encourage collaboration and teamwork through hands-on projects and assignments.

Module 1: Introduction to Machine Learning Basics
Introduction to Machine Learning - Overview of machine learning concepts, types of learning (supervised, unsupervised, reinforcement), and their applications in electronics engineering. Python for Machine Learning; Introduction to Python programming (if not already covered in core courses). Basics of NumPy, Pandas, and Matplotlib for data manipulation and visualization.

Module 2: Data Preprocessing and Feature Engineering
Data Preprocessing -Data cleaning techniques: handling missing data, outlier detection and removal; Data normalization, standardization, and feature scaling; Feature Engineering-Techniques for creating new features from existing data; Importance of feature selection and dimensionality reduction.

Module 3: Supervised Learning Techniques
Linear Regression and Logistic Regression-Understanding linear models for regression and classification tasks. Implementation and interpretation of results;
Decision Trees and Ensemble Methods-Introduction to decision trees and their construction; Ensemble methods: Random forests and boosting algorithms.

Module 4: Unsupervised Learning Techniques
Clustering Algorithms; K-means clustering and hierarchical; clustering techniques
Practical applications in grouping and segmenting data in electronics.
Dimensionality Reduction-Principal Component Analysis (PCA) for feature extraction.
Visualizing high-dimensional data using PCA and t-SNE.

Module 5: Applications in Electronics Engineering
Predictive Maintenance-Using machine learning to predict failures and perform preventive maintenance in electronic systems; Case studies and real-world examples.
Anomaly Detection in Electronic Circuits; Techniques for detecting anomalies and outliers in sensor data; Application of unsupervised learning algorithms for anomaly detection.

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Department of Electronics and Communication Engineering

Value Added Course on **"Applied Machine Learning for Electronics Engineers"**

Additional Resources:

- Recommended Reading: Textbooks and online resources for deeper understanding.
- Software Tools: Access to machine learning libraries (scikit-learn, TensorFlow) and development environments (Jupyter Notebook).

Course Outcomes:

By the end of the course, students should be able to:

1. Understand the basic principles and algorithms of machine learning and their relevance to electronics engineering.
2. Preprocess and analyze data using Python and relevant libraries for machine learning tasks.
3. Implement and evaluate supervised and unsupervised learning algorithms such as regression, classification, clustering, and dimensionality reduction.
4. Apply machine learning techniques to predict failures, detect anomalies, and optimize performance in electronic systems.
5. Design and execute a machine learning project in electronics engineering, demonstrating proficiency in problem-solving and critical thinking.

[Shylaja K]
Coordinator

[G S Mallikarjuna]
HOD, ECE

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CITY ENGINEERING COLLEGE

(Approved by AICTE New Delhi Affiliated by VTU, Belagavi)

Near Metro Station, Doddakallasandra Bangalore – 560 062.

Academic Year 23 -24

A Value Added Course on Leadership and Management

Organized by

"Department of Applied Science and Humanities"

City Engineering College
Bangalore-560062

Date: 06-11-23 to 10-11-23
Venue : Seminar Hall

www.cityengineeringcollege.ac.in

Chief Patron

Dr. K R Paramahamsa Chairman, AMC, City, Brooklyn Group of Institution, Bangalore.

Patrons:

Dr. S.Karunakara Principal, City Engineering college, Bangalore.

Dr. Narayana Swamy Vice Principal, City Engineering college, Bangalore.

Dr. Sowmya Naik Executive Officer & HOD of Computer Science Department, CEC

Convenor:

Dr. Jyothi. P HOD, Dept of Mathematics, CEC

About College

City Engineering College, Bangalore affiliated to Visvesvaraya Technological University (VTU) is centrally located in Bangalore. The College has expanded over the last 19 years with sophisticated infrastructure as a part of the Institution's commitment to provide higher quality education in the area of Engineering. The highly facilitated landmark building – provides a perfect ambience for creativity and learning. City Engineering College is known for its academic excellence, friendly welcoming atmosphere and community spirit. Over large number of full time students study here in a wide range of programs. It is a center of talented, experienced teachers who inspire and energize the students to achieve the best.

About Applied Science and Humanities	Expert Speakers for the Program	About Leadership and Management
The Applied Science and Humanities Department in City Engineering College serves as a fundamental pillar, providing essential knowledge in fundamental scientific disciples such as mathematics, physis, and chemistry. This Department plays critical role in equipping engineering students with the core scientific principles and analytical skills necessary for heir specialized engineering studies. Faculty members in the Applied Science Department typically engage in both teaching and research, contributing to advancements in their fields and enhancing the overall academic environment. The department often offers courses that support and complement the various engineering programs, ensuring that students have a strong scientific grounding to solve complex engineering problems effectively.	**Dr. Rajesh** **Associate Professor** **Er. Perumal Manimakalai Enginering College, Hosur.** **Dr. Shalini Prasad** **Associate Professor** **Department of E&C, CEC** ## Coordinators: **Mrs. Nagashree G** **Assistant Professor** **Dept. of Physics, CEC** **Dr. Sunitha** **Associate Professor** **Dept. of Chemistry, CEC** **Mrs. Vanitha** **Assistant Professor** **Dept. of Mathematics, CEC**	 A Leadership and Management value-added course is designed to enhance participants skills in guiding teams and making strategic decisions. It covers essential topics such as effective communication, team building, conflict resolution, and decision-making processes. The course aims to develop strong leadership qualities and managerial competencies, enabling individuals to inspire and motivate their-teams, drive organizational success, and adapt to changing business environments. Participants will gain practical insights and tools to lead with confidence and foster a collaborative and productive workplace culture.

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ISO 9001:2015

Department of Applied Science & Humanities
Value Added course on Leadership and Management

Academic Year 2023-24
Course Content

Module 1: Introduction to Leadership and Management, definitions and differences, Historical Perspectives and Theories, Leadership in Organizations.
Module 2: Leadership Styles and Theories, Transactional Leadership, Situationaland Contingency Theories, Leadership Style Self-Assessment.
Module 3: Team Dynamics and Team Building, Stages of Team Development,Roles and Responsibilities in Teams, Team Building Exercises.
Module 4: Communications Skills for Leaders, Effective CommunicationTechniques, Simulated Communi9catiobn Challenges.
Module 5: Project Management Fundamentals, Project Planning and Scheduling,Risk Management, Successful Project Plans.

Course Outcomes

The students will be able to:

- Understand the fundamental differences between Leadership and Management.
- Identify and differentiate between various leadership styles such as transformational and transactional leadership.
- Develop strategies for effective team building and improving team dynamics.
- Students will understand and be able to apply change management principles to lead successful organizational transformations.
- Exhibit a strong commitment to ethical leadership and corporate social responsibility.

COORDINATOR
Dr. Sunitha N
Department of Chemistry

HOD
Dr. Jyothi P
Department of Mathematics

PRINCIPAL
Dr. H N Thippeswamy
CEC, Bangalore

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Value Added Course on Aptitude and Soft skills

Organized by

"Department of Information science
and Engineering"
City Engineering College
Bangalore-560062

Date: 16-10-23 to 20-10-23
Venue : CSE Seminar Hall

www.cityengineeringcollege.ac.in

Chief Patron

Dr. K. R. Paramahamsa
Chairman,
AMC - City Group of Institution,
Bangalore

Patrons

Dr. H S Thippeswamy
Principal, City Engineering college
Bangalore.

Dr. Sowmya Naik
Executive Officer & HOD of Computer Science
Department, CEC

Mr. Sakthivel B
HOD, ISE and Convener , CEC

Coordinators

Mrs .Vani

Assistant Professor
Dept. of ISE, CEC

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About College

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About Information Science and Engineering	Expert Speakers for the Program	About Aptitude and soft skills

The Information Science and Engineering Department in City Engineering College serves as a fundamental pillar, providing essential knowledge in fundamental disciples such as advanced java and algorithms. This Department plays critical role in equipping engineering students with the core scientific principles and analytical skills necessary for heir specialized engineering studies. Faculty members in the Information Science Department typically engage in both teaching and research, contributing to advancements in their fields and enhancing the overall academic environment. The department often offers courses that support and complement the various engineering programs, ensuring that students have a strong scientific grounding to solve complex engineering problems effectively.

Dr. Deepak. I
Assistant Professor
Department of MBA
City Engineering college.

Mrs. Vanitha
Assistant .Professor
Dept. of Basic Science
City Engineering College

Mrs .Vani
Assistant Professor
Dept. of ISE
City Engineering College

Ms. Meghana
Assistant Professor
Department of Basic Science
City Engineering College

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Soft skills are the attributes and behaviours that describe how a person approaches their tasks. You likely use soft skills across all areas of your life--communication, critical thinking problem-solving, and interpersonal skills are some examples of soft skills—but they're particularly valued in the workplace. Whether you're giving a presentation at work, delivering a speech at an event, or simply leading a meeting, the ability to communicate effectively is essential. There are many different aspects to public speaking, but some key skills include the ability .

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Department of Information Science and Engineering

Value Added Course Syllabus

One week Value Added Course on 'Aptitude & Soft Skills'

Syllabus   **Duration: 30 Hrs**

Name of programme: Add on Course on 'Aptitude & Soft Skills'

1. Apply basics concepts and fundamentals for solving the examples.

2. Implement logic to solve the example by different ways.

3. Use and implement soft skills in their professional life.

    1) Number System- Various type of Numbers, Test of Divisibility, Square roots, Cube roots, Squares.

    2) H.C.F. & L.C.M of numbers, Simplification, Decimal & Fractions, Average.

    3) Percentage- Concept of Percentage, Results on Population, Results on Depreciation. (06Hrs)

4) Aptitude Skills- Types of Aptitude skills, Importance of Aptitude Skills, Active listening, Applying in everyday life, Interpersonal Skills-Building relationship, Empathy, Conflict resolution, Leadership Management Skills- Goal setting & planning, Decision making, delegation, Motivation and inspiration.

5) Problem solving and critical thinking- analyzing problems and identify solutions, creative thinking and brainstorming techniques. Ethics and Professionalism- Understanding workplace ethics and professionalism, maintaining integrity and honesty, Respecting diversity and inclusivity.

Mrs. Vani
Course Coordinator

Mr. Sakthivel B
HOD & Convener

Department of Information Science and Engineering

Value Added Course on Aptitude and Soft Skills

Academic Year: 2023-2024   **Date: 16-10-2023 to 20-10-2023**

Course Outcome

Participants will possess a solid theoretical foundation in Aptitude, principles, enhancing their overall understanding of effective Soft Skills.

1. Participants will demonstrate proficiency in Aptitude and soft skill techniques, incorporating persuasion, influencing skills, and humour effectively.

2. Participants will exhibit increased confidence in soft skill and the ability to adapt to unexpected challenges, fostering resilience in professional Aptitude.

3. Participants will be adept at applying theoretical knowledge in practical scenarios, honing their ability to soft skill effectively in diverse situations.

4. Participants will develop a mindset for continuous improvement, utilizing personalized feedback to refine their Aptitude and soft skills over time.

Mrs. Vani   **Mr. Sakthivel B**

Course Coordinator   **HOD & Convener**

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CHIEF PATRON

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Chairman,
AMC-City - Brooklyn Group of
institution

PATRONS

Dr. Thippeswamy H N, Principal,CEC

Dr. Jyothi P, Vice Principal , CEC

CONVENER

Dr. Sowmya Naik PT,
HOD CSE & Executive Officer

COORDINATORS

Mrs. Ambika P R,
Assistant Professor,
Department of CSE

Mrs. Laxmi M C,
Assistant Professor,
Department of CSE

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

**Value Added Course
On**

ADVANCED ENTREPRENEURSHIP SKILLS

16th to 20th OCTOBER 2023

Resource Person

**Mrs. Ambika P R, Asst.Prof, CSE
PH: 9945133228**

CONTACT DETAILS

**K Jaideep , Manager,
Business Development
(Techno Kraft Centre for Learning) .**

About The Department

The Department of Computer Science & Engineering was started in the year 2001 is known for imparting Quality education and carrying out cutting edge research. In addition to the UG program, PG CSE program and Research facilities for Ph.D. The department offers undergraduate program and has a comprehensive curriculum on topics related to software and hardware with an emphasis on theoretical and practical learning. It has well equipped, state of the art laboratories supported by highspeed Internet and wireless networks.

About the Course

The "Advanced Entrepreneurship Skills" course is a meticulously designed value-added program aimed at bridging the significant gap between industry requirements and academic curricula. Tailored specifically for final year students, this course provides a robust foundation in entrepreneurial skills that are essential for the modern business landscape. By focusing on the development of innovative thinking, strategic planning, and effective problem-solving abilities, this program ensures that students are well-prepared to navigate the complexities of launching and managing successful ventures.

Course Outcomes

- Enhanced Entrepreneurial Mindset
- Comprehensive Business Planning
- Effective Marketing and Sales Strategies
- Financial Acumen
- Leadership and Strategic Growth

About Resource Person

K. Jaideep is a professional with over 7 years of experience in various fields, including elearning, business, personality development, entrepreneurship, and digital marketing. He is proficient in English, Kannada, Telugu, and Hindi, and has experience as an Aptitude Trainer since 2015. Jaideep has also worked as a freelance SME consultant, skill trainer, and facilitator. He has received awards for his expertise and has a Bachelor of Engineering in Electronics and Communication from Vellore Institute of Technology.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VALUE ADDED COURSE SYLLABUS

Course Name: Advanced Entrepreneurship Skills   **Duration: 30 hours**

Course Objectives:

- Understanding Entrepreneurship: Gain a deep understanding of entrepreneurship principles, including its definitions, historical evolution, and contemporary relevance in global economies.
- Ideation and Opportunity Recognition: Develop skills to generate innovative business ideas, assess market opportunities, and identify viable niches for entrepreneurial ventures.
- Business Planning and Strategy: Learn to create comprehensive business plans, develop effective business models, and strategize for sustainable growth and competitive advantage.
- Marketing and Sales Mastery: Acquire knowledge and practical skills in marketing strategies, digital marketing techniques, and sales methodologies essential for startup success.
- Financial Management: Understand financial planning, budgeting, and financial analysis for startups, including funding options and investment strategies.

Course content:

Module 1: Introduction to Entrepreneurship(6)

The first Module begins with an overview of entrepreneurship, exploring its definitions, historical context, and evolution in contemporary business landscapes. Students delve into the entrepreneurial mindset, focusing on essential qualities and attitudes necessary for success in entrepreneurial ventures. Practical sessions involve ideation and opportunity recognition, where students learn techniques to generate business ideas, assess market needs, and identify viable opportunities through case studies of notable entrepreneurial successes.

Module 2: Business Planning and Strategy(6)

Module two shifts focus to business planning and strategic development. Students learn about various business models and their applications, with a detailed exploration of creating a business model canvas tailored to startup contexts. Strategic planning sessions cover SWOT analysis, strategic decision-making processes, and setting SMART goals essential for guiding entrepreneurial ventures towards sustainable growth and success.

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Module 3: Marketing and Sales(6)

The third Module concentrates on marketing strategies crucial for startup success. Students gain insights into fundamental marketing concepts and their roles in entrepreneurial ventures. Practical workshops guide students through developing comprehensive marketing plans, including market segmentation, targeting strategies, and effective positioning techniques. Additionally, sessions on digital marketing and social media strategies equip students with tools to leverage digital platforms for brand visibility and customer engagement. Sales techniques and customer acquisition strategies are also explored, emphasizing building and managing customer relationships critical for startup growth.

Module 4: Financial Management and Legal Considerations(6)

Financial management takes center stage on Module four, covering essential topics such as financial planning, budgeting, and financial projections tailored to startup finances. Students explore various funding options available to startups, including bootstrapping, angel investment, and venture capital, understanding their implications and strategic applications. Legal considerations in entrepreneurship are also addressed, covering business structures, intellectual property protection, and compliance with regulatory frameworks essential for ensuring legal and ethical business operations.

Module 5: Entrepreneurial Leadership and Growth Strategies(6)

The final Module focuses on entrepreneurial leadership and strategies for sustainable growth. Students delve into the traits of successful entrepreneurial leaders, learning how to cultivate leadership skills necessary for guiding teams and fostering innovation within startup environments. Sessions on scaling strategies provide insights into managing growth challenges, identifying opportunities, and devising effective scaling plans. Discussions on exit strategies and succession planning equip students with knowledge on managing transitions and ensuring long term sustainability for entrepreneurial ventures.

Course Outcomes:

1. Entrepreneurial Proficiency: Demonstrate a solid understanding of entrepreneurship concepts and their application in realworld business environments.

2. Innovative Thinking: Ability to generate and evaluate business ideas, leveraging creative thinking and market analysis to identify promising opportunities.

3. Strategic Business Development: Competence in developing and refining business plans, applying strategic frameworks to achieve business objectives and adapt to market changes.

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4. Effective Marketing and Sales Execution: Capability to implement targeted marketing campaigns, utilize digital platforms effectively, and employ persuasive sales techniques to acquire and retain customers.

5. Financial Acumen: Proficiency in financial management practices, including budgeting, financial forecasting, and investment strategies crucial for startup viability and growth.

Coordinator
Mrs Ambika P R

Dr. Sowmya Naik P T
HOD

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