# ADHIYAMAAN COLLEGE OF ENGINEERING <br> (Autonomous) 

Affiliated to Anna University - Chennai \& Approved by AICTE - New Delhi. Accredited by NAAC \& NBA - UGC, New Delhi

### 1.2.1 New courses offered by the institution during the last five years

AY 2021-22

| $\begin{gathered} \text { S. } \\ \text { No } \end{gathered}$ | Programme Name | Course Name | Course code | Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development | Link |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | AE | Autonomous UAV Laboratory | 718AEP11 | Entrepreneurship- knowledge to design the UAV get more | View |
| 2 | AE | Entrepreneurship \& Development Management \& IPR | 818AEE04 | Entrepreneurship- learn business management process |  |
| 3 | AE | Human Values and Professional Ethics | 818AEE06 | Skill Development- studied about human ethics process Management |  |
| 4 | AE | Air Transportation and Aircraft Maintenance Management | 818AEE09 | Employability - Gain the knowledge about Airline, Airport management principles and their functions. |  |
| 5 | ARCH | Construction Planning \& Project Management | 718CEE11 | Employability/ Entrepreneurship - Expose students to a broad range of management theories including their practical application in the delivery of construction project. | View |
| 6 | ARCH | Project Management | 818ARE03 | Employability/ Entrepreneurship/ Skill Development - Realize the importance of project management methodology that will allow us to initiate and manage projects efficiently and effectively |  |
| 7 | ARCH | Contemporary Housing | 818ARE06 | Employability - Exposed to various techniques of Housing project formulation techniques and Housing Design strategies to be competent enough in the growing housing market. |  |
| 8 | BT | Entrepreneurship Development Lab | 718BTP09 | Entrepreneurship - The course provides entrepreneurship-based skills like managing a firm, small business and to start-ups | View |
| 9 | BT | Bio Similar Technology | 718BTE03 | Skill Development - The Course provides skills like design, manufacturing of drugs. |  |
| 10 | BT | Rational Drug Discovery | 718BTE04 | Skill Development - The Course provides skills like design, manufacturing of drugs. |  |
| 11 | BT | Bioterrorism And National Security | 718BTE05 | Skill Development - Enables students to acquire knowledge in distinguishing various types of computer crime, and use computer forensic techniques to identify the digital fingerprints associated with criminal activities |  |
| 12 | BT | Fundamentals Of Nano Biotechnology | 718BTE06 | Skill Development - Application of nanomaterial in biology |  |
| 13 | BT | Process Equipment And Plant Design | 718BTE09 | Skill Development - The course offers skills like design and analysis of ideal and non -ideal reactors, also provides insight into the skills like Bioreactor assembly and manufacturing |  |

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| 14 | BT | Tele Medicine | 818BTE02 | Skill Development - Offers the student with therapeutics of diseases |  |
| 15 | BT | Industrial Safety | 818BTE04 | Employability The course provides the students with the skill of basics of industrial safety measures |  |
| 16 | BT | Total Quality Management | 818BTE06 | Employability - The course provides entrepreneurship-based skills like managing a firm, small business and to start-ups |  |
| 17 | BT | Bio Safety | 818BTE10 | Employability - The course provides the students with the skill of basics of biological safety measures |  |
| 18 | BME | Hospital Waste Management | 718BME10 | Employability-This course will help the students to understand the various procedures and techniques used for disposal of hospital waste. | View |
| 19 | BME | Intellectual Property Rights | 718BME11 | Skill Development-This course enables the student to know about the importance and protection of IPR |  |
| 20 | BME | Interpersonal Skills/Listening \& Speaking | 718BMP09 | Skill Development-This course will help the students can able to improve their$\begin{array}{l}\text { communication and listening skills, } \\ \text { presentation skills }\end{array}$ |  |
| 21 | BME | Internet of Things in Medical Applications | 818BME06 | Skill Development-This course will help the students to understand the applications of IoT in Medical Field. |  |
| 22 | CH | Chemical Reaction Engineering - II | 718CHT01 | Skill development-Able to evaluate the temperature and pressure effects in ideal reactors, nature of fluid - solid and gas - liquid non catalytic reactions and selection of reactors, catalysis process, mechanism, pore diffusion in catalyst, and operation of heterogeneous catalytic reactors | View |
| 23 | CH | Chemical Engineering Simulation Laboratory | 718CHP09 | Employability- Decide on the optimizations and simulation of the various chemical processes |  |
| 24 | CE | Pavement Engineering | 718CEE01 | Employability - gains knowledge on various IRC guidelines for designing rigid and flexible pavements. | View |
| 25 | CE | Traffic Engineering and Management | 718CEE02 | Employability - gain knowledge of traffic control devices and its techniques in transportation interaction |  |
| 26 | CE | Transport and Environment | 718CEE03 | Employability - gain knowledge to detect smart, sustainable transport that takes into account economic, ecological, social and cultural perspectives |  |
| 27 | CE | Transportation Planning and Systems | 718CEE04 | Employability - gain knowledge to design streets and highways that are safe and efficient |  |

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|  |  |  |  | to move vehicular traffic, accommodate transit, pedestrians and bicyclists with minimal environmental impacts |  |
| 28 | CE | Urban Planning and Development | 718CEE05 | Employability - enable students to have the knowledge on planning process and to introduce to the students about the regulations and laws related to Urban Planning. |  |
| 29 | CE | Geo-Environmental Engineering | 718CEE06 | Employability - gain knowledge of concepts and principles of Geo-environmental Engineering and prepare the suitable disposal system for waste. |  |
| 30 | CE | Soil Dynamics and Machine Foundations | 718CEE08 | Employability-The course develops skills to assess the influence of vibrations and selection of remediation methods based on the nature of vibration, properties and behaviour of soil. |  |
| 31 | CE | Energy Efficient Architecture | 718ARO01 | Employability - gain knowledge on the importance of site planning, vegetation types, water bodies as factors inspiring concepts of design |  |
| 32 | CE | Services for High- rise Buildings | 718ARO02 | Entrepreneurship - gain knowledge on the service requirements for a high rise building as per the National Building Code. |  |
| 33 | CE | Affordable Housing | 718ARO03 | Employability - gain knowledge about the various standards backed by BIS, NBC, and DCR including layout conditions, Buildings rules related to housing in high rise context. |  |
| 34 | CE | Urban Housing | 718ARO04 | Employability - gain knowledge about the various stages involved in development of housing, its management, and how to make the same user friendly through participatory approach. |  |
| 35 | CE | Building Automation | 718EIO01 | Skill Development - gain knowledge of intelligent buildings and Building automation systems. |  |
| 36 | CE | Entrepreneurship and e-business | 718MEO01 | Skill Development - This course provides the students, with an opportunity to gain the knowledge in the field of entrepreneur, entrepreneurship and management of resources |  |
| 37 | CE | Irrigation and Environmental Engineering Drawing | 718CEP07 | Skill Development - Design various concept of reinforced concrete structures regarding environmental and irrigation operations which helps in Consultancy services for Government projects |  |
| 38 | CE | Design of Plate and Shell Structures | 818CEE01 | Skill Development-This course is intended to develop a particular skill set related to design of plates, sheets and spatial structures |  |

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| 39 | CE | Power plant Structures | 818CEE08 | Employability-Understand the Process involved in power plants |  |
| 40 | CSE | Machine Learning Laboratory | 718CSP07 | Skill Development -To build predictive models using advanced Machine Learning Techniques | View |
| 41 | CSE | Cyber Security and Law | 718CIE06 | Skill Development - It helps to protect computer and data from cyber-attacks and evaluate existing legal framework and laws on cyber security. |  |
| 42 | CSE | Blockchain Technologies | 818CSE06 | Skill Development- this course helps students to work under block chain related concepts and technologies |  |
| 43 | CSE | Deep Learning | 818CSE09 | Employability -Learn deep learning architectures to build intelligent applications |  |
| 44 | CSE | Visualizaion Techniques | 818CSE10 | Skill Development- this course helps the students to study about the data based on the metadata |  |
| 45 | ECE | Adhoc and Wireless Sensor Networks | 718ECT01 | Skill development-Students can compare and analyze ad hoc network protocol performance and related security threats | View |
| 46 | ECE | Multimedia Compression Techniques | 718ECE03 | Employability - Able to design and develop data compression algorithms in data processing applications |  |
| 47 | ECE | Nano Technology | 718ECE04 | Skill development - This course supports students in designing nano sensors using Simulation tools |  |
| 48 | ECE | Optical Networks | 718ECE06 | Skill Development- Develop optical components according to industry needs. |  |
| 49 | ECE | Cognitive Radio | 718ECE07 | Skill Development- Understand the concepts behind the wireless networks and next generation network |  |
| 50 | ECE | Detection and Estimation Theory | 718ECE11 | Skill Development-Develop the principles of signal detection in relevant situations and design the various algorithms to estimate random parameters of signals |  |
| 51 | ECE | CMOS Analog IC Design | 718ECE12 | Employability/Skill Development- Students learn the concepts of Analog MOS devices and current mirror circuits and different configuration of Amplifiers and feedback circuits to develop real time applications. |  |
| 52 | ECE | Parallel and Distributed processing | 818ECE04 | Skill Development-Students can design distributed parallel systems, and hence get an opportunity to employ in core industries. |  |
| 53 | ECE | Compressive sensing | 818ECE05 | Skill Development-Students can design applications compressive systems, sensing hence get se opportunity to employ in core industries. |  |

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| 54 | ECE | MEMS and NEMS | 818ECE06 | Employability - Able to design and fabricate various RF MEMS models in electronics industry |  |
| 55 | ECE | DSP Architecture and Programming | 818ECE12 | Skill Development-Students can design and test the architecture DSP systems, Architecture hence gets an opportunity to employ in core industries. |  |
| 56 | EEE | Smart Grid | 718EEE07 | Employability- This course deals with the advancement of technology in the power system network which provides the employment in power system area. | View |
| 57 | EEE | Modern Power Converters | 718EEE08 | Skill Development- This course helps the students to develop their skills about the advancement of power electronics devices. |  |
| 58 | EEE | Aircraft Electrical Systems | 718EEE11 | Skill Development- This course develops the student skill by providing the knowledge about aircraft electrical system. |  |
| 59 | EEE | Electric Vehicle Technology | 818EEE03 | Entrepreneurship-This course deals with the advanced techniques in the electric vehicle design and management hence develops the entrepreneurship skills among the students. |  |
| 60 | EEE | Wireless Power Transfer Technologies | 818EEE09 | Employability- This course deals with latest concepts of wireless power transfer methods and the advancements in the research. |  |
| 61 | EIE | Instrumentation In Industrial Application | 818EIT01 | Employability - Acquire an adequate knowledge about the measurement of various parameters in cement, steel, petrochemical and pharmaceutical Industries | View |
| 62 | EIE | Advanced Process Control | 818EIE05 | Skill Development - Ability to use the FDI Techniques, such as Principal component Analysis, state observer to detect and diagnose faults in sensors and actuators |  |
| 63 | EIE | Multi Sensor Data Fusion | 818EIE06 | Skill Development - Realize algorithms for data fusion |  |
| 64 | EIE | Nano Science | 818EIE08 | Skill Development - Utilization of the characterization techniques and nano particles in various industrial applications |  |
| 65 | IT | Fundamentals of Machine Learning | 718ITT02 | Skill Development -To build predictive models using advanced Machine Learning Techniques | View |
| 66 | IT | Building Enterprise Application | 718CIE02 | Employability - This course is to give an overall and complete understanding of Enterprise Software and Design Patterns. |  |
| 67 | IT | Agile Software Development | 718CIE05 | Skill Development -Course provides skills to learn and use agile software and usability Engineering |  |
| 68 | IT | Cyber Security and Law | 718CIE06 | Skill Development - It helps to protect computer and data from cyber-attacks and |  |

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|  |  |  |  | evaluate existing legal framework and laws on cyber security. |  |
| 69 | IT | Advanced Java Scripting Language | 718ITE09 | Skill Development -Course provides skills to learn Build and Develop familiarity with the JavaScript language |  |
| 70 | IT | Software Defined Networks | 818CIE01 | Skill Development - The students get knowledge about how it is changing the way communications networks are managed, maintained, and secured. |  |
| 71 | IT | Swarm Intelligence | 818ITE03 | Skill Development - This course, student can gain knowledge of individual/intelligent agents for modelling of industrial, social and biological systems. |  |
| 72 | IT | Virtual and Augmented Reality | 818ITE08 | Skill Development -Course enables students to learn Virtual and Augmented Reality concepts |  |
| 73 | IT | Deep Learning | 818ITE09 | Employability -Learn deep learning architectures to build intelligent applications |  |
| 74 | IT | Information Visualization | 818ITE10 | Employability -Dashboard design techniques help in better decision making |  |
| 75 | ME | Industrial Safety and Hazard Managements | 718MOE11 | Entrepreneurship - This course focus on safety measures to be maintained in the industry. |  |
| 76 | ME | Disaster Management | 718MOE12 | Skill Development - This course will enhance the students to be familiar with the natural calamities and be prepared for any situation in real life. |  |
| 77 | ME | Intellectual Property Rights | 718MOE13 | Skill Development - This course will enhance the students to do innovation in the field of mechanical engineering and to go for patent. |  |
| 78 | ME | Engineering Acoustics | 718MOE14 | Skill Development - This course will give more knowledge on acoustics measures which will be helpful in testing the components mechanically. | View |
| 79 | ME | Human Resource Management | 718MOE15 | Skill Development - Students will have an idea about the usage of human resources at different situations. |  |
| 80 | ME | Energy Conservation in Industries | 818MEE05 | Entrepreneurship - This course focus on energy demand and energy supply and other financial techniques for energy savings. |  |
| 81 | ME | Advanced IC Engines | 818MEE10 | Skill Development - This course will give more knowledge on internal combustion engines and its characteristics. |  |
| 82 | MCA | Agile Software Development | 320CAE03 | Skill Development- Explored the knowledge in the development of software using agile methodologies. | View |

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