



### INDUSTRY SPONSORED LABS AND CENTERS OF EXCELLENCE

### Assocham - 2020



#### Excellence in providing preferred environment for campus placement

#### B-School providing preferred environment for campus placement

The Hon'ble Minister of state for Skill Development & Entrepreneurship, Govt. of India, Mr. Mahendra Nath Pandey presenting the award during 13<sup>th</sup> Higher Education, Skill and Livelihood conclave held on 25th & 26th February 2020 at New Delhi.

#### About

The purpose of the Industry-Institute Collaboration Cell (IIIC) is to ensure a paradigm shift in the thought process of the students of New Horizon from Job to Career, leading them towards the identification of a SMART CAREER GOAL. Taking a step further, IIIC strives to establish connections between eminent faculty members and the relevant industries to join hands and work towards mutually beneficial cause /projects. The aim of IIIC is to work towards making New Horizon College of Engineering, a respectable and most sort after Engineering college which provides the best amalgamation of Innovation, entrepreneurship development, skill up-gradation, passion and aptitude along with sound theoretical subject knowledge which in turn makes the students' industry ready and innovators of tomorrow and take them to the pinnacle of success. Also, it ensures that our elite faculty members are amongst the most sought after teaching fraternity.

International Collaboration









Industry Sponsored Labs	Capgemini SG, Industry 4.0 VLSI, PLM		CISCO. Academy	academy		🔪 🎲 eurofins	
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	Cognizant	1	Infosys		wipro	VOLVO GROUP	
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	Lowe's		SULATIKA SATIVA TRUST. ITS WHAT WE BULD	Stup Consultants Pvt.	Shriram Properties	Micros	soft

#### Awarded

Most preferred institute for providing global exposure Assocham 2020

Excellence in providing preferred environment for campus placement Assocham 2020 B-School providing preferred environment for campus placement Assocham 2020



Students of mechanical engineering branch are trained on Product Life Cycle Management as a professional elective.

#### Vision

To become one of the best Centre of Excellence by educating the students in various aspects of Product Life Cycle Management by providing improvised technologies and equip them to work with real time projects.

#### **Program Highlights**

#### Mission

To develop students and make them industry ready by imparting the current trends of technology, newer learning methods by industry and academia experts in the field of PLM.

- · DEMS is focused towards IoT and connected product, smart engineering and Digital manufacturing.
  - Faculty & Students have great access to Technology, Course content, software's from Dassault systems (France).
    - 3D Experience platform provides greater ability of software access in a single user interface.
      - Students are being trained by experienced faculty and industry expertise from Capgemini.
        - Trained students in PLM domain are directly recruited by companies like Capgemini every year.

Capgemini, a French multinational is a global leader in consulting, digital transformation, technology and engineering services. The Group is at the forefront of innovation to address the entire breadth of clients' opportunities in the evolving world of cloud, digital and platforms. Building on its strong 50-year+ heritage and deep industry-specific expertise, Capgemini enables organizations to realize their business ambitions through an array of services from strategy to operations. Capgemini is driven by the conviction that the business value of technology comes from and through people. Today, it is a multicultural company of 270,000 team members in almost 50 countries. Digital Engineering and Manufacturing Systems (DEMS) lab is open for students to learn and cultivate the current need of industries. This is an embedded solution across all engineering disciplines. DEMS leads to the convergence of physical and digital wants through technology, engineering and manufacturing expertise.

#### Courses Offered

Product Life Cycle Management for beginners with critical details like bill of materials, parts classification, colour coding, PLM strategies for batch and mass production systems. Digital Manufacturing – PLM: Digital Manufacturing, Benefits of Digital Manufacturing, Manufacturing the First-One, Ramp Up, Virtual Learning Curve, Manufacturing the Rest, Production Planning, Product Life Cycle Management for Professionals from First Model till the final development through ramp-up approach, PLM Concepts, Processes and Workflow: Characteristics of PLM, Environment Driving PLM, PLM Elements, Drivers of PLM, Conceptualization, Design, Development, Validation, Production, Support of PLM. Collaborative Product Development: Engineering Vaulting, Product Reuse, Smart Parts, Engineering Change Management, Bill of Materials and Process Consistency, Digital Mock-Up and Prototype Development and Design for Environment.

#### **Best Practices**

- MOOC on various PLM courses are encouraged.
- A self-study on PLCM is carried out as a part of the curriculum.
- Students perform analysis on real data using TATA Automotive case studies for their self-study project work.
- All assignments, internal and Semester End examination are conducted as lab experiments.
- Faculty members also undergo various certification courses on PLM as well as courses from Integration of PLM with Digital Manufacturing.
- Exclusive sessional talks and workshops are conducted on PLM and Digital Systems by experts from Capgemini.

#### Hardware setup

- Intel(R) Xeon(R) CPU
   E5-2630 v3, 32-Core Server
   Processor.
- 128GB DDR4 RAM. 7.2TB (4 RAID 1 arrays - each array has 1.8TB of disk space)
- 35 High end systems with 7th Generation processors.
- Digital Board.
- Latest version of ENOVIA from Dassault System software is available with CATIA V5 R 26.
- Laboratory is also equipped with Latest teaching – Learning online tools.



Capgemini Engineering Industry 4.0 Centre of Excellence was inaugurated at New Horizon College of Engineering on 28th Feb, 2022 by Mr. Chandra Reddy, Managing Director of Capgemini Engineering and Dr. Mohan Manghnani, Chairman, New Horizon Educational Institution.

#### Vision

The Vision of this lab is to provide training to students in cutting-edge engineering technology streams and platforms of Industry 4.0 and bridging the technological gap between academia and industry.

#### **Program Highlights**

- Industry 4.0 lab will serve as a platform to create an ecosystem of resources for the digital needs in industrial segment.
- To interact with subject matter experts in the digital solutions from the engineering service industry and enhance their knowledge in the field of Industry 4.0.
- The students will be mentored through online trainings, hackathon and live projects.
- Students are provided with internship and full time offer by Capgemini.

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- Live and interactive projects will be provided and mentored by Capgemini experts.
- Visit by the students to Capgemini and freedom to interact with Capgemini Experts on technical solutions to projects.
- Visit to IoT related Technical Expos and Conferences.



Capgemini Engineering VLSI Centre of Excellence was inaugurated at New Horizon College of Engineering on 28th Feb, 2022 by Mr. Chandra Reddy, Managing Director of Capgemini Engineering and Dr. Mohan Manghnani, Chairman, New Horizon Educational Institution.

#### Vision

The Vision of this lab is to inculcate VLSI design, implementation and testing skills to meet the current and future needs of the Semiconductor industry.

- Capgemini Engineering accelerates end-to-end design, implementation and testing for ASICs, SoCs and FPGAs: from spec to silicon. RTL to GDSII turn key delivery.
- This Centre of Excellence has greater focus towards Chip Design and Physical Design of VLSI.
- Faculty & Students have great access to Technology, Course content, software.
- 90 ECE and EEE Students enrolled for this program are being trained and hired by Capgemini Engineering along with internship.
- Massive Open Online Courses on Physical Design (VLSI) is encouraged.
- Students perform the synthesis, floor planning, placement and routing as per the industrial standards using state of the art tools.



# Capgemini engineering

#### Vision

To foster an industrial learning environment in 5G technology by creating an ecosystem for technical innovation

#### **Program Highlights**

#### Mission

To explore the avenues of Next-Gen communication and to address the promising applications of 5G systems

5G Radio Spectrum, 5G Channel Model, 5G Use Cases And System Concept, Radio Interface Architecture, 5G Physical Layer, 5G Radio-Access Technologies, Introduction to 5G Network Slicing, Vehicular Communications, Mobility and Handoff Management in 5G

- 5G is offering new ways to connect people and things, allowing the telecommunications industry to play a reinforced role in the digital transformation across industries. In a battle to optimize the investment in 5G technologies, Network Equipment Providers are looking to build new partnerships, a reliable ecosystem and source the best possible talents to identify and deliver compelling use cases. Capgemini Engineering help communication players optimize their investments in 5G technologies. Links Network Equipment Providers, Communication Service Providers & vertical enterprises using Next Gen Connectivity. Enables Network Equipment Providers to accelerate their 5G strategy through accelerators and by building, customizing, integrating & managing their 5G solutions for their Communication Service Provider clients. To engineer, build, integrate, deploy, monetize and manage your 5G solutions.
- 5G Lab at NHCE aims to provide research centric learning environment aligned with the industry stand on future technologies for students.
- The lab also focusses on exploring the latest tools usage and trends prevailing in the Communication industry.

#### Hardware setup

HPE DL360 Gen10 1P 16G 4LFF Svr Xeon 6154 3.0GHz/18C/200W, 1x16GB, Open Bay 4LFF HP drive cage, S100i Controller, 4x1GbE (embedded), Rail kit, 1x500W PS, 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit, Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular LH Controller, 2TB SAS 7.2K LFF SC DS HDD, 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit, Ethernet 10Gb 2-port 535T Adapter

#### **Courses Offered**

5G Mobile Communication

#### **Best Practices**

- ICT Enabled Learning environment
- Research driven global visibility platform
- NPTEL videos for augmented learning



The MOU between Capgemini and NHCE was exchanged on 26th July 2019. It was the first of its kind lab established in India.

#### **Program Highlights**

The Digital Engineering and Manufacturing services lab will open several opportunities for students in the field of Project Life Cycle Management. PLM Software on 3D Experience by Dassault will be used to train the students.

The faculty have undergone an exclusive faculty development program on the same. 60 BE / MCA students will be trained and deployed by Capgemini in the DEMS vertical.

LEADING the convergence of physical models through technology, anufacturing expertise

Connec





#### Vision

To inculcate programming skills by educating students to build any kind of application like console, desktop or web, with memory management efficiently.

#### **Program Highlights**

- Faculty at NHCE received training on C# & .Net at Eurofins company by their expert team
- The lab serves as an excellent platform for developing real time application and serve research environment for students to work on efficiently
- Students are trained by experienced faculty
- Regular FDP's and workshops conducted by Eurofins officials

#### About the Company & LAB

Eurofins Scientific is a group of international life sciences companies which provide a unique range of analytical testing services to clients across multiple industries. The Group believes it is a world leader in food, environment, pharmaceutical and cosmetic product testing, discovery pharmacology, forensics, advanced material sciences, and in agro science Contract Research services. It is also one of the global independent market leaders in genomics and in the support of clinical studies, as well as in BioPharma Contract Development and Manufacturing. In addition, Eurofins is one of the leading global emerging players in esoteric and molecular clinical diagnostic testing.



#### Vision

To reinvent the thought cycle of students for application based learning.

#### **Program Highlights**

The lab serves as an excellent platform for:

- Conducting research on rapidly advancing AI technologies
- Enabling and facilitating industry-academia partnerships in research and development, and fostering relationships through collaborative projects
- Encouraging cross-disciplinary research in applied computing, in critical scientific and industrial domains, via research proposal submissions to funding agencies
- Providing a state-of-the-art R&D facility for students, faculty and collaborators
- Offering a comprehensive and meaningful computing environment for education by complementing the theoretical coursework with appropriate laboratory coursework for students, and encouraging team participation and cross-disciplinary problem solving.

#### Mission

Artificial Intelligence enables creation of intelligent machines and through the establishment of COE for Al our endeavor is to create Intelligent humans.

#### **NVIDIA**

Accelerated Computing 5x Higher Energy Efficiency





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**Red Hat** 

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Delivering the next-generation hybrid multicloud platform



AI Lab plays a major role in the research and development, commercial and industrial development of emerging AI technologies. The AI Lab includes IBM and other corporate sponsors, coupled with open source technologies viz., NVIDIA, Ubuntu, Redhat, Power9 and Xilinx to accelerate results. There is a strong need for research and development activity in these domains:

- Encouraging academic-industry partnerships.
- · Cross-disciplinary and collaborative research.
- · Making AI accessible to non-technical business students.
- · Enabling faculty-technologist interaction and learning.
- Enabling startups, ISVs and industries to use the platform to innovate in ways that improve the World condition.

The IBM OPENpower Lab at NHCE uses IBM POWER9 processor based Server and aims to meet the challenging needs of industry, academia, and society in the world of artificial intelligence (AI), machine learning (ML) and deep learning (DL).

#### **Courses Offered**

- E4S Exascale Software training
- Parallelware Analyzer High Performance Computing Training
- Python for Data Science
- Data Analysis with Python
- $\cdot$  Machine Learning with Python
- Deep Learning with Tensor Flow
- $\cdot$  Hybrid Cloud with Use Cases
- $\cdot\;$  Big Data and Hadoop

#### **Best Practices**

#### Hardware setup

- IBM POWER9 CPU.
- · NVIDIA<sup>®</sup> RTX 2070 GPU
- $\cdot~$  1 TB SSD for storage
- · 32GB DDR4 ECC registered memory

Talent and Skills: (Remote Interns; Skills and Training) Students and Research scholars work on the advanced technologies which will enable them to work on many applications. Publications and Mindshare: (Press releases, Articles, and Publications; Conferences and Events). Conference Paper on software-based application research/development on a regular basis. Intellectual Capital: (Patents, Open source; Prototypes, Demos; Curriculum; Student projects, Theses). Prototype building of research problems using a software-centric approach (hardware-centric baseline implementation almost getting completed). Potential to file disclosures. Opportunities: (Seed revenue; Leverage other funding; Build ecosystems; Build government/client technologies, your team would create prototypes which can be demonstrated to several colleges.

### SAP next-**gen**↦

Students from ISE, CSE, ECE, EEE, ME, CIVIL, AU branches and MBA can opt for SAP related courses.

#### Vision

To become a Centre of Excellence by educating the students in various modules of SAP with real time projects.

#### **Program Highlights**

#### Mission

To mould the students to become industry ready by empowering them on fundamentals of ERP and machine learning and to advance the knowledge on SAP by providing hands-on sessions for different case studies

Cloud & Data

Platforms

RP & Digiti

- SAP Nextgen lab provides learning platform in various technologies like SAP-ERP so that students can build their career as a techno functional consultant.
  - SAP also provides learning on most emerging technologies like machine learning and AI so that students can get exposed to trending programming knowledge like Python and R.
    - SAP next-gen club associated with this lab regularly conducts hands on sessions in various technologies.

SAP SE is a European multinational software corporation that makes enterprise software to manage business operations and customer relations. The company is especially known for its ERP software. SAP is headquartered in Walldorf, Baden-Württemberg, Germany with regional offices in 180 countries.

SAP is the market leader in enterprise application software, helping companies in each sizes and industry run at their best: 77% of the world's transaction revenue touches an SAP system. Our machine learning, Internet of Things (IoT), and advanced analytics technologies help turn customers' businesses into intelligent enterprises. Our end-to-end suite of applications and services enables our customers to operate profitably, adapt continuously, and make a difference. With a global network of customers, partners, employees, and thought leaders, SAP helps the world run better and improves people's lives. SAP has inaugurated Centre of Excellence at New Horizon College of Engineering to enhance the knowledge of students in the field of ERP on various modules like MM, S&D, PP, WM, HRM etc. and also empowers students on technologies like machine learning and artificial intelligence

#### **Best Practices**

- Project based hands on sessions are a regular feature
- Regular industry visits to SAP are conducted to understand real time experience
- MOOC Students are encouraged to enrole for online certification programmes
- · Industry expert talks on trending topics happens twice in a semester
- Design thinking workshops happens once a year
- SAP 36 hours overnight Hackathon

#### Hardware setup

- GBI Introduction to SAP using Global Bike
- The S/4HANA version 3.3.
- GBI 3.3 version does not add new functionality, it only has some 'fixes' to the 3.2 version.
- 2.ERPsim Certification
- ERPsim system provisioning subject to certified trainer to operate the games by himself/herself.
- The server is hosted in Victoria University, Australia. NHCE has access to 1000 GBI 3.3 on S/4HANA, 239ERPsim and 200 SAP HANA Licence

#### **Courses Offered**

SAP COE offers ERP modules as below:

- Material management
- Sales and distribution
- Warehouse management
- Production planning
- SAP COE also provides access for S/4 Hana cloud platform with ERP sim.
- It also facilitates software learning programs like python, Jupiter and R.

# **IIIII** Networking **CISCO** Academy

Students from ISE, CSE, ECE, EEE, ME, CIVIL, AU branches can opt for Cisco Netacad related courses.

#### Vision

To inculcate networking skills to meet the current and future needs of the Information Technology (IT) industry.

#### Mission

To enrich the young minds with intellectual, technical and practical skills for serving the constantly evolving industry.

#### **Program Highlights**

Cisco Networking Academy (NETACAD) aims at providing a detailed insight into the networking concepts that are essential for rapidly growing networking Industries. Faculty & Students have a Cisco Netacad account where they can access the various course content, and software in addition to Cisco hardware equipments. Faculty of Cisco Centre of Excellence are Globally Certified CCNA Instructors. Faculty keep themselves updated with latest technologies by attending a number of Global Instructor Professional Development Programs (IPDs) and Cisco Annual Conference, both conducted by Cisco Academy Support Centre Team.



Cisco Systems, Inc. is an American multinational technology conglomerate heart, quartered in San Jose, California, in the center of Silicon Valley. Cisco develops, manufactures and sells networking hardware, software, Telecommunications munications equipment and other high-technology services and products. Through its numerous acquired subsidiaries, such as OpenDNS, Webex, Jabber and Jasper, Cisco specializes into specific tech markets, such as Internet of Things

(IoT), domain security and energy management.

Cisco has awarded New Horizon College of Engineering the status of Cisco Networking Academy in recognition of all Netacad programs. Mr. George John, Senior Director-IT from Cisco along with Dr. Mohan Manghnani,

Chairman-NHCE inaugurated the Cisco Networking Academy at New Horizon College of Engineering on 28th March 2018.

#### Hardware setup

- Cisco proprietary switches and routers as connecting devices in the lab.
- Three 2960 series switches and three 1941 series routers.
- For initial configuration three console cables are provided to configure LAN / WAN networks.
- One HWIC2T card for establishing serial interfaces between routers.
- Packet tracers 7.2 and 7.3 versions are loaded on 4GB RAM systems.

#### **Courses Offered**

- Routing & Switching-1 as Open Elective: The curriculum of this course is derived from CCNA Module-1, Introduction to Networks and part of CCNA Module-2, Routing & Switching Essentials
- Routing & Switching-2 as Open Elective: It delivers content on few topics of Routing and Switching Essentials along with CCNA Module-3, Scaling Network configurations.
- Routing & Switching-3 as Open Elective: It covers the concepts of CCNA Module-4 Connecting Networks.

#### **Best Practices**

- Students obtain CCNA Certifications from Cisco for the four modules:
- Introduction to Networks
- Routing & Switching Essentials
- Scaling Networks
- · Connecting Networks
- Participation in events organised by Cisco such as Women Rock IT and Hackathons.
- Participation in Cisco Ideathon, an Internship cum Placement Program for Cisco Netacad Students.
- Students can earn other Cisco certificates by enrolling for online self learning course available in NETACAD.





The MOU was exchanged between Automation Anywhere and NHCE on 22nd May 2019. Mr. Arvind Thothadri, Global Vice President and Mr. Krishna Raju exchanged the MOU with Dr. Mohan Manghnani, Chairman, New Horizon Educational Institution.

#### About the Company & LAB

**ANYWHERE** 

Automation Anywhere's RPA platform is the industry's most advanced, enterprise-grade cognitive RPA solution. Enterprises throughout the world use to create their digital workforces and transform the way they operate, enabling them to manage and scale business processes with unprecedented speed.

- Faculty at NHCE have received training at Automation Anywhere premises on IQ BoT on how to use AI techniques and cognitive automation to extract unstructured data from documents (e.g. invoices).
  - They also got BoT insight to gain real-time, actionable insights into BoT activity across the enterprise Also through BoT Store they learned to access the world's largest automation marketplace and download ready-to-deploy BoTs for your digital workforce.
    - NHCE will shortly incorporate Robotic Process Automation into it's curriculum.



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ALTAIR AI ML DATA SCIENCE LAB Centre of Excellence was inaugurated at New Horizon College of Engineering on 08th Oct, 2021 by Mr. Vishwanath Rao, Managing Director of ALTAIR and Dr. Mohan Manghnani, Chairman, New Horizon Educational Institution.

#### Vision

The Vision of this lab to create expertise in the field of Artificial Intelligence, Machine Learning and Data Science through industry best practices.

- · Altair University aims at providing a detailed insight into the data analytics concepts that are essential for analyzing the data.
- Students can have Altair University account where they can access the various course content and software provided by Altair University.
- Students can be certified by attending the certification examination provided by the Altair University, which is an added advantage for Internships and placement opportunities. Talent and Skills: (Remote Interns; Skills and Training) Students and Research scholars will start working on the advanced technologies will enable them to work on many real time projects.
- Publications and Mindshare: (Press releases, Articles, and Publications; Conferences and Events). Conference Paper on software-based application research/development in 6 months. Intellectual Capital: (Patents, Open source; Prototypes, Demos; Curriculum; Student projects, Theses).
- · Opportunities: (Seed revenue; Leverage other funding; Build ecosystems; Build government/client relationships).
- Once software-centric solution available with comparable performance using latest technologies, your team would create prototypes which can be demonstrated to several colleges.



#### Vision

Provide competent and industry-ready engineers to the industries in the field of Industrial and Building Automation.

#### Mission

- Framing Curriculum according to industry standards and using state-of-the-art industry device software.
- Giving industrial exposure in the field of Industrial & Building Automation and bringing opportunities for mutual growth.
- Providing a platform for experimental learning through projects, training, hands on workshops and internships.
- Opening a two way communication between institution and industry with various opportunities.

- Training the students in the basics for industrial automation: equipment, architecture, design, input output connection, programming language, software programming, enabling the graduates to work in modern industries.
- Student Exchange Program
- Study Abroad Program
- Training the different industry partners of Schneider Electric India.
- Various Industry Institute Interaction programs in the form of FDP's, Workshops and Industrial Visits.

New Horizon College of Engineering has signed an MoU with Schneider Electric & French Ministry of National Education to set up Centre of Excellence with state of the art technology lab in the campus to train teachers, engineering graduates, technicians and customers of Schneider Electric. This being a tripartite agreement between The French Ministry of Higher Education, Schneider Electric and New Horizon College of Engineering, the content development and delivery is a combined effort of all the three parties. The French Ministry of Education has provided its technical and educational expertise by deputing a full time specialized Professor at New Horizon College of Engineering for a period of three years, who will also take on the role of the Director for the Centre of Excellence at New Horizon College of Engineering. The Indo-French Centre of Excellence in Electricity, Automation and Energy in collaboration with Schneider Electric, was inaugurated on 12th March 2018 by Ms. Frédérique Vidal, Minister of Higher Education, Research and Innovation, Government of France, in the presence of Dr. Mohan Manghnani, Chairman, New Horizon Educational Institution and Mr. Shrinivas Chebbi, President-Partner Projects and Eco-Buildings, Schneider Electric India Pvt Ltd. Ms. Frédérique Vidal addressed and interacted with students who have enrolled for courses on Industrial Automation and advised students to be a part of Centre of Excellence to gain more hands on expertise and also to get exposure to international standards of education.

#### **Courses Offered**

- Schneider-Industrial Automation course is offered as open elective for all the engineering branches in 5th, 6th and 7th semesters in IFCEEAE.
- Industrial Automation is offered as professional elective for Electrical & Electronics Engineering students.
- A course on advanced automation, Advanced Industrial Automation and Building Automation is offered as a core subject to Electrical & Electronics Engineering stream students who will be perform real time experiments in the IFCEEAE.

#### Hardware setup

- · State of the art Lab with all Schneider electric Equipments
- 10 PLC-HMI benches To train on Industrial Automation system design using PLC M340 and HMI GXU3512.
- 1 pedagogical bench which is a small replication of a real industrial system. to validate the solution and programming.
- · 2 SCADA pedagogical benches for study and design of supervision systems
- 1 bench for design, study & programming of addressable fire alarm systems
- 1 bench for design, study & programming of CCTV and access control
- · 1 bench for design, study & programming of energy management
- 1 bench for design, study & programming of home automation system using Cbus

#### **Best Practices**

- · Curriculum Development and revision by industry Experts and the Director of the Indo French Schneider Lab
- · Marks and credits are allocated based on completion of task and creativity in generating new real time applications.
- More emphasis on Practical learning.
- Student Exchange Program- Students from various Universities of France will be given an opportunity to undergo a one month Internship at NHCE.
- Study Abroad Program- Selected students across all the branches of NHCE are sent to various universities of France for an internship of 3 months.





Students from CSE, ISE, ECE, EEE, ME, CIVIL, AU branches can opt for Vertica related courses.

#### Vision

To make learning as hands-on as possible in rendering students industry-ready.

#### Mission

Impart hands-on training in Big-Data and Data Analytics by incorporating them into the curriculum. Train students using the state-of-the-art software from Vertica. Train faculty members on an ongoing basis on emerging trends in Big Data and Data Analytics.

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- Vertica Centre of Excellence is focused on giving an insight to students on two major big data platforms: VERTICA and HADOOP (open-source)
  - · Regular Faculty Development Programmes and Workshops conducted on Big Data technologies.
    - · Both circuit and non-circuit branch students learn the courses offered by this lab to make a career in data analytics.

Vertica Systems is an analytic database management software company. Vertica's acquisition was done by Hewlett Packard in March, 2011. The acquisition expanded the HP Software portfolio for enterprise companies and the public sector group. As part of the Micro Focus-Hewlett Packard Enterprise merger, Vertica joined Micro Focus in September, 2017.

HPE Vertica is ranked #19 out of 54 advanced analytics and data science technologies. Vertica has 32% market share and its competitors are Amazon Redshift, SQL Data Warehouse, Snowflake, SAP BW etc.

Hadoop is an open source frame work for big data analytics. All the major companies like Facebook, Walmart migrated to Hadoop for analysing their e-commerce data. Vertica is designed for structured data whereas Hadoop is designed for both structured and unstructured data.

NHCE has signed an MoU with Vertica to establish Big Data and Data Analytics Centre of Excellence with state of the technology Lab at the NHCE campus.

#### Best Practices

- Students obtain certificates from Vertica Academy after undergoing several certification courses through their online portal.
- MOOC on various Hadoop courses are encouraged.
- A self-study on Big Data Analytics is carried out as a part of the curriculum.
- Students perform analysis on real dataset using Pig Latin commands as Pig script for their self-study project work.
- All assignments, internal and Semester End examination are conducted as lab experiments.
- Faculty members also undergo various certification courses on Hadoop as well as courses from Vertica Academy
- Exclusive talks and workshops are conducted on VERTICA and HADOOP ecosystem

#### **Courses Offered**

- Big Data Analytics using Vertica
- Data Analytics
- The contents of courses are completely designed on
  VERTICA features and practical experiments to demonstrate

  –"how VERTICA is used in BIG
  Data scenario". An introduction
  to Hadoop Ecosystem is also
  demonstrated as part of
  curriculum. Complete hands-on
  experiments are conducted on
  SQOOP, PIG, HIVE, HBASE
- A portion of the curriculum is aimed for the students in management where different types of Data modeling, analytics and case studies are included apart from practical knowledge on VERTICA.

#### Hardware setup

- The lab has been set up by installing their licensed data-warehousing database server 'VERTICA' as a 3-node cluster in the college.
- All the system in Vertica-lab can access this server by establishing a connection through 'putty' software.
- Hadoop environment tools are installed as Cloudera package on 4GB RAM systems in lab.

# **m**Ware<sup>®</sup>

Students from ISE, CSE, ECE, EEE, ME, CIVIL, AU branches can opt for VMware related courses.

#### Vision

Envision VMware technologies and equip students with technical skills needed for modern IT world, so individuals and communities can thrive.

#### Mission

To empower people to learn, collaborate and contribute to VMware's technology, enabling them to create opportunities for innovation, entrepreneurship and career development.

#### **Program Highlights**

• VMware IT Academy (VITA) is designed to introduce the students to Virtualization & Storage concepts and equip them with technical skills needed for the modern IT World.

LG

- Faculty & Students have been granted access to Technology, Course content and softwares from VMware.
- Regular Faculty Development Programmes and Workshops conducted by VMware officials.

VMware Inc is subsidiary of Dell Technologies and has worldwide presence with its headquarters located in Palo Alto, California, USA. The company provides Cloud Computing and platform virtualization software and services. It was the first commercially software to virtualize the x86 architecture. VMware offers ESXi as bare-metal hypervisor that runs directly on server hardware and VMware offers vSphere 6.7 software that is used to build infrastructure as cloud platform for its customers.

VMware has awarded New Horizon College of Engineering the status of VMware IT Academy in recognition of all program participation requirements. Program Regional Manager & his team members inaugurated the VMware IT Academy at New Horizon College of Engineering on 17th Feb 2017.

#### Hardware setup

- VMware IT Academy has setup the Lab by Installing Vmware licensed ESXi 6.7 Hypervisor, vSphere 6.7 in the college.
- VMware IT Academy has 1 Server Dell Server PC Tower T430/23gXKG2, 16 GB DDR4 RAM, 4TB Hard Disk, Dell LED Monitor 18.5" installed with Windows Server 2012 R2.
- All the PC's in VMware IT Academy Lab have access to the above Server by Establishing Connection with ESXi 6.7 & vSphere 6.7.
- Desktop PC's in the Lab have 1 TB, 8GB Ram, Intel i3 Processor.

#### **Courses Offered**

- VMware Virtualization Essentials 1 as Open Elective: This course delivers VMware vSphere Install Configure Manage 6.7.
- VMware Virtualization Essentials 2 as Open Elective: This course delivers VMware vSAN 6.7.

#### **Best Practices**

- Students Obtain Digital Badges/Certifications from VMware IT Academy
- · Cloud & Virtualization Concepts, Software Defined & Network
- VITA Day A Technology in a Day Event is held every 6 months at VMware IT Academy.
- Curriculum Development on Latest Technologies in vSphere, vSAN & NSX.
- MOOC An online Platform to learn the catest VM ware Technologies through the VMware IT Academy portal.
- Industrial Visit to VMware Software India Pvt Ltd.
- VMware Hackathons conducted by VMware Software India Pvt Ltd.
- Annual Project Competitions among students who undergo training on VMware ICM 6.x & VMware vSAN 6.x.
- Internship and Placement for select students at Vmware



# FANUC

Students from ISE, CSE, ECE, EEE, ME, CIVIL, AU branches can opt for VMware related courses.

#### Vision

Mission

Robotics and Automation.

To make the students industry-ready by enriching them with

intellectual, technical and practical skills in the field of Industrial

To inculcate problem-solving skills to design and automate several tasks to meet the requirements of Industrial Robotics and Automation Industry.

#### **Program Highlights**

Fanuc India Lab aims at providing skills, capabilities, knowledge, safety (self & machineries), confidence & responsibilities needed to design, develop, implement, maintain, support or operate any technology-oriented application, product or services.

Faculty & Students have access to Robo-guide software, lab manual and Robot specifications for automation programming. Faculties of Fanuc India Lab have undergone extensive training program for teaching this course.

> NEW HORIZON COLLEGE OF ENGINEERING DEPARTMENT OF ECE CENTRE OF EXCELLENCE ROBOTICS AND AUTOMATION

FANUC Education cell with FANUC Robot ER4iA

FANUC INDIA Private Limited is a subsidiary of FANUC CORPORATION and was established in 1992 with its headquarters in Bangalore. Their main objective is to provide the Indian market with the entire range of top of the line FANUC products coupled with value added services thereby delivering the least cost of ownership to our customers.

FANUC Series 0i CNCs support effective maintenance functions as standard-useful maintenance.

FANUC Robots are known for very high reliability and performance. FANUC manufactures many components of Robots in-house such as Servo Motor, Servo Amplifier, Mechanical Unit, Robot Controller etc.

FANUC ROBODRILL is suitable for versatile applications to meet wide-variety of machining needs.

Fanuc India Lab has been set up at New Horizon College Of Engineering as per AICTE Modernisation and Removal Of Obsolescence-MODROB-Embedded Based Internet Of Robotic Things(IORT) Lab grant . Mr Nanda Kumar, Executive VP Fanuc India along with Dr. Mohan Manghnani , Chairman-NHCE inaugurated Fanuc India Lab at New Horizon College of Engineering on 14th October 2022.

#### **Courses Offered**

- Programming of Industrial Robot as Open Elective: The curriculum of this course has been designed in consultation with experts from Fanuc India to fulfil the industrial automation requirements.
- This course delivers content on robot programming for various applications using Robo-guide software and Fanuc Robot ER-4iA.
- It covers the concepts of setting up of frames, usage of various program instructions Robot interface with peripheral devices, palletization, pick and place applications.

#### **Best Practices**

- Students are provided with internship certification programs by Fanuc India Ltd.
- · Visit by the students to Fanuc India and freedom to interact with Fanuc India Experts on technical solutions to industrial automation projects
- Exclusive sessional talks and workshops are conducted on Industrial Automation by experts from Industrial Robots and Automation Industry.
- More emphasis on Practical learning

#### Hardware setup

- · Fanuc Education Cell with Fanuc Robot ER4iA
- Robo-Guide 3D Simulation Core system-Version 8
- End Of Arm Tooling(EOAT)-Gripper



#### Vision

To inculcate networking skills by educating students to work with Junos operating system and Juniper devices efficiently.

#### Mission

To make the student industry ready by enabling them to be responsible for configuring and monitoring devices running the Junos OS.

#### **Program Highlights**

- Faculty at NHCE received training on Junos operating system & Junos Associate (JNCIA) at Juniper company LMS.
- The course provides a brief overview of the Junos device families and discusses the key architectural components of the software.
- The course then delves into foundational routing knowledge and configuration examples including general routing concepts, routing policy, and firewall filters.
- The networking concepts and modeling with respect to juniper devices are practiced at JNCAA JNCIA Junos IJOS On-Demand lab environment.
- · Students are trained by experienced faculty
- Regular FDP's and workshops conducted by Juniper officials.

#### About the Company & LAB

Juniper Networks is a global leader in AI Networking, Cloud, and Connected Security Solutions. At Juniper, they strive to deliver network experiences that transform how people connect, work and live. By challenging the inherent complexity in the 5G and cloud era, our solutions power the connections that matter most - from education to healthcare to secure banking. Their commitment is to advance real outcomes for network teams and every individual they serve.



## SIEMENS

SIEMENS Centre of excellence has been established in the Department of AIML under the collaboration in the form of MoU between NHCE and SIEMENS Large Drives India Private Limited. The primary objective of this CoE is to impart technical skills in Machine learning, Data Analytics, Industrial IoT Technologies. Students are benefitted with Internship opportunities and work on industry projects to gain real world experience. The CoE also helps to strengthen the research culture of the institute by offering Research and Consultancy Projects in cutting edge technologies of AI-ML and IIoT . SIEMENS CoE also provides industry- based courses to the students and also is an Academic Partner of the course. SIEMENS also provides a platform for digital transformation. Apart from the above benefits, this CoE will help students become skilled in automation services, cloud platforms and technologies, cybersecurity etc.

Siemens is a German multinational conglomerate corporation and the largest industrial manufacturing company in Europe. It is headquartered in Munich and has several foreign branch offices.

Siemens offers a wide range of electrical engineering and electronics-related products and services. Its products can be broadly divided into the following categories: buildings related products; drives, automation and industrial plant-related products; energy-related products; lighting; medical products; and transportation and logistics-related products. Siemens drives, automation and industrial plant-related products include motors and drives for conveyor belts; pumps and compressors; heavy duty motors and drives for rolling steel mills; compressors for oil and gas pipelines; mechanical components including gears for wind turbines and cement mills; automation equipment and systems and controls for production machinery and machine tools; and industrial plant for water processing and raw material processing.



#### Vision

To inculcate an industrial environment in VLSI Design for innovation and enablement in semiconductor industry.

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#### Mission

To make students acquire and contribute to front end VLSI Design and make a difference in the society by innovating novel ways of modelling digital system.

- $\cdot~$  Intel lab aims at producing the next generation of FPGA designers.
- Faculty members have undergone rigorous training program by experts from Intel Corporation.
- Faculty members & Students have academic access to the latest generation of Intel FPGAs and can engage in research on Intel FPGAs

Intel Corporation is an American multinational corporation and technology company headquartered in Santa Clara, California. It is one of the world's largest semiconductor chip manufacturer by revenue, and is one of the developers of the x86 series of instruction sets found in most personal computers. Intel supplies microprocessors for computer system manufacturers such as Acer, Lenovo, HP and Dell. Intel also manufactures motherboard chipsets, network interface controllers and integrated circuits, flash memory, graphics chips, embedded processors and other devices related to communications and computing.

#### **Courses Offered**

System Design using HDL Lab

#### Hardware setup

- DE10-Lite boards: The board utilizes the maximum capacity MAX 10 FPGA, which has around 50K logic elements (LEs) and on-die analog-to-digital converter (ADC). It features on-board USB-Blaster, SDRAM, accelerometer, VGA output, 2x20 GPIO expansion connector, and an Arduino UNO R3 expansion connector in a compact size.
- DE1-SoC boards: The DE1-SoC Development Kit presents a robust hardware design platform built around the Altera System-on-Chip (SoC) FPGA, which combines the latest dual-core Cortex-A9 embedded cores with industry-leading programmable logic for ultimate design flexibility. The DE1-SoC development board includes hardware such as high-speed DDR3 memory, video and audio capabilities, Ethernet networking, and much more.
- $\cdot~$  The Intel® Quartus® Prime software
- · Laboratory is equipped with latest ICT enabled infrastructure.

#### **Best Practices**

- Massive Open Online Courses (MOOCs) on Hardware Description Language and on VLSI Design are recommended for enhanced learning.
- Student involvement will be as follows: create design, constrain design, compile design, close timing and configure Design on FPGA board.
- · Faculty members also undergo various certification courses on Digital System Design.
- Exclusive sessional talks and workshops are conducted on Digital system design by experts from Intel Corporation.



### **aws** academy

Students from CSE, ISE, ECE, EEE, ME branches can opt for AWS related courses.

#### Vision

The Vision of this lab to inculcate the students to Build, Deploy, and Manage sites, Apps or Processes as services in Cloud environments.

#### **Program Highlights**

#### Mission

To empower people so that they can avail services of Amazon's expertise and economies of scale to access resources for their business activities on demand with faster result-oriented tasks at a lower cost.

Amazon Web Services offers all types of services virtually called Any-thing-as-a-service(XaaS) at various deployment models (Private, Public, Community & Hybrid), which also include cloud web hosting solutions that provide businesses, non-profit and governmental organizations with low-cost delivery of services with the support of server-side concepts like websites and web applications. AWS offers a wide-range of services and options at various levels that will help any Business process that need to impart the required features given below.

Broad Platform Support

• Datacenters Worldwide

• Scalable from Day One

• Flexible Pricing Model

#### Hardware setup

- AWS Elemental Conductor Live, AWS Elemental Conductor File, AWS Elemental Statmux
- RAM: 16 GB
- Disk space: 500 GB
- CPU cores: 24
- Processor speed: 2.3 GHz or more (Comparable to an Intel<sup>®</sup> Xeon processor E5-2630)
- AWS Elemental Server and AWS Elemental Live
- RAM: 16 GB
- Disk space: 500 GB
- CPU cores: 32
- Processor speed: 2.0 GHz or more (Comparable to an Intel<sup>®</sup> Xeon processor E5-2650)
- AWS Elemental Delta
- RAM: 128 GB
- Disk space: 500 GB
- CPU cores: 24
- Processor speed: 2.3 GHz or more (Comparable to an Intel<sup>®</sup> Xeon processor E5-2630)

#### About the Company & LAB

Amazon is an American multinational technology company focusing on e-commerce, cloud computing, online advertising, digital streaming, and artificial intelligence. It has been often referred to as "one of the most influential economic and cultural forces in the world, and is often regarded as one of the world's most valuable brands. Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud, offering over 200 fully featured services from data centers globally. Millions of customers including the fastest-growing startups, largest enterprises, and leading government agencies are using AWS to lower costs, become more agile, and innovate faster.

# pullio

#### Vision

To shape the next generation of technocrats with industry relevant skills through industry academia collaborations.

#### Mission

We will partner with academia and shape industry relevant curriculum that includes contextual digital strategy, technology big bels with hands on immersive program enabling engineers to be industry ready.

- Training the students and enabling them to work in modern industries.
- Developing industry ready technology talents.
- Transferring technology and promoting knowledge spill-overs from the laboratories to the industry.
- Designing special industry focused curriculum for students.
- Faculty development programs and workshops for faculty by the core Brillio team.
- Building core engineering skills through hands on training in new age technologies.
- Build modern data architectures to accelerate decision making.

Brillio was born digital as an end-to-end engineering and advisory firm with an inherent ability to blend latest technology with design thinking. Founded in 2014 as a digitally native end-to-end engineering and advisory firm, Brillio empowers clients to utilize the four superpowers of technology

- Cloud
- Internet of Things (IoT)
- Artificial Intelligence (AI) and
- Mobility

to turn business and technology disruption into a competitive advantage. This is accomplished by delivering high quality customer experiences and accelerated outcomes with the clients. The Brillio culture is driven by Brillio's Core Values and it is the foundation of who we are as an organization. The employees are equipped and empowered to push boundaries with an 'Entrepreneurial' spirit as they craft 'Customer Success' stories. With the customer-centric approach, the company delivers 'Excellence' at every level of collaboration and this is what fuels Brillio's growth story. While being proud of the journey the company "Cares" about customers, employees and the community where they thrive in. The company stays committed to lighting up 100,000 young minds through its CSR efforts.

At the core of our delivery model sits Brillio DNA, which is the main recipe for scaling world-class digital talent with consistency.

The distributed, agile, and global delivery model allows to complement, augment, or redeploy teams across the globe to manage any depth or scale of project.

With over 14 locations spanning 5 countries, Brillio have a significant footprint around the world in every major time zone. The onshore team allows for seamless collaboration with clients, and allows for better quality control and responsiveness to the dynamic digital ambitions and priorities of the customers.

#### **Best Practices**

- For selected students, internships and job placements are provided.
- Industry visits to Brillio.
- · Annual project competitions among the students.
- Exclusive sessional talks are conducted on data analytics engineering by Brillio experts.
- ICT enabled learning environment.
- Global exposure platform with a research focus.





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