NEW HORIZON
COLLEGE OF ENGINEERING
Autonomous College, Affiliated to VTU | Approved by AICTE New Delhi & UGC
Accredited by NAAC with 'A' Grade & Accredited by NBA

50 Golden JUBILEE
YEARS OF EXCELLENCE IN EDUCATION

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Alumni feedback: 2017 – 2021 Batch

- The alumni replied that teaching various courses helped in acquiring the ability to link theory to practice.
- Alumni informed that institution infrastructure is very encouraging in learning process and Curriculum contents helped in problem formulation and solving skills.
- Alumni suggested to include more workshops, hackathons and seminars to improve the soft skills, personality development, investigating abilities, employability skills, industry matching technical skill set etc.
- To include more value-added courses that will help in acquiring modern technical skills.
- To encourage and support the students to publish their project works in reputed journals.

Employee feedback: 2017 – 2021 Batch

- To make students industry ready and update their skill set, which can be achieved by making them do mini projects and other technical online courses as part of curriculum.
- Students projects/technical seminars should be done on recent emerging trends during their final semester.
- More emphasis should be given to their technical and inter personnel skills.
- The curriculum can bridge industry and academic gaps.
- Make sure students are getting enough exposure for active participation in technical events like Hackathon, Project exhibitions, Technical contests and industry related technologies.
- Need to conduct awareness sessions on building entrepreneurship and leadership qualities, which helps the students for starting their own ventures.
- To obtain domain knowledge in cutting edge technologies employees suggested conducting workshops/seminars on the various areas like Data Science, Machine Learning, Cyber Security, Blockchain, Cloud Computing and other open source tools.
- Internship Programmes help students to get industry experience with an insight to the corporate sector, domain-specific industrial motives.
- Interactions with Industrial experts help students to know things practically through interaction, working methods, and employment practices.

Student Feedback: 2017 – 2021 Batch

- Conduction of frequent Alumni talks.
- Global Exchange programs to be enhanced.
- Selection of professional and open electives by students based on their career goals and interest areas.
- Enhance in number of workshops to provide the students with a clear knowledge to enhance hands on experience on the particular area.
- Increasing the number of industrial visits can help students to identify their prospective area of work like software development, testing, design and automation and many more.
- Increasing number of expert lectures especially from Industry resource to make student understand about the work culture of Industry.

- Students requested to organize industrial visits with core companies like VMware, SAP, IBM, Wipro, Cerner, and many more to know the advanced research and developments, core programming techniques and practical working environments to meet the needs.

- Self-study topics beyond syllabus can be listed and circulated among students.

- Motivational talks on stress management, Conflict handling, team work, team building and study skills on research and developments, patenting, Entrepreneurship can strengthen ideas and provide initiative paths to students.

- With increase in number of workshops on trending technologies may help students to streamline their career paths.

- Quiz based on aptitude, pattern matching, Hackathon can be conducted to improvise student's attention.

- Pre-placement technical training to be provided to students.

Course Coordinators Feedback: 2017 – 2021 Batch

- To promote the excellence and currency of the curriculum to uplift the technical skills and potential of students to find innovative ways to solve problems and to achieve success, the course coordinators suggested top-ups for the curriculum to boost the employability and equip the students to meet workplace challenges. In this regard Course coordinators proposed changes in the syllabus endorsed for the seventh and eighth semester.
- Track wise curriculum with various courses must be framed for seventh and eighth semesters.
- Placement department suggested the courses 'Computer Vision' and 'Deep Learning' to be made part of Professional Elective and 'Mobile Application Development' must be considered as core subject to meet the industry requirements for placement activities.

- Deep Learning is suggested as there is a fast growth in the field of data analytics and machine learning.
- Recommendations to offer 'Robotics' as a professional elective since there is a wide range of application in industry.
- Recommendations to use 'Jupiter' notebooks and Lab for Data Science/Machine learning hands-on sessions. Recommendation to give more importance to statistics in data science and machine learning.
- Recommendations to include 'Natural Language Processing' and 'Service Oriented architecture' into the curriculum in order to improve employability.
- Recommendations to revamp the courses offered under professional electives for semesters seven and eight.
- The reference books of latest edition can be recommended as text books.

Action plan 2021-2022 based on 2020-2021 Feedback summary:

Based on the Alumni feedback

- To continuously improve the curriculum to match the industry requirements.
- To organize seminars and workshop in order to expose the students on the on state of the art technologies by inviting experts from industry/ IIT/IISc.
- To organize national and international conferences and motivate students to present their work and to publish them in reputed journals.
- To organize more alumni talks so that the students can have a network with their seniors and get to know about the industrial requirements.
- To conduct more industrial visits.
- To strengthen industry collaboration through MoUs.
- Motivate students to take up career building courses for overall development.

Based on the Employee feedback:

- The industry readiness with innovative software programs and application development skills are incorporated among students. Hence students are specialized in multiple programming languages like C, C++, C#, java, python etc.
- Seminars on personality development, investigating abilities, employability skills and technical skills were conducted to improve the degree of performance in placements.
- Active participation in technical events and exposure of students to industry experts is ensured.
- Many activities like Hackathons, KSCST project proposals, innovative idea submissions, external Competitions, State Level Inter collegiate Tech Fest are conducted for students to participate and stimulate their learning.
- The syllabus is refined as per the requirements of the basic technical knowledge and to meet industry needs.
- To gain expertise in various domains, various workshops has been conducted in recent technology like Python, Data science, Cyber Security, Machine Learning & AI etc.

- Awareness sessions on entrepreneurship are conducted to imbibe in students the confidence to establish their start up ideas.

Based on the Student Feedback:

- IBM open power lab was set up in the department and Guest speakers were invited from IBM to make students understand the advanced research and development activities, core programming techniques, awareness about best practices and practical working environment.

- Technical training sessions were conducted by a special team of in-house faculty members to facilitate students for cracking technical interviews.

- Motivational talks on stress management, selecting a good career path and many more were organized.

- Seminars/ workshops and National Conferences were organized to draw student attention about recent trend and technologies.

- Quiz based on aptitude, pattern matching, hackathon, brain teaser is conducted to improvise student attention.

- Expert lectures for different courses were arranged to facilitate students with current technologies and scenario of industry.

- Online coding events from different clubs were conducted to motivate students to enhance their coding skills.

Based on the Course Coordinator Feedback:
- Career based tracks for technical creativity and analytical thinking skills are provided to students to solve various software related issues. The sequence of core subjects learnt by the students are as follows
  - Third semester- UNIX system programming, Data structures with C
  - Fourth semester- OOP with Java, ARM Processor, Computer Organization
  - Fifth semester-Finite Automata and Compiler Design, Analysis and Design of algorithms, Python programming lab with mini projects.
    The following Professional electives are included
    - ✓ Parallel Processing
    - ✓ Advanced Data Structures
    - ✓ Digital image and video processing
    - ✓ Computational Intelligence
  - Sixth semester- Web Frameworks and Technologies, Data mining and Machine Learning
    The following Professional electives are included
    - ✓ Social Network Analysis
    - ✓ Soft computing
    - ✓ Cloud Computing
    - ✓ Agile Methodologies

- ✓ Semantic Web
- ✓ Web of Things
- ✓ Quantum cryptography
- o Seventh semester- Software Testing, Mobile Application Development with labs and mini projects

    The following Professional electives are included
    - ✓ Fundamentals of Data Science
    - ✓ Artificial Intelligence
    - ✓ Cyber Security, Forensics and Law
    - ✓ Internet of Things
    - ✓ Embedded Systems
    - ✓ Natural Language Processing
    - ✓ Deep Learning
    - ✓ Robotics
    - ✓ Computer Vision
    - ✓ Service Oriented Architecture
- o Eighth semester-Internship and Project

    The following Professional electives are included
    - ✓ Pattern Recognition
    - ✓ Advanced Databases
    - ✓ Mobile Computing
    - ✓ Multi-core Architecture
    - ✓ Ethical Hacking & Prevention
    - ✓ Green Computing
    - ✓ Data Compression
    - ✓ Cognitive and Learning Science

- Mandatory to all the students to undergo at least 6 weeks of internship in their curriculum. Many final year projects are done in government agencies like DRDO, LRDE, HAL etc or in reputed IT companies like IBM, SAP, HCL etc.
- Project Quality is improved and indicated by following metrics
  - o Regular Internal Assessments
  - o External Examiner Evaluation
  - o Plagiarism check
  - o Student publications
  - o Patents
- More of Machine Learning concepts introduced in the course Data Mining and Machine Learning. Practical sessions were also included.
- Course contents of subjects like Soft Computing and Computational Intelligence were overlapping. The contents of Soft Computing is completely revised and reframed.
- 'Jupiter' notebooks are used in Labs for Data Science/Machine learning hands-on sessions.
- More importance is given to statistics in data science and machine learning.

- Hands-on sessions/mini project are included for 'Mobile Application Development' than theory concept explanation.
- This will encourage students to develop applications based on their ideas and exhibit their innovations during placement activities.
- Student projects are uploaded to Git-hubs to exhibit their technical knowledge.