

Bachelor of **Technology**

B.Tech

4 YEAR UNDERGRADUATE
PROGRAM

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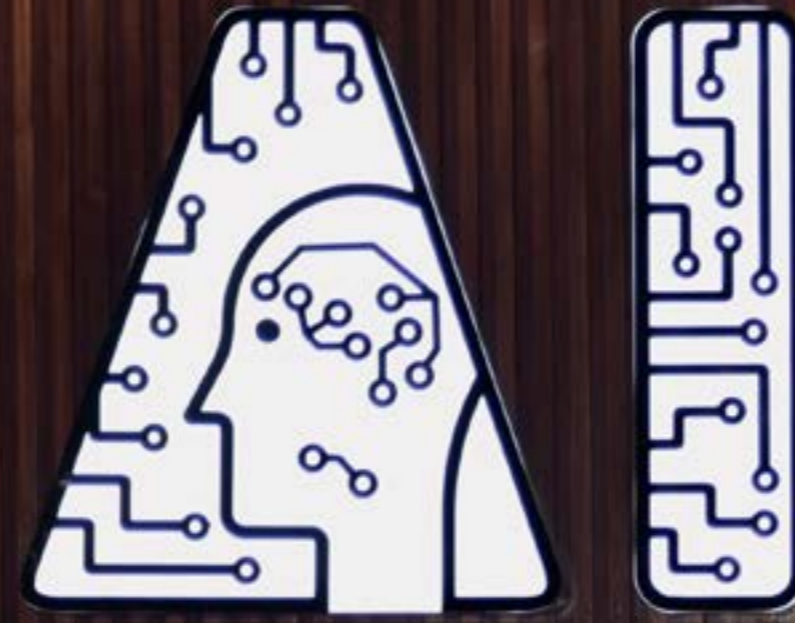
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AI & ROBOTICS STUDIO



WHO WE ARE

Ranked #1 Emerging Engineering Institute, Woxsen University's School of Technology offers cutting-edge specialisations in Bachelor of Technology (B.Tech).

Reckoned for its world-class infrastructure, Woxsen houses the latest of lab facility and technology to facilitate globally benchmarked training and practice for engineering studies & research.

The school is most sought-after by learners aspiring for new-age engineering programs and contemporary skills to address the ever evolving technical and technological dynamics, as industries ushers in the new era of engineering.

WOXSEN LEGACY

- Apex Academic Council
- Distinguished & Award Winning Academicians & Industry Experts
- Industry Endorsed Curriculum
- Unparalleled Return on Investment
- 100% Placement Track



All India Top Emerging Engineering Institute

Courtesy: Times Engineering Institute Ranking

◎ Align your B.Tech degree to your career goals

B.Tech - Computer Science Engineering (CSE)

B.Tech - CSE (Data Science)

B.Tech - CSE (AI & ML)

B.Tech - CSE (IoT, Cybersecurity, Blockchain)

B.Tech - Electrical & Electronics Engineering (EEE)

B.Tech - Electronics & Communication Engineering (ECE)

B.Tech - Mechatronics Engineering

B.Tech - Mechanical Engineering

◎ Is this right for me?

- You want to unleash your creativity & engineering potential to build great products & solutions
- You want to learn & possess 21st century skills to compete successfully in a global environment
- You want to learn a wealth of knowledge that enables you to start your corporate career or aid you in becoming a star entrepreneur

◎ Eligibility

Completed 12th Grade or 10+2 in the discipline of Science, minimum 60% aggregate in Physics, Chemistry & Mathematics with English Language as compulsory, from a recognized board.

◎ Admission Process

The Admission process at Woxsen is quite structured and comprehensive since every student is evaluated on the basis of their Composite Score, as mentioned below:

STEP 1: Submit Entrance Test Score: IIT JEE Mains, VITEEE, AP & TS-EAMCET, MHT CET or Woxsen-JEET (W-JEET)

STEP 2: Schedule and complete your Psychometric Test

STEP 3: Tell us, who you are in the Personal Interview Round



WOXSEN's B.TECH PROGRAM

Advanced Engineering Programs
to make you Industry Ready!

Over the years, technology has revolutionized our world and daily lives. Next generation technologies like Quantum & Cloud Computing, IoT, Artificial Intelligence, Blockchain are gaining traction and bringing more significant transitions. Computers are increasingly faster, more portable, and higher-powered than ever before. With all of these revolutions, technology has also made our lives easier, faster, better, and more fun.

It is required that the 21st century engineers stay apprised with the cutting-edge technologies to develop and deliver solutions to the world's biggest technical challenges.

Bachelor of Technology is a professional degree awarded by Woxsen University covering the entire spectrum of new-age specialisations. This program seamlessly integrates basic science concepts to the latest technologies with relevant practice through lab and projects for building the problem solving skills. Every element of the curriculum is carefully curated with inputs from industry professionals. Real-time projects and assignments that have immense applications in the real-world industry scenarios, help you fast-track your career effortlessly.

Basis our research on the latest industry trends, Woxsen has curated eight exclusive Bachelor of Technology programs for our discerning student community. Let's deep dive & understand how these programs will transform you into tomorrow's technology leaders.

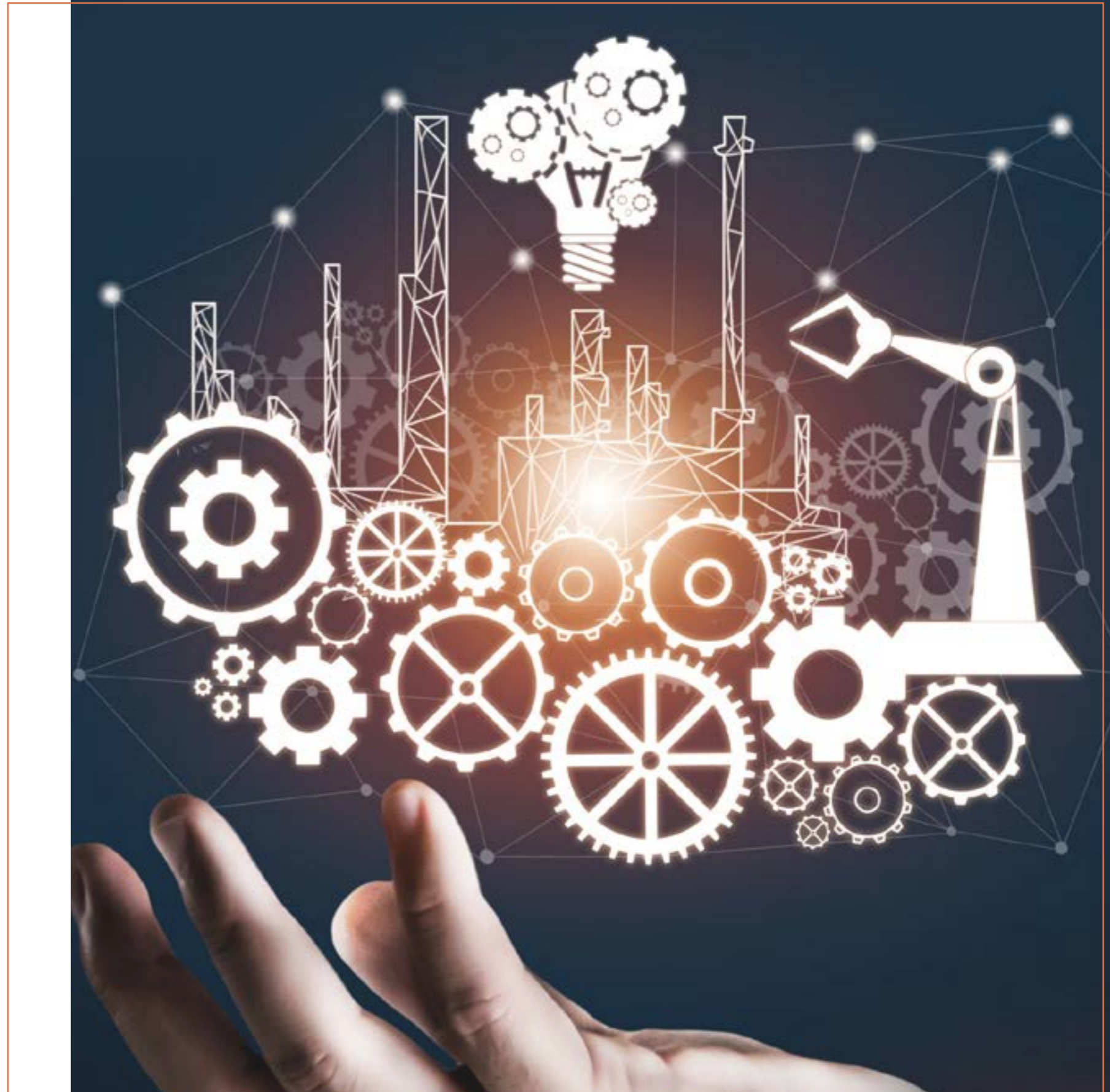


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For those aspiring to solve real-world challenges with Creative Engineering Solutions, Woxsen's B.Tech will pave the way!

🕒 Learning Outcome

- Identify, formulate, and analyse complex engineering problems to reach substantiated conclusions using first principles of scientific computing and engineering sciences
- Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation to the solution of complex engineering problems
- Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental impact
- Investigate complex problems using research methodologies including design of experiments, analysis, and interpretation of data to provide valid conclusions
- Design, implement, and test appropriate techniques, resources, and modern engineering IT tools to complex engineering activities with an understanding of limitations



B.Tech COMPUTER SCIENCE & ENGINEERING (CSE)

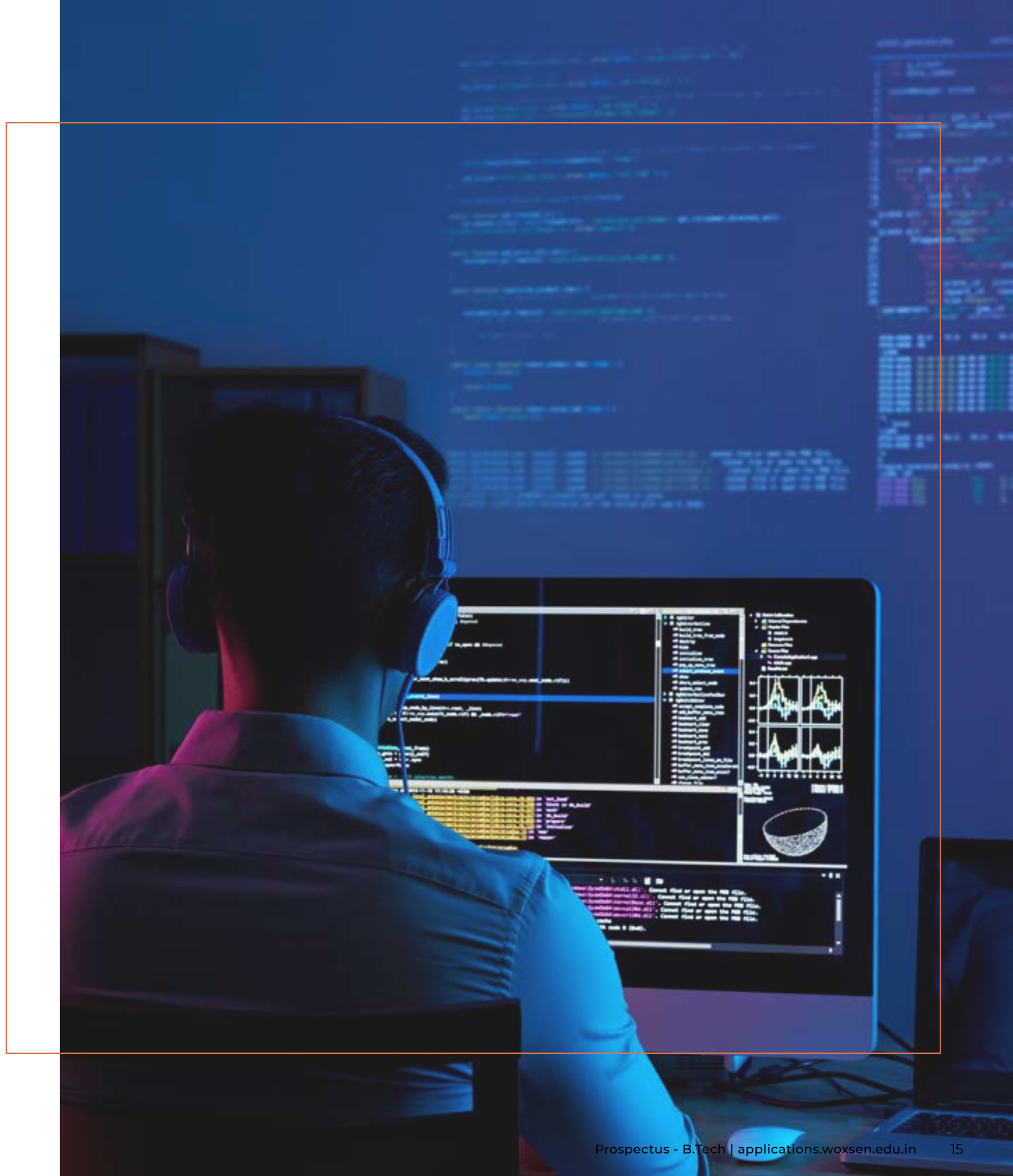
Are you cut for Computer Science, one of the fastest growing industries in the world? Are you inspired to build scalable applications and software which would transform human lives?

Computer science is a dynamic discipline, applicable to a diverse range of industries. This program explores cutting-edge innovation in experimental computer science, and provides you with a solid grounding of professional, real-world experience, with the right blend of advanced academic teaching and rigorous practicals to ensure you have the knowledge, skills, and ability to engage with computing and computer science in a wide range of industries.

In particular, graduates will be able to attain significant knowledge and abilities in key technologies like UI/UX, Cloud Computing, Enterprise Network Design, Reinforcement Learning, Web Applications & many others.

Program Highlights

- Advanced curriculum with rigorous practical exposure
- 1:1 Mentoring from Industry Experts
- Deep learning avenues like IT Workshop (SciLab/ MATLAB)
- Exposure to latest technologies like Predictive and Prescriptive Analytics, Cloud Computing
- Pedagogical and scenario-based teaching/learning processes

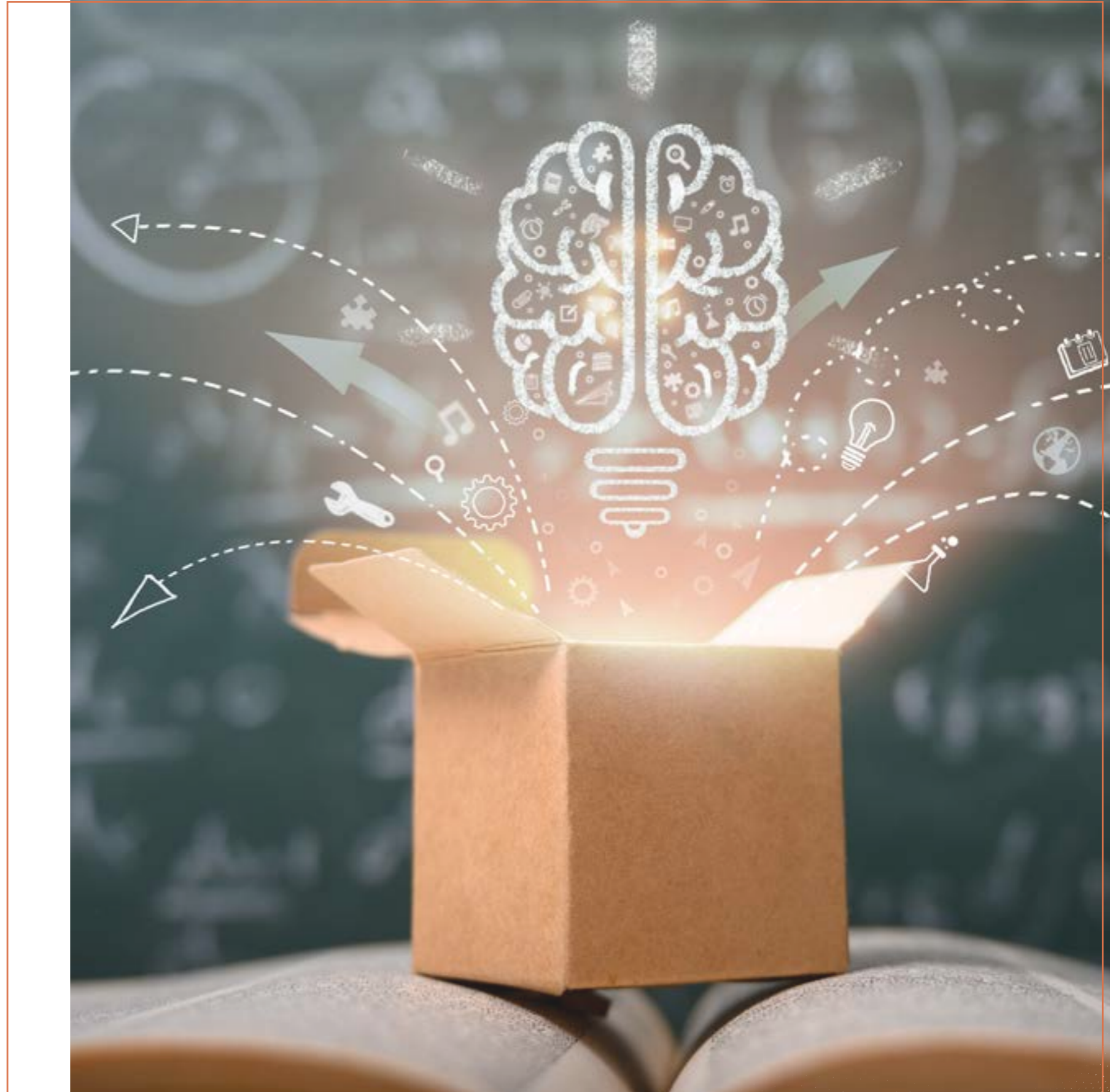


● LEARNING OUTCOMES

- Demonstrate capability in building complex web applications using Data Structures and Algorithms, Varied Programming Languages & Software methodologies
- Utilize Cloud Computing Platform to develop & deploy micro services applications & monitoring logging solutions
- Demonstrate ability to study data scientifically, and use it to form, prove, and defend hypothesis
- Apply problem-solving skills and the knowledge of computer science to solve real problems
- Understand how technological advances impact society and the social, legal, ethical and cultural ramifications of computer technology and its usage

● WHAT ARE MY CAREER OPPORTUNITIES?

- Computer Network Architect
- Software Developer
- Information Security Analyst
- Mobile Application Developer
- Embedded Developer
- Computer and Information Research Scientist



B.Tech CSE (DATA SCIENCE)

Data Science is currently gaining unprecedented traction across industries worldwide, with the kind of data generated by both machines and humans. Global Tech-giants are leading the way with deployment of cutting-edge technologies that not only churn data, but also provide analytics and in-depth insights that are heavily used to improve their products and services, evaluate their business models, and enhance their decision-making process.

Woxsen's B.Tech CSE in Data Science offers contemporary knowledge, training, and practice to equip the learners with skills to deploy and model data-based solutions to real-world problems. Learners will demonstrate strong capabilities to identify both structured and unstructured data, providing innovative solutions with the power of new technology.

Program Highlights

- Advanced curriculum with rigorous practical exposure
- Industry endorsed curriculum delivered by top notch Faculty
- 1:1 Mentoring from Industry Experts
- Adoption of Data Analysis and Visualization Tools like MySQL, R & Python, Hadoop Tableau, Business Analytics & Machine Learning
- Real life data sets and industry specialized case studies to get practical insights
- Pedagogical and scenario-based teaching/learning processes

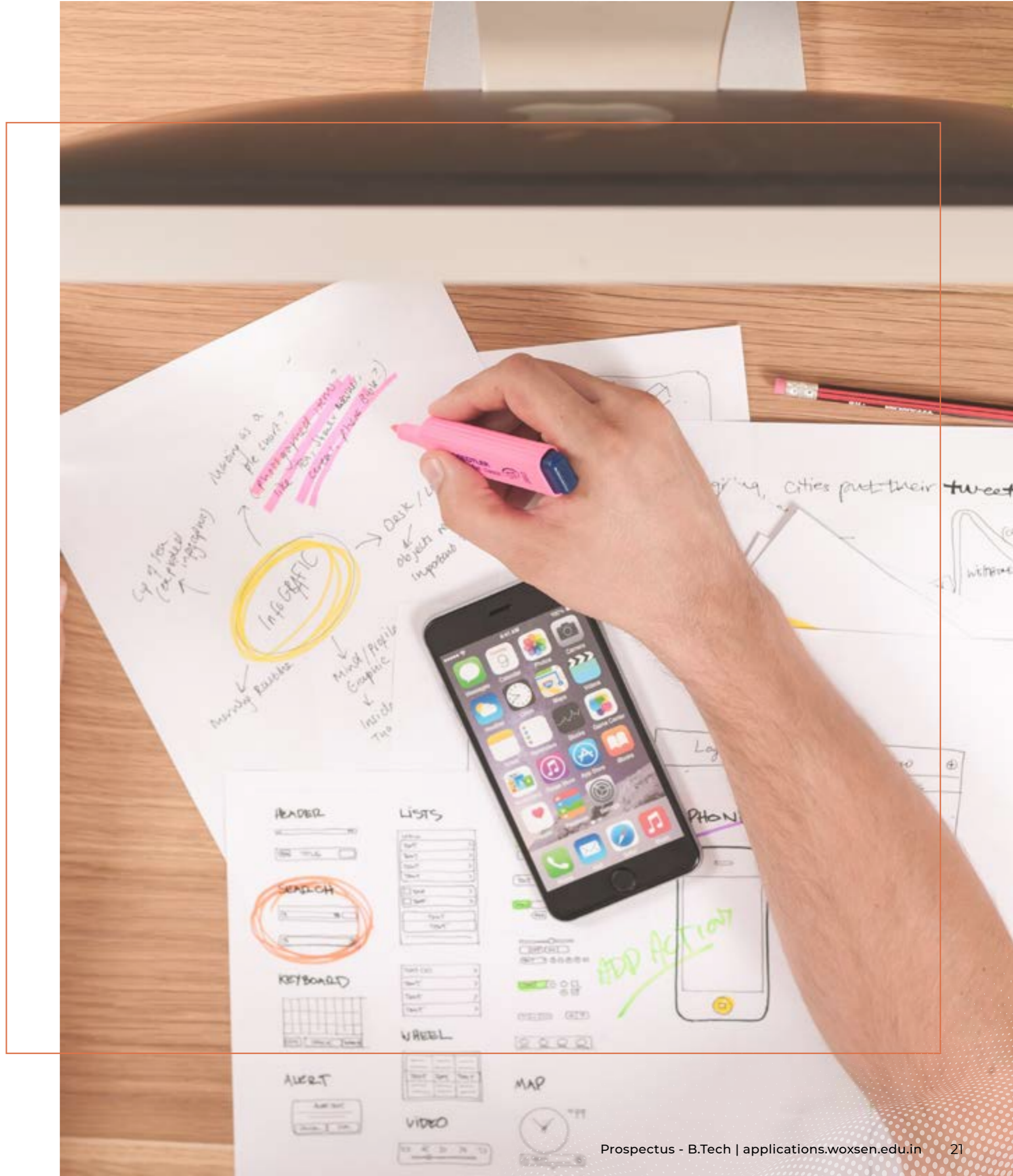


● LEARNING OUTCOMES

- Demonstrate analytical & visualization ability with tools such as R & Python, Tableau, Hadoop, Predictive Analytics
- Develop important skills in strategic thinking, for scientific research implementation and communication
- Operationalise scientific skills with analysis, design, implementation & monitoring of IT & Big Data architectures, Data Engineering & Modelling and Data Mining
- Combine Science and Technology in application courses & projects requiring both, for dealing with real-world data driven challenges
- Gain know-how of IT project management and the legal consequences of data handling, with a pinch of ethical thinking

● WHAT ARE MY CAREER OPPORTUNITIES?

- Data Scientist
- Data Science Engineer
- Big Data Engineer
- Data Business Analyst
- Quantitative Analyst
- Research Scientist



B.Tech CSE (AI & ML)

The global artificial intelligence market size is expected to expand at 40% (CAGR) between 2021 to 2028 - Source (Grandview Research). The accelerating rate of innovation has brought AI to the centre of every business, on the global level. From Manufacturing, Retail, Healthcare to Media and Entertainment, AI is one of the significant elements in the digital revolution.

B.Tech CSE (AI & ML) at Woxsen University offers in-depth learning in the entire spectrum from Programming, Natural Language Processing, Deep Learning, Machine Learning & Neural Networks. The industry endorsed curriculum is backed by rigorous training at Woxsen's world-class labs, simulation projects and live-projects for the much needed hands-on knowledge required in this field.

Program Highlights

- Advanced theory with rigorous practical exposure
- 1:1 Mentoring from Industry Experts
- Real life data sets and industry specialized case studies to get practical insights
- Pedagogical and scenario-based teaching/learning Processes
- Industry endorsed curriculum delivered by top notch Faculty



● LEARNING OUTCOMES

- . Demonstrate in-depth knowledge of theory and application in the domain of Artificial Intelligence & Machine Learning
- . Develop important skills in Classical AI Techniques such as Algorithms & Neural Networks
- . Ability to identify, create, apply capabilities of AI enabled systems beyond conventional technology
- . Combine Science and Technology in application courses & projects requiring both, for dealing with real-world AI driven challenges

● WHAT ARE MY CAREER OPPORTUNITIES?

- . Artificial Intelligence Engineer
- . Machine Learning Engineer
- . Deep Learning Engineer
- . Business Intelligence Developer



B.Tech CSE (IoT, CYBERSECURITY & BLOCKCHAIN)

The Internet of Things (IoT) has had to bear the brunt of rigid cyberattacks calling for solutions to fill security gaps. To address IoT's capability to secure billions of devices, entered blockchain a relatively nascent but robust technology to reduce the impending risks. With IoT and Blockchain working together, the duo is set to revolutionise businesses with encryptions designed to create secure, tamper-proof and real-time records. Blockchain's distributed ledger technology and its decentralized nature has gained traction across sectors like retail, healthcare, cryptocurrencies and functions like supply chain and operations. With the integration of blockchain quality controls of products and services can be closely monitored.

B.Tech CSE (IoT, Cybersecurity & Blockchain) is a power-packed program that equips the learners for the demanding world of internet & security. The lab immersions provide rigorous training and application-based learning with access to advanced, latest technology.

Program Highlights

- Advanced theory with rigorous practical exposure
- 1:1 Mentoring from Industry Experts
- Real life data sets and industry specialized case studies to get practical insights
- Pedagogical and scenario-based teaching/learning Processes
- Industry endorsed curriculum delivered by top notch Faculty



● LEARNING OUTCOMES

- Demonstrate in-depth knowledge of theory and application in the domain of IoT, Cybersecurity & Blockchain
- Understand the concepts of Cryptography, IoT Architecture & Protocols and Connecting Devices
- Develop important skills to develop products and processed by adhering to ethical values and practices
- Combine Science and Technology in application courses & projects requiring both, for dealing with IoT-driven challenges

● WHAT ARE MY CAREER OPPORTUNITIES?

- Critical Infrastructure Security
- Application Security
- Network Security
- Cloud Security
- Internet of Things (IoT) Security
- Blockchain Architect
- Blockchain Developer



B.Tech ELECTRICAL & ELECTRONICS ENGINEERING (EEE)

Have undying love for technology? Would love to understand the language of circuits?

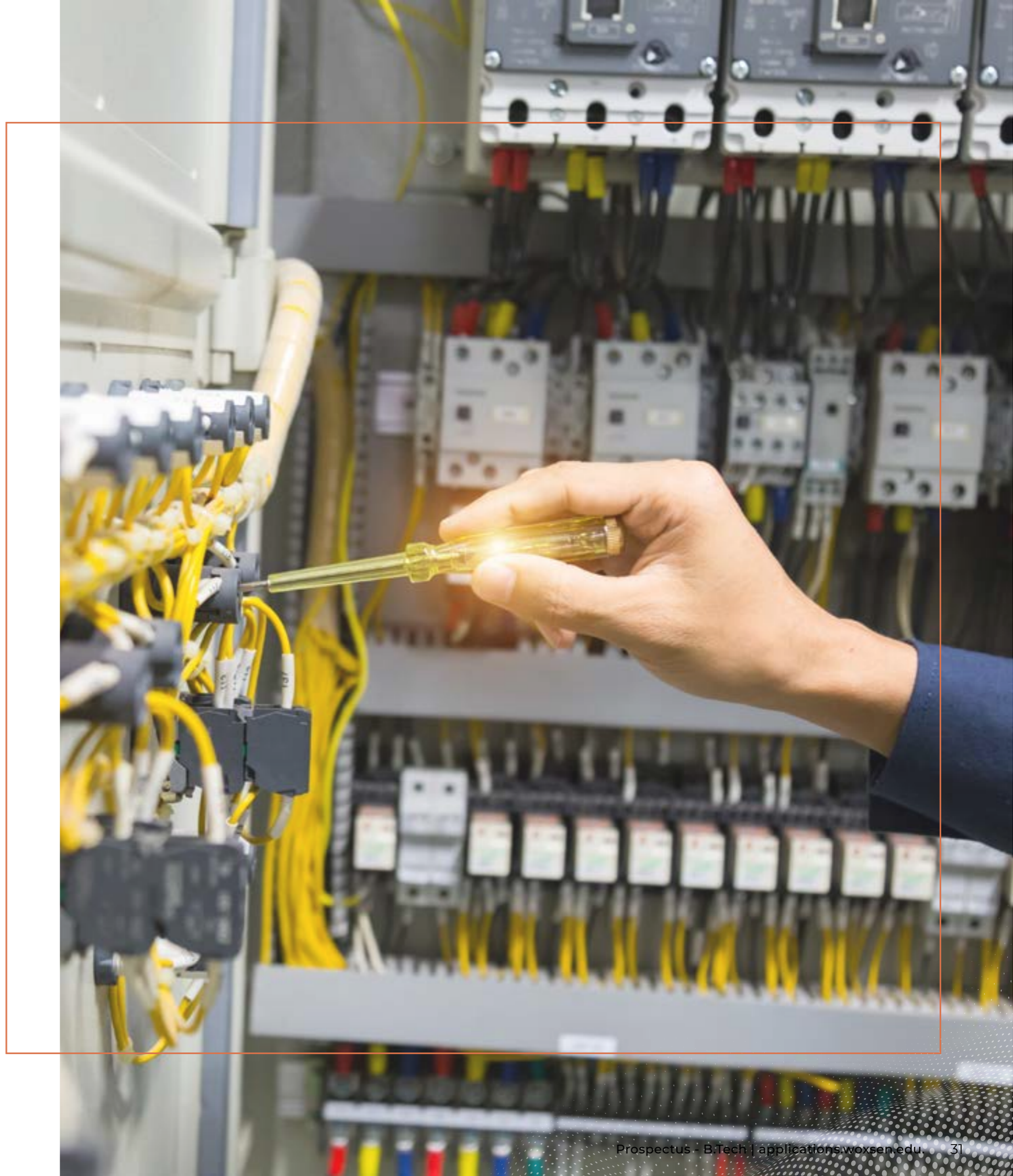
The Indian Electronics Industry has reached INR 5.34 trillion by 2020, and it is growing at a rapid pace across all domains and major industries, providing limitless prospects for electronics and electrical professionals. Join Woxsen's B.Tech Electrical and Electronics Engineering program and make it big in this sector.

This discipline of engineering deals with the practical uses of electricity in all of its forms, particularly those in the field of electronics dealing with the application of electronic equipment as well as the usage of the electromagnetic spectrum. The primary focus is on research, design, and development, as well as the planning of new equipment and processes or enhancements to existing ones.

The program outlines various concepts that is designed as per the industry requirements by academicians and experts of the field. The curriculum incorporates industrial technicalities but is reinforced by exposure to practical learning through testing of concepts and interactions with direct industry connections, resulting in a wide range of learning opportunities.

Program Highlights

- Advanced industry curriculum with rigorous practical exposure
- 1:1 Mentoring from Industry Experts and Global Leaders
- Real-time projects and assignments that have immense applications in the real-world industry scenarios



- Minor and Major Projects after every semester along with two internships

● LEARNING OUTCOMES

- Learn how to estimate the circuits behaviour and machine usage for any given application
- Learn to create and solve complicated circuits through practical learning and technical problem solving expertise
- Learn about data structure, and algorithms along with measurement and instrumentation
- Design, develop, and test real electrical devices and equipments through workshops and object oriented programming labs
- Conduct research of complicated engineering challenges, including experiment design, data analysis and interpretation, and information synthesis, in order to reach valid conclusions

● WHAT ARE MY CAREER OPPORTUNITIES?

- Electrical Engineer
- Electronics Engineer
- System Developer
- Network Engineer
- Control and Instrumentation Engineer
- System Analyst



B.Tech ELECTRONICS AND COMMUNICATION ENGINEERING (ECE)

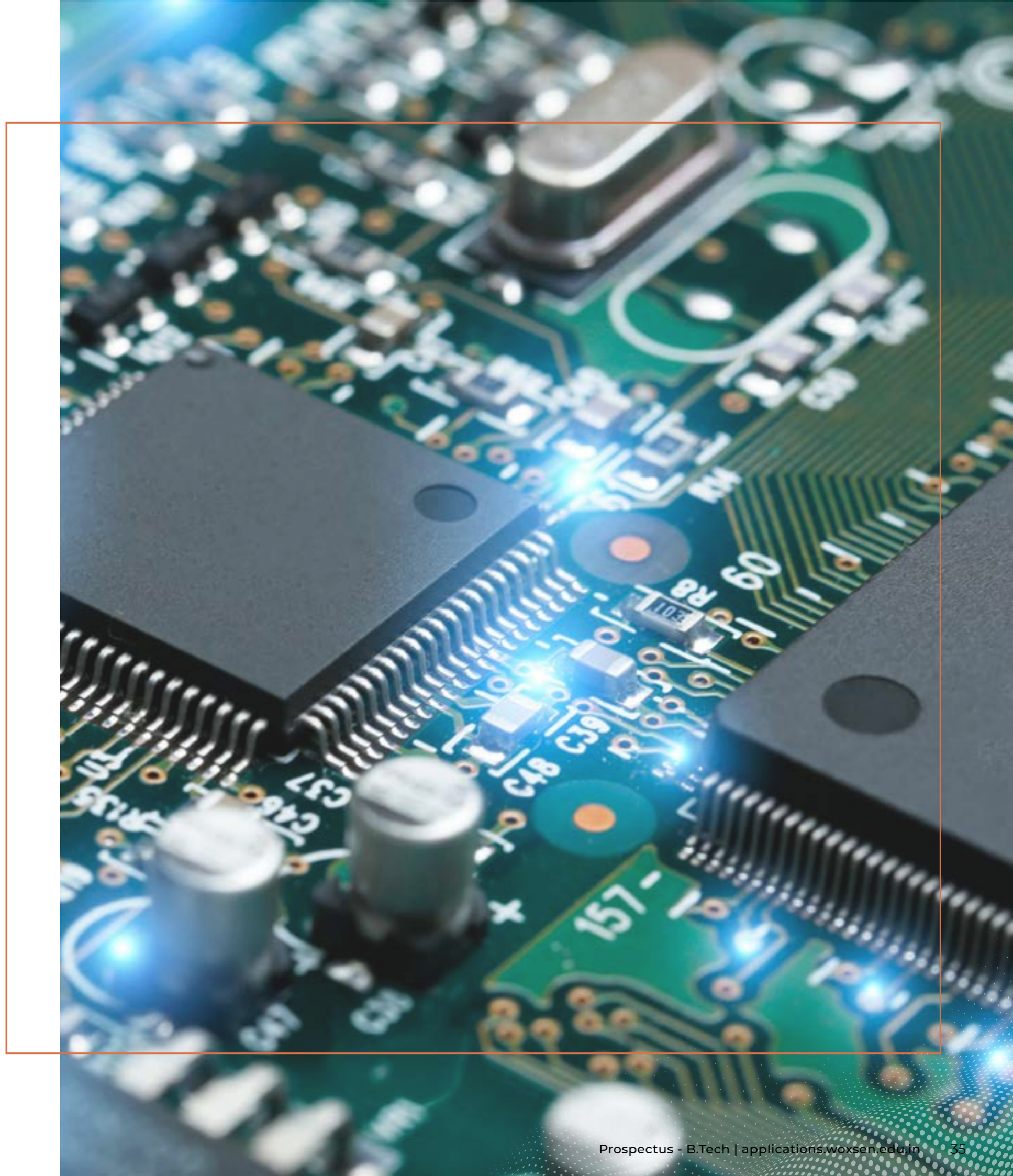
Electronics and communication have become an integral part of nearly every domain on a worldwide scale. The Electronics Sector has had annual growth of 41% with new technology creating a wealth of opportunities for ECE Engineers.

Electronics and Communications Engineering (ECE) is concerned with the study, design, development, and testing of electronics along with design and supervision of production of communications and broadcast systems.

Woxsen's B.Tech (ECE) provides a platform to train with industry-level projects in order to learn about and be exposed to cutting-edge technologies and communications that are part of today's fast changing world.

Program Highlights

- Industry supported curriculum offered by top notch Faculty
- Pedagogical and scenario-based teaching/learning methods
- 1:1 mentorship from Industry Experts and Global Leaders
- Adoption of advance tools and technologies which meets technical requirements
- Real life data sets and industry specialized case studies to get practical insights

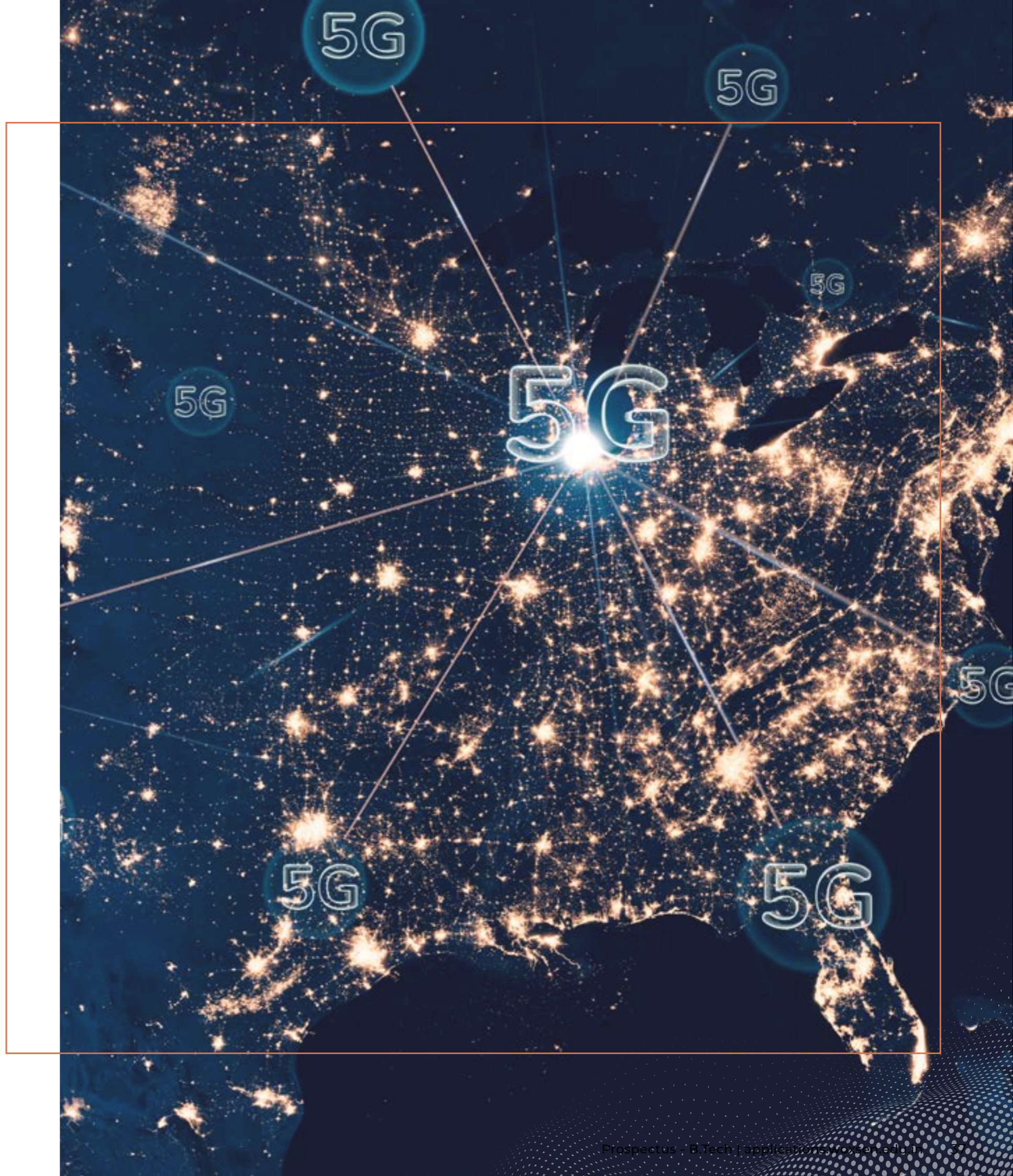


LEARNING OUTCOMES

- Learn to identify, research, formulate, and analyse complicated electronics and communication problems in order to achieve well-founded solutions
- Learn to create and apply relevant methodologies, resources, and current technologies to complex processes
- Learn to devise, develop, and test diverse electronics and communication-based systems and equipments through IT workshop using MATLAB/manufacturing practices
- Learn to design components or procedures that meet the defined needs and provide answers for complicated electronics and communication difficulties through technical learnings and problem-solving skills
- Learn and understand the working of analog and digital communication and network analysis through practical sessions at labs

WHAT ARE MY CAREER OPPORTUNITIES?

- Electronics Engineer
- Communications Engineer
- Network Planning Engineer
- Field Test Engineer
- Electronics Device and Development Engineer
- Service Engineer



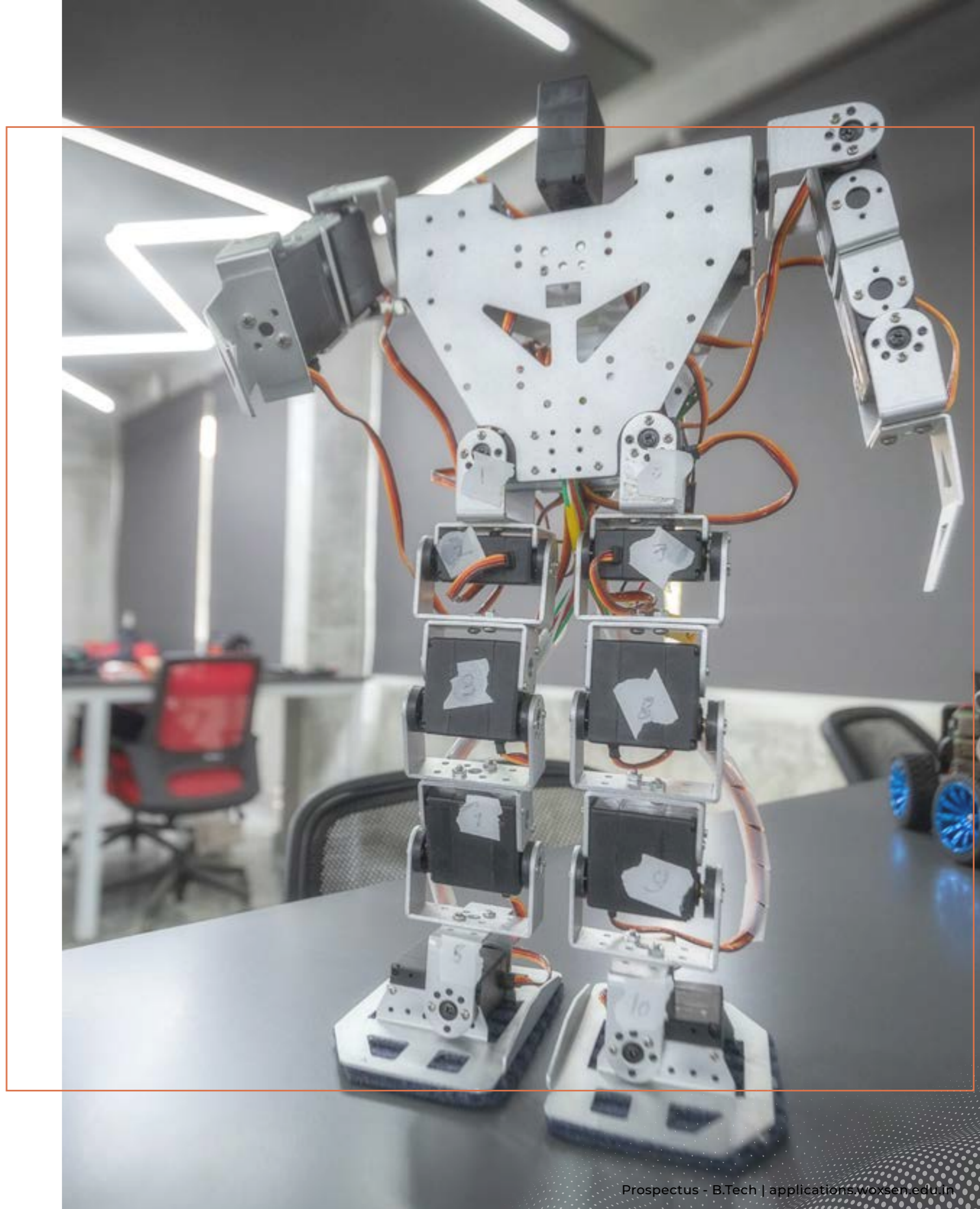
B.Tech MECHATRONICS ENGINEERING

The level of disruption as a result of the robot revolution has certainly changed society on a scale that hasn't been experienced since the Industrial Revolution. As robotic technology became widespread and deployment costs fell, businesses have realized that they can drive efficiency by deploying robots in environments which are unsafe or inhospitable to humans. Amazon's warehouse robots are a good example. Automation of systems began to play an important role in improving efficiency of various manufacturing and computer processes needing less human interaction.

Bachelor of Technology in Mechatronics Engineering focuses on Robotics Technology & Automation. The highly industry-oriented program provides an ideal foundation for what today's experts of intelligent systems need to know - from artificial intelligence, computer vision, control systems, and machine learning to design, program and prototype of robotic systems.

Program Highlights

- Advanced Curriculum with rigorous practical exposure
- 1:1 Mentoring from Industry Experts
- Real life data sets and industry specialized case studies to get practical insights
- Advanced technologies like IoT and Industrial Robotic Systems, Nanorobotics, Human Computer Interaction
- AI & Robotics - Innovation & Research Lab
- Three projects coursework

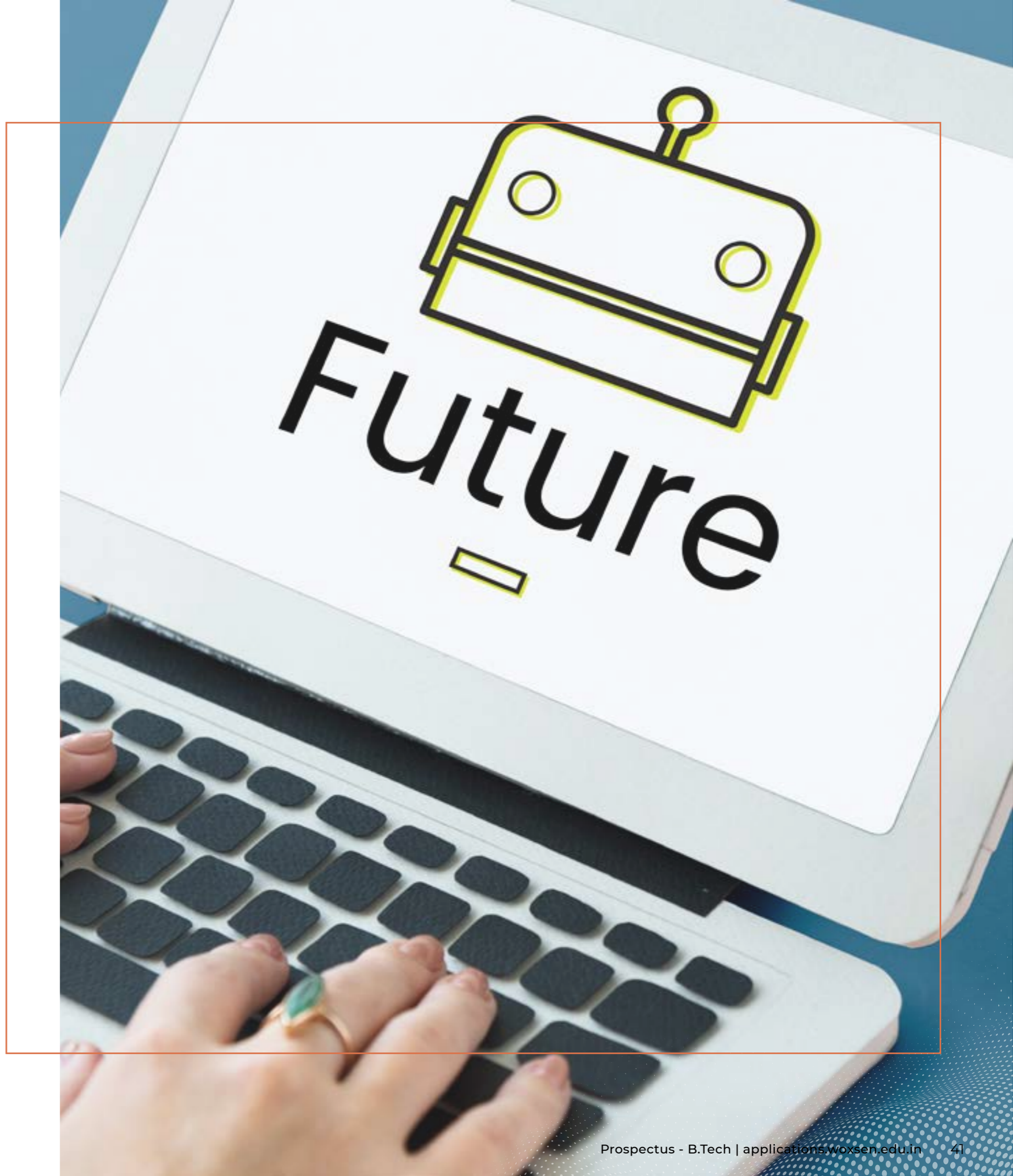


● LEARNING OUTCOMES

- . Learn and implement Principles of Human Interaction Design
- . Design advanced control methodologies and novel design techniques for complex human-like robotic system
- . Design and build autonomous robotic system with Internet of things (IoT)
- . Design and implement simple & complex mechatronics system
- . Develop the ability to synthesize data and technical concepts for application to robotics design

● WHAT ARE MY CAREER OPPORTUNITIES?

- Automated Product Design Engineer
- Robotics System Engineer
- Senior Robotics Specialist
- Automation and Robotics Engineer
- Robot Design Engineer
- Robotics Programmers
- Mechatronics Engineer



B.Tech MECHANICAL ENGINEERING

Want to convert ideas into technology? Want to innovate and design power machines for the ever changing dynamic industry landscape? Join Woxsen's B.Tech Mechanical Engineering Program and be the brainchild behind new-tech machines and solutions.

Mechanical Engineering is one of the oldest engineering specialisations, incorporating fundamentals and foundations as well as notions of today's cutting-edge revolutionary machines and technologies. It is concerned with the research, development, construction, and testing of gadgets, engines, and machines, with an emphasis on engineering services and manufacturing.

This program explores the basics of engineering to introduction of electric mechanics and thermodynamics. The program greatly focuses on applied learning experience for complex concepts through programming and testing labs, new technologies, workshops for hands-on experience, social and technical internship preparing students to gear up for real industry requirements and professional ethics and practices.

Program Highlights

- Advanced industry endorsed curriculum with rigorous practical exposure
- 1:1 Mentorship from Industry Experts and Global Leaders
- Real life data sets and industry specialized case studies to get practical insights
- Project coursework and two internships (Social and Technical)
- Programming, Testing and Communication Labs, Workshop Practices, Industry Seminars, and Lectures on Current trends and practices

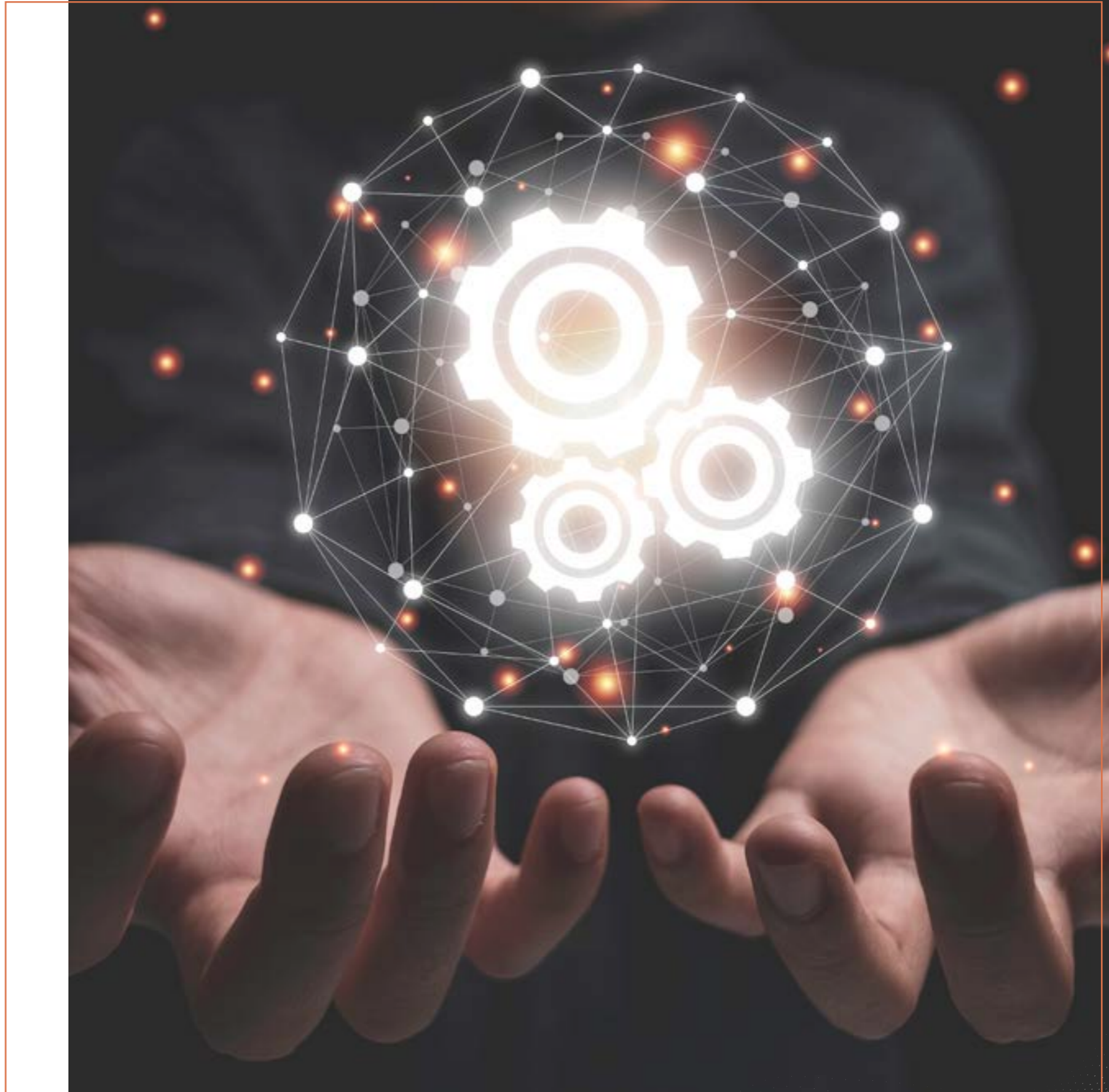


● LEARNING OUTCOMES

- Learn programming, manufacturing practices, machine learning and drawing, design elements, and material testing through lab sessions and professional industry-workshops
- Learn new concepts of thermodynamics, thermal engineering, and fluid mechanics and machineries
- Develop skill-set meeting the industry requirements through professional exposure and industry connect for better technical understanding and application
- Multi-disciplinary learning with robotics, cloud computing, machine learning and more that suits your interest and passion as a part of the electives
- Demonstrate problem-solving tech abilities in order to assess, create, and improve practical thermal and mechanical systems

● WHAT ARE MY CAREER OPPORTUNITIES?

- Automotive Engineer
- Manufacturing Engineer
- Mechanical Engineer
- Product Specialist
- Technology Specialist
- Thermal Engineer



In addition to our legacy & expertise, what makes us different is our emphasis on real-world knowledge.



International Exchange Program with Top Global Universities



UNIVERSIDADE FEDERAL DO RIO DE JANEIRO

| STUDENT CLUBS

The School of Technology is intense & challenging in its academic rigour, but dedicating time to develop personally & form lasting friendships enriches student life. 12+ Clubs not only facilitate Professional and Personal growth, but also improve student learning outcomes. From domain specific clubs to cultural music & sports club, channelize diverse interests & talents through this platform.



| RECREATION

To encourage an active lifestyle, good health & abundant social opportunities among students, Woxsen houses a gamut of activities. From sports facilities, swimming pool to fitness & spa centre, students can unwind, pursue their favourite sport, stay fit or pick a new interest!



CAMPUS INFRASTRUCTURE

Woxsen's ultra-modern campus sits on a sprawling 200 acre landscape, in a serene and pollution free environment, located in Hyderabad. Adorned with thoughtfully built indoor & outdoor spaces, the campus has been designed by renowned architects specialized in educational architecture.

The award winning residential campus perfectly balances learning facilities, collaborative spaces and comfortable accommodation. Elaborate lecture halls, labs, A & Robotics Studio and an extensive library foster effective learning. The dwelling space with fully-furnished hostels is strategically located, close to the cafeteria, swimming pool, multi-cuisine restaurant and the fitness/spa center. It is just a 10 min walk from the academic building.



DEAN'S MESSAGE

FROM THE DEAN'S DESK



We are delighted that you are considering Woxsen University to pursue your engineering studies. The world of Science & technology is witnessing an unprecedented change at a pace never experienced in the past. The changing technology landscape demands aspiring engineering graduates to stay abreast with the latest developments.

According to IBEF, India is the leading sourcing destination across the world, accounting for approximately 55 percent market share of global sourcing services. The IT-BPM sector in India is estimated to grow to US\$ 350 billion by 2025.

To match the industry demand and to be able to deliver future technology leaders, we at Woxsen have created a faculty team which has a powerful mix of faculty equipped with knowledge of the most recent developments in each field and faculty with several years of industry experience. Without exception all faculty members are premier school graduates.

Woxsen's learning experience is truly transformative. The combination of an elite science & technology education with a super charged competitive environment lays the foundation of the Woxsen Learning Ecosystem. Students pursue and discover their passions side by side with peers and professors in the classroom, fellow students in clubs and organizations, teammates on our athletic fields, and alumni mentors in the working world.



DR. KIRAN RAVULAKOLLA
Dean - School of Technology

Add in the drive, curiosity, and instinct to disrupt that is inherent in our culture, the Woxsen experience stands apart.

With a rich legacy of transforming graduates into achievers, we have embarked on a mission to nurture raw minds who are looking to graduate in technology and give them a launch pad to accomplish their aspirations.



CORPORATE OFFICE:

Gateway Jubilee, 2nd Floor, Road No. 36, Jubilee Hills, Hyderabad,
Telangana, India - 500 033 Tel: +91 40 4444 8888
M: +91 91213 33283

CAMPUS:

Kamkole Village, Sadasivpet, Sangareddy District, Hyderabad,
Telangana, India - 502 345 Tel: +91 (0)8455 255555
Email: info@woxsen.edu.in

Visit: www.woxsen.edu.in