BITS Pilani
Dubai Campus

innovate   achieve   lead

PROSPECTUS
2022-23

BACHELOR OF ENGINEERING (B.E.)
PROGRAMMES

CONTENTS

Dr. Kumar Mangalam Birla

Chancellor, BITS Pilani

"What is it that can empower our nation? The most obvious answer is education. Education that enhances livelihoods but also education that is value-based.

Education that gives roots and gives wings as well."

Dr. Souvik Bhattacharyya

Vice Chancellor, BITS Pilani

"BITS Pilani has been a leader in 'do engineering' education like no other with semester long immersive industry internship for all students. The curricular flexibility empowers an individual with the cross-domain expertise being emphasized today. Being consistently ranked among the top level institutions, we strive hard to attain greater heights."

BITS Pilani
Pilani | Dubai | Goa | Hyderabad

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI

Birla Institute of Technology and Science, Pilani (BITS, Pilani) is an All India Institution declared as deemed university, established in 1964, under section 3 of the UGC Act. The great visionary late Mr. G.D. Birla was its Founder Chairman. BITS Pilani is located in Pilani in the state of Rajasthan and offers degrees at all levels in Engineering, Sciences, Management, and Pharmacy. Dr.K.K. Birla, who took over as the Chairman in 1983, realized the need for providing top class higher education facilities to a greater number of promising students in science and technology, and under his patronage, BITS Pilani started expanding by establishing three new campuses- BITS Pilani, Dubai Campus in the year 2000; BITS Pilani, K.K. Birla Goa Campus in the year 2004; and BITS Pilani, Hyderabad Campus in the year 2008. Consequent to the demise of Dr. K.K. Birla in 2008, Dr. Kumar Mangalam Birla was elected as the Chancellor and Smt. Shobhana Bhartia was appointed as the Pro-Chancellor. Under the leadership of the young and dynamic Chancellor, BITS is taking steps to scale greater heights.

BITS Pilani – Accreditation and Ranks

NAAC: Reaccredited with Grade A by the National Accreditation and Assessment Council (NAAC), India in recognition of its excellent quality profile.

Institute of Eminence: Granted the status of 'Institute of Eminence' by MOE, Govt. of India in 2018.

International Ranking: Ranked among the Top 200 in QS Asia University Rankings 2022 and among the Top 400 in Times Higher Education (THE) Asia University rankings 2021.

Other Rankings: BITS Pilani is ranked No.1 among the private engineering institutions in India in several media rankings such as Education World, India Today and The Week and has been the highest ranked non-government Institute consistently in many of these surveys.

BITS PILANI, DUBAI CAMPUS

BITS Pilani, Dubai Campus is the branch campus of the internationally reputed Birla Institute of Technology and Science (BITS), Pilani-India and the largest institution exclusively offering Engineering Programmes in Dubai International Academic City. The campus is approved by Ministry of Education, Government of India and University Grants Commission (UGC), India and is permitted by Knowledge & the Human Development Authority (KHDA), Government of Dubai.

Set up in the year 2000, we offer quality engineering education to students seeking admission not only from UAE and other middle-east countries but also from India and other parts of the world. The vibrant campus has an excellent academically conducive infrastructure along with well-experienced, highly qualified and dedicated faculty who are committed to fulfilling the students' aspirations and shaping them as competent professionals of global standard.

The academic programmes and opportunities transform the students. They acquire learning skills, creativity, teamwork and leadership. The rigorous syllabi not only instill in them, a passion for knowledge but also teach the application of knowledge to real situations. In the Practice School Programme, which is an internship of 7.5 months offered within the programme duration, students are exposed to the work environment and get hands on experience in solving real life problems. We have a collaboration with over 300 reputed companies across UAE to offer practice school (internship) to our students.

Alumni from this campus have done exceptionally well in all spheres of life. Eighteen batches comprising over 5500 students have graduated from Dubai Campus till date. They are occupying leading positions in diverse fields across the world. They have been recruited by prestigious companies around the world and several have completed or pursuing Masters and Ph.D. programmes from leading universities. Many Alumni are also successful entrepreneurs.

The professional activities at the campus have no parallel and is among the very few institutions in the Middle East to have recognized student chapters of professional societies such as IEEE, ASHRAE, ASME, SAE, ACM, SWE to name a few.
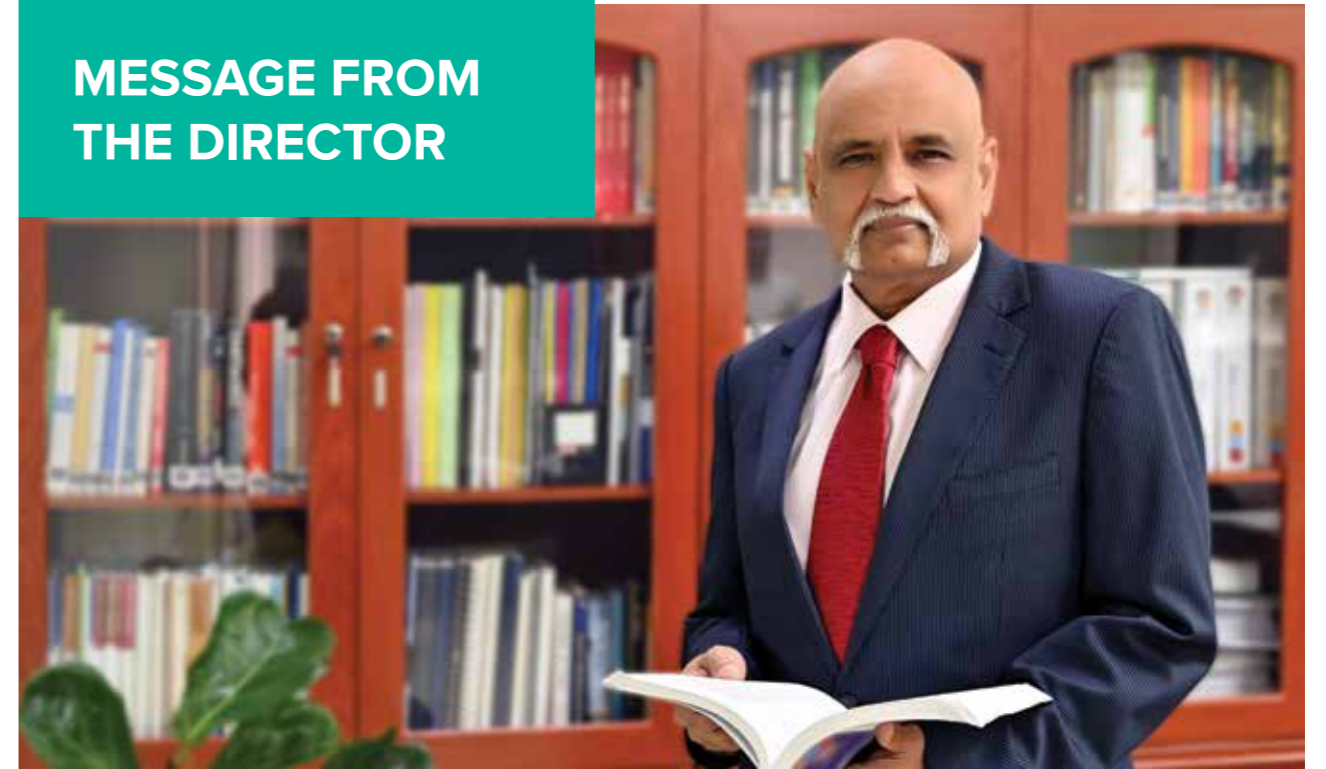
We also offer excellent opportunities to students to participate in and contribute to a variety of co-curricular and extra-curricular activities. We emphasise well-rounded personality development and the several laurels our students have won at the various national and international events are a testimony to this.

The Institute has made great progress in the last 20 years and is committed to the highest standards of academic excellence with continuous innovation in curriculum and pedagogy, pervasive industry engagement through practice school and enriched campus life.

Shaping future leaders with inter-disciplinary education

MESSAGE FROM THE DIRECTOR

Welcome to the Dubai Campus of the Birla Institute of Technology & Science, Pilani (BITS Pilani). Established in 2000, BITS Pilani, Dubai Campus (BPDC) has the distinction of being the first offshore campus of any Indian institution of higher learning. It has grown into an integrated International campus offering three tier University education (bachelors, masters and doctoral degrees) with residential facilities on campus for the students.

BPDC carries forward the charter of the brand 'BITS Pilani' and is dedicated to providing its students with a world-class education that combines academic rigor, intellectual stimulation, state-of-the-art technology and facilities and all-round personality development to deliver values, capabilities and skills for a global and knowledge-based economy. The broad-based education system offers a high degree of flexibility in the form of dual degrees, electives and minors to cater to the diverse interests of students and current and future career opportunities. The Practice School, a distinctive hallmark of the BITS Pilani system is built into the academic programme and enables every student to spend more than a semester with an industry partner and imbibe professional skills and experience in applying theoretical knowledge to solve authentic, real-world problems. The curriculum provides opportunities for students to explore their interests and passions. Students can undertake projects in their areas and topics of preference under the guidance of our highly qualified and competent faculty. The fully equipped laboratory facilities that include a Creative Lab with 24 x 7 access are available for structured instruction as well as individualized projects. The strong student-led start-up culture is amply supported by relevant courses, a dedicated Business Incubation Centre, and mentorship from alumni and business experts.

The academic experience is ably complemented by a host of co-curricular, extra-curricular and professional activities to inculcate attributes of teamwork, integrity, creativity, leadership and societal responsibility leading to the development of a well-rounded personality.

BITS Pilani alumni are spread globally and have distinguished themselves in their chosen careers. They serve as our valuable ambassadors and attest to our commitment to nurture individuals and groom talent in pursuit of excellence.

I invite you to join us and set yourself on the path of innovation, achievement and leadership.

Dr. Srinivasan Madapusi
Director
BITS Pilani, Dubai Campus

WHY CHOOSE BITS PILANI?

World-Class Curriculum & Faculty

The Institute offers a world-class curriculum that is broad-based with unique options such as 7.5 months Practice School (Internship) or Thesis and a high degree of flexibility in the form of electives, minors, dual degree and more to cater to the diverse interests of students and broaden their education beyond a single area of study. The Faculty is highly experienced with doctoral and postdoctoral degrees from reputed universities worldwide.

Stellar Rating

Ranked as the top private university in India in Engineering and Technology in several media rankings, BITS Pilani also finds its place in the Global University Rankings of both THE (Times Higher Education) & QS (Quacquarelli Symonds). It is also ranked among the Top 300 in QS Employability Rankings 2022.

International Exposure

Dubai, an international business & education hub is a strategic base to hundreds of global companies and universities and offers plenty of opportunities to students to interact with professors, industry experts and seasoned professionals across the spectrum. It is home to more than 200 nationalities & offers the best healthcare, shopping, sport & entertainment and leisure opportunities in the world.

Placement Assistance

The Dubai Campus is a preferred recruitment ground for most corporates in the Middle East including MNCs and large conglomerates. Every year we organize Campus Placement Programme and Annual Career Fair for our graduates. We also organize employability skills training and career counseling for our students to gain better insights on the latest market trends and help them to be industry ready.

State-of-the-Art Infrastructure

The vibrant campus offers over 30 high-tech engineering and science laboratories of international standards, well sourced library, modern and smart classrooms, Telepresence conference and classroom, incubation center, excellent hostel facilities separate for boys and girls, Outdoor and Indoor sports facilities and a Creative Lab with a 24x7 working opportunity for students with innovative ideas.

Industry Internship

The Practice School (PS) programme ensures that students spend over 7.5 months in two parts working in the industry even before graduation. The PS gives students the vital experience needed to adapt quickly to careers in the industry. The Institute has collaborated with over 300 Companies to offer Internships.

All Round Development

We believe strongly in helping students develop to their full potential in every field of their interest. Soft skills development is made part of the class room experience through presentations and open-ended learning components. Extracurricular activities, student managed clubs and events give them further avenues to express themselves and develop skills beyond academics.

Successful Alumni

Renowned scientists, successful entrepreneurs and managers & leaders of society - our alumni have made us proud time & again. Alumni are actively engaged with the institute and with the students, motivating them to perform and excel in whatever they do.

Ranked Globally Among
TOP 200
by QS Asia University Rankings - 2022

More than
5500 ALUMNI
in leading positions in globally reputed corporates

Ranked Globally Among
TOP 300
by QS Graduate Employability Rankings 2022

STRONG ACADEMIC EXCELLENCE & GLOBAL REPUTATION

45+ START-UPS
facilitated in last 5 years encouraging innovation & entrepreneurship

RATED **5 STAR**
by Knowledge & Human Development Authority (KHDA) in partnership with QS

NEARLY AED 7 MILLION
Scholarships awarded every year

Upto **30 WEEKS**
Industry Internship within the programme duration at over 300 corporate companies

KEY FEATURES

- Approved by UGC and MOE, Government of India and KHDA, Govt. of Dubai.
- B.E. Admissions based on Grade 12 or equivalent aggregate marks (BITSAT is not required).
- Degree awarded by BITS Pilani, India, with modular and flexible curriculum identical to the Indian campuses.
- Campus placement assistance offered with Placement opportunities in globally reputed companies.
- Part-time employment opportunities also offered during the study.
- Student Visas and On-campus Hostel Accommodation provided

BITS Pilani
Pilani | Dubai | Goa | Hyderabad

PROGRAMMES OFFERED

BITS Pilani
Dubai Campus

First Degree Programmes

- B.E. Biotechnology
- B.E. Chemical Engineering
- B.E. Civil Engineering
- B.E. Computer Science
- B.E. Electrical & Electronics Engineering
- B.E. Electronics & Communication Engineering
- B.E. Mechanical Engineering

Higher Degree Programmes

- M.E. Design Engineering
- M.E. Microelectronics
- M.E. Software Systems
- M.E. Electrical
  with specialization in Power Electronics and Drives
- M.B.A
  (Master of Business Administration)
- Ph.D. (Doctor of Philosophy)
  in Engineering & Allied Disciplines

MINOR PROGRAMME:

✓ Data Science ✓ Aeronautics ✓ Robotics and Automation ✓ Finance ✓ Entrepreneurship
✓ Materials Science and Engineering ✓ Philosophy, Economics and Politics

EDUCATIONAL PROCESS

BITS Pilani has been following the semester system with continuous evaluation since its inception. The educational programmes are modular and flexible. The same philosophy is replicated at Dubai Campus.

The degree programmes are based on the principle that a set of courses make up the structure where each course is self contained, but, nevertheless, acts as a bridge between what precedes and what comes after. The programmes are designed to awaken curiosity in the minds of the students and train them to think scientifically and to enable them to face the unfamiliar.
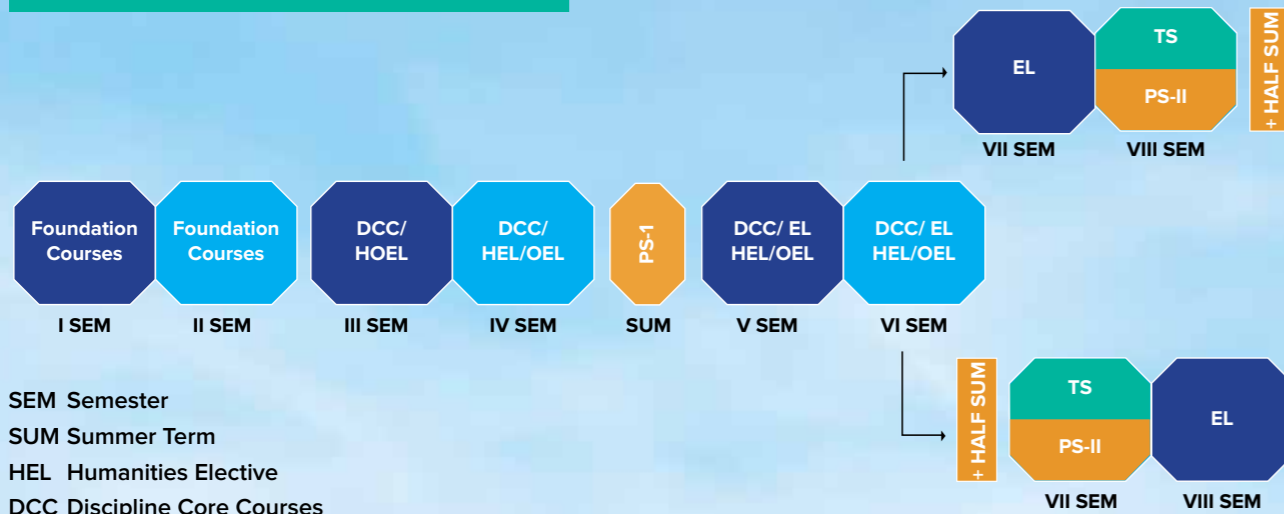
Through the Practice School programme, we have established purposeful linkages with the industry to enable the students to get the flavour of professional world.

The performance of the students in each course is continuously evaluated by the faculty throughout the semesters in terms of tests, quizzes, assignments, projects, laboratory work, etc., followed by a comprehensive examination at the end of the semester.

The continuous evaluation provides a regular feedback to the students to know where they stand, thus enabling them to improve and to cultivate habits of regular study and face challenges.

The B.E. programmes are based on the modular structure with the academic requirements spelt out in terms of number of courses and units rather than number of years. The courses are structured in such a way that the student will be able to finish the programme in 8 semesters.

Programme Structure Diagram

EL — VII SEM
TS / PS-II — VIII SEM + HALF SUM

Foundation Courses — I SEM
Foundation Courses — II SEM
DCC/ HOEL — III SEM
DCC/ HEL/OEL — IV SEM
PS-1 — SUM
DCC/ EL HEL/OEL — V SEM
DCC/ EL HEL/OEL — VI SEM

+ HALF SUM
TS / PS-II — VII SEM
EL — VIII SEM

SEM Semester
SUM Summer Term
HEL Humanities Elective
DCC Discipline Core Courses
PS-I Practice School I
PS-II Practice School II
TS   Thesis - Seminar
DEL Discipline Electives
OEL Open Electives

1. The Structure and the Requirements of the First Degree Programmes

The category-wise structure of each Programs

Category	Number of units required	Number of courses required
(I) General Institutional Requirement		
Humanities Electives	8	3
Science Foundation	12	6
Mathematics Foundation	12	4
Engineering Foundation	6	2
Technical Arts	10	4
General Awareness/ Professional Courses	3 to 6	1 to 3
Sub-Total	**51 to 54**	**20 to 22**
(II) Discipline Requirement		
Core	33 to 48	10 to 16
Elective	12 to 27	4 to 9
Sub-Total	**57 to 60**	**15 to 20**
(III) Open Electives	15 to 27	5 to 9
Coursework Sub-Total	126 (min)	40 (min)
(IV) PS-I and II or Thesis	25 or 9 to 16	2 or 1
Total	**141 (min)**	**41 (min)**

2. General Institutional Requirement Courses

a) General Biology, Biology Laboratory, General Chemistry, Chemistry Laboratory, Mechanics, Oscillations and Waves, and Physics Laboratory under Science Foundation.

b) Mathematics I, II, III and Probability & Statistics under Mathematics Foundation.

c) Electrical Sciences and Thermodynamics under Engineering Foundation.

d) Computer Programming, Workshop Practice, Engineering Graphics, & Technical Report Writing under Technical Arts.

e) Principles of Economics and Principles of Management under General Awareness/ Professional courses.

f) Courses from Languages and Literature, History and Philosophy, Political and Social Sciences, Fine Arts and Professional Arts under Humanities Electives.

DEPARTMENT OF CHEMICAL ENGINEERING

The Department of Chemical Engineering at BITS Pilani, Dubai Campus is one of the premier chemical engineering departments in the gulf region. The department's goal is to produce students who will become leaders in their areas.

Chemical Engineering is undoubtedly one of the most versatile of engineering disciplines. Through a judicious mix of mandatory & elective courses, the students at Dubai campus gain expertise in various areas of chemical engineering such as petroleum and petrochemicals, renewable energy, environmental engineering, biochemical engineering, nanoscience & technology, paper, cement, ceramics & glass, polymers & plastics, food processing and products, paints and dyes, textiles and synthetic fibers, etc. Also, students are enabled to enter interdisciplinary areas like Atomic and Molecular Simulation, Surface Science, Corrosion Engineering, Combustion Engineering and Polymer Technology.

Career Pathways

Job Roles

- Product Engineer
- Process Engineer
- Plant Engineer
- Chemical Engineer
- Project Heads
- Quality control Engineer
- Plant Manager
- Product Sales

Companies Hiring

- Gulf Petrochemicals
- Reckitt Benckiser
- Croda
- Monaco Engineering Solutions
- Torrecid Middle East
- Petrofac
- DNV-GL
- Hindustan Petroleum Corporation Ltd.

Higher Studies: Several graduates have pursued higher studies in Chemical Engineering, Process Engineering, Petroleum Engineering, Management, Environment Engineering, Material Engineering, Food Processing, Biomedical Engineering, Renewable energy from universities like Imperial College of London, University of Toronto, University of Waterloo, University of Melbourne and many more to further specialize.

B.E. Chemical Engineering

Semester-wise pattern*

	First Semester	Second Semester
I YEAR	Biology Laboratory General Biology Chemistry Laboratory General Chemistry Mathematics I Physics Laboratory Mechanics, Oscillations and Waves Engineering Graphics	Mathematics II Workshop Practice Computer Programming Electrical Sciences Technical Report Writing Probability and Statistics Thermodynamics
II YEAR	Mathematics III Humanities Electives Fluid Mechanics Chemical Process Calculations Engineering Chemistry Chemical Engineering Thermodynamics Environmental Studies	Principles of Economics or Principles of Management Humanities Electives Heat Transfer Numerical Methods for Chemical Engineers Material Science & Engineering Separation Processes

Summer Term: Practice School I

III YEAR	Open/Humanities Electives Chemical Engineering Laboratory I Separation Processes II Kinetics & Reactor Design Process Design Principles I Discipline Electives	Open/Humanities Electives Chemical Engineering Laboratory II Process Dynamics & Control Process Design Principles II Discipline Electives
IV YEAR	Open Electives Discipline Electives	Practice School - II or Thesis or Thesis and Electives

* This is an operative pattern for the students as approved by the Senate appointed committee, subject to change if the situation warrants

Discipline Elective Courses

- Advanced Process Control
- Alternate Energy Resources
- Atomic and Molecules Simulations
- Biochemical Engineering
- Chemical Process Technology
- Colloids and Interface Engineering
- Corrosion Engineering
- Energy Conservation and Management
- Environmental Management Systems
- Environmental Pollution Control
- Fluidization Engineering
- Introduction to Nanoscience & Technology
- Modeling and Simulation in Chemical Engg
- Molecular and Statistical Thermodynamics
- Paper and Pulp Technology
- Petroleum Downstream Processing
- Petroleum Refinery Engineering
- Petroleum Refining and Petrochemicals
- Petroleum Reservoir Engineering
- Polymer Technology
- Process Plant Safety
- Transport Phenomena

- Discipline Core Courses - 48 Units (15 Courses)
- Discipline Electives - 12 Units (5 Courses)
- Humanities Electives - 8 Units (3 Courses)
- Open Electives - 15 Units (5 Courses)

DEPARTMENT OF CIVIL ENGINEERING

The department of civil engineering caters to the growing demands for Civil Engineers in Dubai. Over the years, the department has grown significantly with several graduated students being placed in reputed companies both in the Middle East and abroad.

Civil Engineering is instrumental in developing the country's infrastructure as it deals with planning, design, construction, sustenance and maintenance of the physical and naturally built environment that improves and increases mobility and convenience for its society.

While the traditional side of civil engineering education focuses on structures, buildings and bridges, foundations, ports and waterways, energy and industrial facilities, and transportation, there is now a growing trend to branch into other areas of critical importance to society like environmental engineering, construction management, transportation logistics, sustainable development, smart cities, infrastructure management and disaster recovery, which have also become important components of today's Civil Engineering education. Civil engineers work to protect society from natural catastrophes, such as earthquake, sand hurricanes, and help manage our water and energy resources. As their work is crucial to the day-to-day lives of most people, Civil Engineers bear an important responsibility to the public.

The department has also seen graduates pursuing higher degree programs in eminent international universities. Candidates keen to pursue higher education are also encouraged to work on research-oriented projects as part of their final year thesis. The department has collaborations with eminent professional bodies.

Career Pathways

Job Roles

- Project Engineers
- Structural Engineers
- Transportation planners
- Design Engineers
- Construction Engineers
- Geotechnical Engineer
- Sustainability consultant

Companies Hiring

- Sobha Constructions LLC
- Sobha Realty
- AESG Dubai
- EIC Global
- Asteco Property Management

Higher Studies: Several Graduates have opted for higher studies after completion of Civil Engineering from universities like University of Bath, HEC Paris, Heriot-Watt University, University of Aberdeen etc.

B.E. Civil Engineering

Semester-wise pattern*

	First Semester	Second Semester
I YEAR	Biology Laboratory General Biology Chemistry Laboratory General Chemistry Mathematics I Physics Laboratory Mechanics, Oscillations and Waves Engineering Graphics	Mathematics II Workshop Practice Computer Programming Electrical Sciences Technical Report Writing Probability and Statistics Thermodynamics
II YEAR	Mathematics III Humanities Electives Mechanics of Solids Fluid Mechanics Surveying Construction Materials	Principles of Economics or Principles of Management Humanities Electives Analysis of Structures Construction Planning & Technology Soil Mechanics Highway Engineering

Summer Term: Practice School I	

III YEAR	Open/Humanities Electives Design of Concrete Structures Hydraulic Engineering Foundation Engineering Discipline Electives	Open/Humanities Electives Water & Waste Water Treatment Design of Steel Structures Engineering Hydrology Discipline Electives
IV YEAR	Open Electives Discipline Electives	Practice School - II or Thesis or Thesis and Electives

Discipline Elective Courses

- Applications of Artificial Intelligence in Civil Engineering
- Airport, Railways and Waterways
- Green Buildings and Energy Conservation
- Environmental Impact Assessment
- Advanced Foundation Systems
- Introduction to Finite Element Methods
- Remote Sensing and Image Processing
- Computer Applications in Civil Engineering
- Disaster Management
- Geotechnical Earthquake
- Engineering & Machine Foundation
- Introduction to Environmental Engineering
- Introduction to Bridge Engineering
- Operation Research for Engineers
- Design of Foundation Systems
- Geosynthetics and Reinforced Soil Structure
- Structural Dynamics

- Discipline Core Courses - 48 Units (16 Courses)
- Discipline Electives - 12 Units (4 Courses)
- Open Electives - 15 Units (5 Courses)
- Humanities Electives - 8 Units (3 Courses)

* This is an operative pattern for the students as approved by the Senate appointed committee, subject to change if the situation warrants

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Department of Electrical and Electronics Engineering is dedicated to the teaching and research activities in the areas of Electrical, Electronics, Instrumentation & Control and Communication Engineering. The department educates the students to take up challenging jobs in a wide range of industries and engage themselves in research and development activities for the betterment of the society.

Electrical & Electronics Engineering is a broad field that encompasses many sub-fields like electrical power generation, transmission, distribution, protection of power system components against faults or abnormalities, solid-state electronics & allied fields. Electrical and Electronics engineers apply the theories of basic electrical engineering, electronics and electromagnetics to design, develop & operate these systems. The undergraduate degree programme provides a comprehensive foundation in the core topics of Electrical and Electronics Engineering coupled with areas of specializations relevant to emerging engineering sectors.

Electronics & Communication Engineering deals with the operating principles & design of devices ranging from mobile phones to wireless networks and satellite communication systems. This programme reflects the wide diversity of Communication & Data Transmission Technologies which are accepted as a vital part of everyday life from traditional radio, microwave systems to state of the art optical, satellite and cellular communication systems.

The students are exposed to industry standard software packages such as MI Power, MATLAB, PSpice & Lab-view in the curriculum which enables them to design, test and implement real- time systems scenarios.

The department offers opportunities for students to be associated with professional bodies such as the Association of Electronic Engineers (AOEE) and Intelligent Flying Object for Reconnaissance (IFOR - Team).

Career Pathways

Job Roles

- Electrical Engineer
- Project Engineer
- Design Engineer
- Instrumentation Engineer
- Sales and Service Engineer
- Power Systems Engineer
- Communication Engineer
- Deployment & Science Engineer
- Security system Engineer
- Transmission Engineer

Companies Hiring

- Emerson
- Schneider
- ABB
- Tesla
- Dell
- Microsoft
- L&T
- Qualcomm
- Du Telecom
- Honeywell

Higher Studies: Several graduates have opted for higher education in Electrical Engineering, Aeronautics, Communications, Digital Signal Processing, Wireless Communications, Biomedical Engineering, Computer Control and Automation, Systems Engineering, Business Management etc. with globally reputed universities, such as California Institute of Technology, University of Pennsylvania, Carnegie Mellon, University of California, Los Angeles, University of Toronto, Virginia Tech and many more.

B.E. Electrical & Electronics Engineering
B.E. Electronics & Communications

Semester-wise pattern*

First Semester	Second Semester
I YEAR Biology Laboratory General Biology Chemistry Laboratory General Chemistry Mathematics I Physics Laboratory Mechanics, Oscillations and Waves Engineering Graphics	Mathematics II Workshop Practice Computer Programming Electrical Sciences Technical Report Writing Probability and Statistics Thermodynamics
II YEAR Mathematics III Humanities Electives Electrical Machines Electromagnetic theory Digital Design Electronic Devices	Principles of Economics or Principles of Management Humanities Electives Control Systems Signals & Systems Microelectronic Circuits Microprocessors & Interfacing

Summer Term: Practice School I

III YEAR Open/Humanities Electives Communication Systems Analog & Digital VLSI Design (EEE) Electromagnetic Fields & Microwave Engineering (ECE) Digital Signal Processing (ECE) Engineering Optimization (EEE) Discipline Electives	Open/Humanities Electives Analog Electronics (EEE & ECE) Power Electronics (EEE) Power Systems (EEE) Communication Networks (ECE) Information Theory & Coding (ECE) Discipline Electives
IV YEAR Open Electives Discipline Electives	Practice School - II or Thesis or Thesis and Electives

Discipline Elective Courses

- Computer Architecture
- Computer based Control Systems
- Cryptography
- Data Communication Networks
- Digital Image Processing
- Digital Signal Processing
- Electric Power Utilization and illumination
- Fiber optics & optoelectronics
- Internet of things
- Introduction To MEMS
- Medical Instrumentation
- Mobile Telecommunication Networks
- Modern Communication Technologies
- Modern Control Systems
- Neural Networks & Fuzzy Logic
- Object Oriented Programming
- Operating Systems
- Power Apparatus & Networks
- Satellite Communication
- Telecommunication Switching Systems & Networks

- Discipline Core Courses - 48 Units (14 Courses)
- Discipline Electives - 12 Units (4 Courses)
- Humanities Electives - 8 Units (3 Courses)
- Open Electives - 15 Units (5 Courses)

* This is an operative pattern for the students as approved by the Senate appointed committee, subject to change if the situation warrants

DEPARTMENT OF MECHANICAL ENGINEERING

The Mechanical Engineering Department educates the Engineers of tomorrow by integrating classroom theory and practical hands-on projects. It emphasizes the process of learning and critical thinking and promotes professional relationships among the university and industry. Mechanical Engineering is the broadest of the engineering professions. Mechanical Engineers learn to solve Engineering Problems in Design, Optimization, Manufacturing, Thermo-fluids and Engineering Management. Students get many opportunities to apply taught materials in specialized areas of Robotics & Automation, Mechatronics, Energy Conversion and Energy Management, Materials, 3D Printing, Heating, Ventilation and Air Conditioning (HVAC) and Aeronautics. Training is provided in Software such as AutoCAD, CATIA, SOLIDWORKS, ANSY, MSC ADAMS, AUTOMATION STUDIO, DIGIMAT, ESPIRIT, RICARDO, DFX and MATLAB.

Opportunities are available to the students to serve as the members of professional bodies such as Mechanical Engineering Association (MEA), American Society of Mechanical Engineers (ASME), Society of Automotive Engineers (SAE), American Society of Heating, Refrigeration and Air Conditioning Engineers.(ASHRAE) & BITS Aerospace Society (BAEROS). The research currently undertaken by this department through consultancy is in the areas of Robotics, Energy Management and Material Testing through well-equipped laboratories.

Career Pathways

Job Roles

- Design Engineer
- Production Engineer
- Quality Control Engineer
- Consultants
- Estimation Engineer
- Technology specialist
- Mechatronics Engineer
- Aerospace engineer
- Automotive engineer

Companies Hiring

- Mott McDonald
- Baker Hughes
- Siemens
- Daikin- McQuay
- Fractal Systems
- Petrofac
- PWC Middle East
- Lucy Switchgears
- Det Norske Veritas

Higher Studies: Several graduates have gone abroad for doing their Masters programme in Mechanical Engineering, Aerospace Engineering, Industrial Engineering, Automobile Engineering, Materials Science, Design Engineering, Robotics and Automation, Manufacturing Engineering, Mechatronics, Energy Management & Business Administration from globally recognized universities such as Stanford, Georgia Tech., Carnegie Mellon, ETH Zurich, Hong Kong University of Science & Technology, University of Glasgow & IIMs in India.

B.E. Mechanical Engineering

Semester-wise pattern*

	First Semester	Second Semester
I YEAR	Engineering Graphics Biology Laboratory General Biology Chemistry Laboratory General Chemistry Mathematics I Physics Laboratory Mechanics, Oscillations and Waves	Thermodynamics Technical Report Writing Computer Programming Electrical Sciences Mathematics II Probability and Statistics Workshop Practice
II YEAR	Mathematics III Mechanics of Solids Fluid Mechanics Materials Science & Engineering Applied Thermodynamics Humanities Electives	Environmental Studies Principles of Economics/ Management Advanced Mechanics of Solids Manufacturing Processes Heat Transfer Mechanisms and Machines Humanities Electives

Summer Term: Practice School I

III YEAR	Open/Humanities Elective Design of Machine Elements Advanced Manufacturing Processes Manufacturing Management Engines, Motors and Mobility Discipline Electives	Open/Humanities Elective Computer-Aided Design Vibrations and Control Engineering Optimization Prime Movers & Fluid Machines Discipline Electives
IV YEAR	Open Electives Discipline Electives	Practice School - II or Thesis or Thesis (9) & Electives (6-9)

* This is an operative pattern for the students as approved by the Senate appointed committee, subject to change if the situation warrants

Discipline Elective Courses

- Aircraft Propulsion
- Artificial Intelligence in Robotics
- Automotive Vehicles
- Combustion
- Composite Materials & Design
- Computer Aided Manufacturing
- Finite Element Methods
- Flight Mechanics and Control
- Fluid Power Systems
- Fuel Cells
- Gas Dynamics
- Heating and Cooling of Buildings
- Introduction to MEMS
- Mechanisms and Robotics
- Mechatronics and Automation
- Material Characterization
- Nonlinear Vibrations
- Power Plant Engineering
- Precision Engineering
- Principles of Aerodynamics
- Quality Control, Assurance and Reliability
- Refrigeration and Air conditioning
- Renewable Energy
- Reverse Engineering and Rapid Prototyping
- Rocket and Spacecraft Propulsion
- Solar Thermal Process Engineering
- Total Product Integration Engineering
- Wind Energy

- Discipline Core Courses - 48 Units (16 Courses)
- Discipline Electives - 12 Units (4 Courses)
- Humanities Electives - 8 Units (3 Courses)
- Open Electives - 15 Units (5 Courses)

DEPARTMENT OF COMPUTER SCIENCE

BITS Pilani
Dubai Campus

The Department of Computer Science aims at producing world class Computer Engineers. A wide range of courses are offered to the students to help them understand the various intricacies involved in computing. The courses are designed in a way to invoke students' ability to think originally and creatively. The department offers excellent computing facilities in terms of hardware, software and networking.

Most of the courses have both theoretical & practical sessions which aid in the better understanding of the concepts. The faculty members are trained to produce Computer Science Engineers with the ability to design and develop systems involving the integration of software and hardware devices. The entire gamut of products and services that are being used today from airline reservation to online shopping to office automation systems to rocket launching are all created by Computer Science Engineers. Apart from this, they also focus on improving software reliability, Network Security and Information Retrieval Systems.

We also have an academic alliance with Microsoft through which students are provided with the latest software tools in cutting edge technologies.

The department offers opportunities for students to enhance their professional skills through professional bodies like ACM, Linux User Group and Microsoft Tech Club. Participation in several programming competitions and hackathons has led our students to win prestigious prizes and cash awards.

Career Pathways

Job Roles

- Big Data Engineer
- Machine Learning Engineer
- Data Scientist
- Data Analyst
- Blockchain Developer/Engineer
- Software Developer
- Computer Network Architect
- Information Security Analyst
- System Engineers
- Software Engineer
- Database Administrator

Companies Hiring

- Deloitte
- Oracle
- Google
- Microsoft
- Emirates
- Al Futtaim Systems
- Standard Chartered Bank
- Amazon
- Emerson
- Noon
- Landmark Group

Higher Studies: Several graduates have joined well known institutions across the globe for higher studies such as University of Southern California, Pennsylvania State University, Trinity College -Dublin, Carnegie Mellon University, University of California-Los Angeles, University of Leeds, University of Edinburgh, Technische Universität München - Munich, University of Toronto, Virginia Tech and many more in Computer Science, Information Technology, Software Systems, Information Security Technology, Multimedia & Animation, Gaming, Cyber Security, Data Analysis and Web development.

B.E. Computer Science

Semester-wise pattern*

	First Semester	Second Semester
I YEAR	Biology Laboratory General Biology Chemistry Laboratory General Chemistry Mathematics I Physics Laboratory Mechanics, Oscillations and Waves Engineering Graphic	Mathematics II Workshop Practice Computer Programming Electrical Sciences Technical Report Writing Probability and Statistics Thermodynamics
II YEAR	Mathematics III Humanities Electives Logic in Computer Science Discrete Structures for Comp. Science Object Oriented Programming Digital Design	Principles of Economics or Principles of Management Humanities Electives Data Structures & Algorithms Microprocessors & Interfacing Database Systems

Summer Term: Practice School I

III YEAR	Open/Humanities Electives Operating Systems Principles of Programming Languages Computer Architecture Discipline Electives	Open/Humanities Electives Compiler Construction Design & Analysis of Algorithms Computer Networks Discipline Electives
IV YEAR	Open Electives Discipline Electives	Practice School - II or Thesis or Thesis and Electives

Discipline Elective Courses

Artificial Intelligence
- Blockchain Technology
- Combinatorial Mathematics
- Computer Graphics
- Cryptography
- Data Mining
- Data Storage Technologies and Networks
- Deep Learning
- Enterprise Computing
- Fuzzy Logic and Applications
- Human Computer Interaction
- Image Processing Information Retrieval
- Information Security Project
- Internetworking Technologies
- Internet of Things (IoT)
- Machine Learning
- Multimedia Computing
- Network Programming
- Neural Networks and Fuzzy Logic
- Parallel Computing
- Quantum Information and Computation
- Selected Topics from Computer Science
- Service Oriented Computing
- Software Development for Portable Devices
- Software Engineering
- Software for Embedded Systems

- Discipline Core Courses - 48 Units (14 Courses)
- Discipline Electives - 12 Units (4 Courses)
- Open Electives - 15 Units (5 Courses)
- Humanities Electives - 8 Units (3 Courses)

* This is an operative pattern for the students as approved by the Senate appointed committee, subject to change if the situation warrants

DEPARTMENT OF BIOTECHNOLOGY

The demand from the biotechnology sector in the Middle East for development of knowledge and competencies was a major driving force for establishing the Department of Biotechnology at BITS Pilani Dubai Campus. The main objectives of the department are:

- To offer world - class facilities for teaching and research activities.
- To provide hands - on training for students as part of course work and research.
- To strengthen university linkage by enabling execution of R&D projects from industry and other sponsoring agencies

Equipped with extensive state-of-the-art laboratories and highly qualified faculty, the department provides quality training to students and engages in research activities. Some of the research areas include applied microbiology, human disease biology, environmental biotechnology, agricultural biotechnology, nanotechnology, metabolomics and computational biology.

The Department also has working collaborations with Biotechnology companies & research organizations as part of Practice School, exchange of students, research collaboration and thesis components of the curriculum. The Department has signed a MOU with International Center for Biosaline Agriculture (ICBA) & RAK Medical and Health Sciences University (RAKMHSU).

Career Pathways

Job Roles	Companies Hiring
• Quality Control Scientist	• Pfizer
• Process Development Scientist	• Pepsico
• Biotechnologist	• Al Rawabi
• Virologist	• Dabur International
• Forensics	• Ceres Nanoscience
• Genetic Engineer	• Nestle
• Research Scientist	• Merck
• Food Safety Specialist	• Medcare hospital
• Immunologist	• The Himalaya Drug Co.

Higher Studies: Many students have joined reputed universities such as Boston University, Columbia University, Cornell University, Johns Hopkins, Harvard, MIT, University of Pennsylvania, University of Leeds, University of Nottingham and more for their higher studies in Forensics, Bio-medical engineering, Genetic counselling, Immunology, Biotechnology, Biomedical, Bio-pharmaceutical, Bio Sciences, Food Technology, Cellular and Molecular Biology, Neuroscience, Cancer Biology, Healthcare Management etc.

B.E. Biotechnology

Semester-wise pattern*

First Semester	Second Semester
I YEAR	
Mathematics I	Mathematics II
Computer Programming	Electrical Sciences
Biology Laboratory	Mechanics, Oscillations
General Biology	and Waves
Chemistry Laboratory	Probability and Statistics
General Chemistry	Technical Report Writing
Engineering Graphics	Workshop Practice
	Physics Laboratory
	Thermodynamics

II YEAR	
Mathematics III	Principles of Economics
Open/ Humanities Electives	or Principles of Management
Biological Chemistry	Open/ Humanities Electives
Microbiology	Genetic Engineering Techniques
Biophysics	Genetics
Cell Biology	Introduction to Environmental Biotechnology
	Instrumental Methods of Analysis

Summer Term: Practice School I

III YEAR	
Open/Humanities Electives	Open/Humanities Electives
Recombinant DNA Technology	Immunology
Industrial Microbiology & Bioprocess Engineering	Downstream Processing
Experiments in Biotechnology	Discipline Electives
Discipline Electives	

IV YEAR	
Open Electives	Practice School - II or
Discipline Electives	Thesis or Thesis and Electives

* This is an operative pattern for the students as approved by the Senate appointed committee, subject to change if the situation warrants

Discipline Elective Courses

- Bioethics and Biosafety
- Nanobiotechnology
- Food Biotechnology
- Proteomics
- Introduction to Bioinformatics
- Immunotechnology
- Cell and Tissue Culture Technology
- Drug design and delivery
- Molecular Biology of the Cell
- Introduction to Plant Biotechnology
- Genomics
- Biomolecular Modeling

- Discipline Core Courses - 48 Units (13 Courses)
- Discipline Electives - 15 Units (5 Courses)
- Open Electives - 15 Units (5 Courses)
- Humanities Electives - 8 Units (3 Courses)

EXTRA CURRICULAR ACTIVITIES

Extra curricular activities are like a refreshing symphony in the academic atmosphere of our campus. We provide facilities and services that encourage the holistic development of every student in the social, cultural and interpersonal domains. These are in direct support to our mission to produce self-reliant young professionals. There are ample opportunities for students to showcase their talents and pursue their interests through a diverse range of extra-curricular & co-curricular activities.

STUDENT CLUBS

Student Clubs add to the rich mosaic of student life. There are active student clubs like: Dance, Astronomy, Music, Art, Sports, Photography, Drama, Public Speaking & Literary club, wallstreet Club, Quiz, Fashion Design & Social & Environment Clubs. The aim of each club is to enrich the social and cultural life on the Institute campus.

INTER - UNIVERSITY EVENTS & FESTS

JASHN
One of the largest Inter-university Cultural Extravaganza

BITS SPORTS FESTIVAL (BSF)
UAE's largest Sports Tournament of Universities & Schools

ENGINUITY
Technical competition showcasing creativity and innovation

BITSMUN
Annual Model United Nations Conference

BITS FILM FESTIVAL
Annual International Film Festival

PROFESSIONAL ASSOCIATIONS & SOCIETIES

We are among the very few institutions in the Middle East to have recognized student chapters of professional bodies such as IEEE, AIChE, ASHRAE, ASME, SAE, ACM, SWE to name a few. Associations of students of specific academic disciplines and student branch chapters of professional bodies organize distinguished lectures, seminars & other activities throughout the semester and during technical festivals.

A HOLISTIC STUDENT EXPERIENCE

PRACTICE SCHOOL (INTERNSHIP)

BITS Pilani is a pioneer in the field of university industry linkage & its bold and radical innovation in this regard has no parallel. The Practice School (PS) programme is a controlled simulation of real life where the student relates & applies his classroom knowledge and skills to the real issues faced by the industry. PS is a part of the total programme and takes the classroom to a professional location for a period of 7½ months, where the students under the supervision of faculty get involved in a real life situation.

The students undergo internship and work as the employees of the organization, participate in day-to-day activities of the workplace and work on specific projects assigned, in a problem solving mode, under the professional experts of the host organization. As with all other courses, a process of continuous evaluation is also followed for PS. Students are evaluated for interdisciplinary approach, decision making, written and oral presentation, leadership, team work etc. apart from the technical work, by the faculty & experts from the host organization.

The PS programme will have two components. PS I of 2 months duration during the summer following the second year and PS II of 5½ months duration during one of the semesters of final year. The PS Programme has paved the way for collaborations between the faculty and the industry.

COLLABORATION WITH OVER 300 COMPANIES FOR INTERNSHIP

- Emerson Automation Solutions
- PwC Middle East
- Dubizzle
- Johnson Controls
- Lamprell
- Siemens
- ESRI
- Reckitt Benckiser (Arabia) FZE
- L&T Electrical & Automation
- Schindler
- Schneider Electric

- The Emirates Group
- Zomato Media Pvt.Ltd
- MSD DIC
- Bosch
- Aster Hospital Group
- Star Cement
- Fly Dubai
- Carrier Middle East Limited
- Fedex Express
- GRUNDFOS Gulf Distribution FZE
- Lucy Switchgear FZE

- Protiviti Member Firm Middle East
- Thyssenkrupp Elevators
- TUV Nord
- Weidmueller
- Petrofac
- Redington
- Voltas
- Yokogawa
- Savills LLC
- Lloyd's Register EMEA
- Emirates Hospital Group and many more

EMPLOYER SPEAK

"When it comes to recruitment, we always look for excellence. That is why we partnered with BITS Pilani, Dubai as their students are professional, full of hunger and have all the drive that we look for in new recruits"

Jide Ore
Talent Acquisition Manager,
Emerson Middle East & Africa

" Our experience with BITS Pilani has been very rewarding and satisfying as an organisation, we see the quality of talent to be sustainable and strategic investment to us when we host their internship program".

Rainier Tayao
HR Director,
Schindler Group, U.A.E.

"The students have positively added to the projects that we are working on by taking active development, testing and QA roles. They exhibited good sense of teamwork, academic acumen and were eager to learn and assimilate new technologies".

Satish Kumar Menon
Chief Operations Manager,
ESRI Global Inc, Sharjah, U.A.E.

BITS Pilani
Dubai Campus

CAMPUS FACILITIES AND SUPPORT SERVICES

LIBRARY

The library block spread over two floors has a great ambience & contemporary design with reading halls, reference section, stacking area, discussion rooms, individual study carrels and faculty lounge. It also has a digital library and internet browsing centre.

The library is open from 7:30 am to 10:00 pm on all working days with extended timings up to 12 midnight during comprehensive examinations and tests.

THE LIBRARY PROVIDES:

- Access to the information resources necessary for the Institute to achieve its academic and research goals & enhance access to information in all formats to meet the needs of students, faculty and staff
- A wide selection of collection of more than 23,360 books, journals, magazines, CD-ROMs, project reports, thesis and back volumes in the core disciplines of Engineering, Management and Sciences. The Library has a collection of General Aptitude books on TOEFL, GRE, GMAT, IELTS, GATE etc.

- Access to ScienceDirect, IEEE Xplore Digital Library, ASME digital collection. ACM Digital Library, JSTOR e-journals and PressReader e-magazines
- Access to 1,770 e-Books from IEEE-MIT Press, IEEE-Wiley e-Books through IEEE Xplore Digital Library and more than 46 BPDC course text and reference e-Books
- E-Library for accessing our subscribed e-journals databases, e-books, e-magazines and library catalogue remotely, anywhere, anytime on any device.
- Institutional Repository which contains the digital collection of Research Publications of faculty, Practice School Reports, Project Reports, Thesis / Dissertations and etc.
- Self-check-in and check-out kiosk for easy transactions of library resources and automated library operations with access to web enabled OPAC (Online Public Access Catalogue)
- Access to the digitized question papers of all examinations since 2003 through the library portal.
- Electronic document delivery services from Home Campus Library and Inter Library Loan Service.
- Network printing, photocopying and scanning facilities for students.

VIRTUAL STUDY SPACE

Institute has adopted the online platforms such as Impartus, Webex, googleMeet, Zoom, Google classroom and Microsoft Teams to continue the education and make sure the learning is uninterrupted to the students during the pandemic situation. Online evaluation platforms such as CodeTantra, Socrative, google classroom, google Meet and WebEx are being used for conducting examinations. Laboratories and lab comprehensive examinations are conducted by using the virtual lab such as Platify,Cisco webex hands-on lab. Wacom pen displays are installed in all the classrooms to make the classroom a smart classroom. It will augment the teaching and learning to the next level by supporting digital learning in the on-campus/online/hybrid mode classrooms.

LABORATORIES

We have well-equipped laboratories of international standards for different lab-based courses.

These include:
- Advanced Molecular Biology Lab
- Analog Electronics Lab
- Biology Lab
- Chemical Engineering Lab I & II
- Chemistry Lab
- Communication Lab
- Computer Aided Design Lab
- Computer Programming Lab
- Concrete Lab
- Creative Lab
- Digital Design Lab
- Electrical Machines Lab
- Engineering Graphics Lab
- Environmental Lab
- Fluid Mechanics lab
- Genetic Engineering Lab
- Heat Transfer Lab
- Industrial Microbiology & Bioprocess Engineering
- Lab Instrumental Methods of Analysis Lab
- Instrumentation Lab
- Mechatronics & Robotics Lab
- MEMS Lab
- Materials Testing Lab
- Microbiology Lab
- Microprocessor Programming & Interfacing Lab
- Petroleum Lab
- Physics Lab
- Power Electronics Lab
- Prime Movers and Fluid Machinery Lab
- Process Control Lab
- Production Techniques I & II Labs
- Signal and Simulation Lab
- Software Systems Lab
- Soil Mechanics and Foundation Engineering Lab
- Surveying Lab
- Transportation Engineering Lab
- Workshop

IT INFRASTRUCTURE FACILITIES AND SUPPORT SERVICES

The Campus and the Hostels are covered with the latest Cisco Network Infrastructure of both wired & wireless hotspot environment, which provides the internal and external connectivity to fulfill the computing needs of the students.

We have Cisco sponsored networking research lab equipped with the required network components such as routers, switches, firewall, wireless controllers and access points to build the network from the base level to a high level of networking. This Cisco lab will lead the students to achieve the Cisco certifications & software defined Network projects.

The data centre is equipped with HP rack mounted servers, Dell Blade centre, Dell GPUserver, HP San storage, NAS backup servers and latest Cisco Network components. Dell Blade centre and Dell GPU servers are serving students for their Artificial Intelligence, Deep learning research projects and assignment requirements.

We have Cisco Telepresence system (under BITS Connect 2.0 project) implemented in our campus which is interconnected to all our campuses in India. The Cisco Telepresence classroom capacity of 160 seating helps the students to participate in the online classroom sessions.

Smart print solution is implemented as a part of the E-campus solution project. Microsoft office 365 facilities are provided to all the students for their academic purpose.

The software tools like AUTOCAD, MATLAB, CATIA, SYNOPSYS, ANSYS, SPSS and ASPEN are available along with a variety of compilers and operating systems.

CAMPUS FACILITIES AND SUPPORT SERVICES

EARN WHILE YOU LEARN

We enable students to earn while learning under the Earn-while-you-learn Scheme. The students of second, third and fourth years are given the opportunity to be Professional Assistants for assisting in laboratories and other academic/administrative activities. Professional Assistants help junior students for better understanding of experiments & assist the faculty in conducting experiments. They are paid an honorarium based on the work done along with a certificate. Students are also encouraged to contribute to activities like software development, creation, updation and maintenance of the website, feedback monitoring and so on.

ACADEMIC ADVISING

Academic Advising is available to assist students in understanding & resolving their educational & vocational related issues. It is carried out by faculty members as Academic Advisors to students. The Academic Advisors interact periodically with their Advisees and discuss their performance and progress in the registered academic programme.

The goal is to help students reduce programme related stress & maximize opportunities for academic performance improvements leading to a high quality professional life. Students can also meet their respective course faculty during the prescribed time slot (known as Chamber Consultation Hour) for clarifying doubts or seeking help

HOSTEL FACILITY

Separate hostel facilities are available for boys and girls. The hostel accommodation is mandatory for students who are Non-Residents of U.A.E. and are on Institute Visa. It is suitably equipped to provide a safe and secure living environment. Each hostel has a resident warden and other essential staff. The rooms are single occupancy fully air-conditioned and furnished with a bed, cupboard & study table. Hostels are also Wi-Fi enabled & provided with fully equipped Recreational Rooms, Laundromat, Gymnasium, First-Aid & Sports facilities. Both vegetarian and non-vegetarian food is provided in the hostel mess.

SPORTS AND FITNESS

The institute provides both Indoor & Outdoor sports facilities. An indoor sports complex provides for badminton, table tennis, carrom, chess, foosball, pool table etc. The outdoor sports facilities include tennis, basketball, volleyball, throwball, football, handball and nets for cricket practice along with a turf cricket ground, grass football ground and professional athletics synthetic track. Gymnasium is provided for both Girls & Boys separately

TRANSPORT SERVICES

Transport is provided on a semester basis within Dubai & to and from Sharjah & Ajman. The area and the pickup and drop locations within each emirate are subject to being approved by the transport department based on their feasibility. Hostel students are provided a free shuttle service once a week to the nearest metro station or local mall. Practice school students staying in the hostel are also provided free transport to their respective practice school work station locations.

STUDENT WELL-BEING

A professional counselor is available on campus. Students can approach the counselor for any career related issues or personal problems. Complete confidentiality is maintained about the sessions

HEATH SERVICES & INSURANCE

The Institute provides an ambulatory clinic in the campus with a doctor & nurse available for first aid and emergency care. The students are transported to the hospital in cases of emergency.

It is mandatory for every student to have Medical Insurance valid in UAE. The Institute has made arrangements with a leading insurance company to facilitate Medical Insurance for students. Students already insured must submit proof of valid Medical Insurance applicable in U.A.E.

CAFETERIA & MINI MART

There is a full-fledged cafeteria within the campus for students and faculty to have snacks, meals, soft drinks & beverages. There is a Mini Mart within the premises which sells several items including food & stationery. Vending machines for snacks and hot / cold beverages are provided across the campus at various locations.

STUDENT VISA

It is mandatory for all students to have a valid UAE residence visa for admission. The institute facilitates UAE's student residence visa through Dubai International Academic City (DIAC) as per the rules & regulations of the institute & Government of UAE to the non- residents of UAE and UAE resident students whose parents cannot sponsor their visa.

HOSTEL ROOM

MINIMART

GYMNASIUM

CLINIC

RECREATION HALL

DISCOVER CAMPUS LIFE

CAFETERIA

PLACEMENTS

BITS Pilani, Dubai Campus is committed to providing its graduating students the best career opportunities through the Campus Placement Programme (CPP). Students are provided with adequate career counselling and they are empowered to make sound decisions for their future. Regular training programmes for soft skills, technical skills, and expert talks are organized to make our students more employable. We host numerous placement drives including Career Fairs on-campus and off-campus with numerous local and International companies. We provide all facilities for companies to conduct their pre-placement presentations, interviews and screening tests on campus.

Several Graduates have opted for further studies and have completed or pursuing Masters and Ph.D. from reputed universities across the world. Some of the reputed Universities are:

- Harvard University, U.S.A.
- IIM Calcutta, India
- IIM Bangalore, India
- Illinois Institute of Technology, U.S.A.
- McMaster University, Canada
- MIT Sloan School of Management, U.S.A.
- New Jersey Institute of Technology, U.S.A.
- Rutgers - State University of New Jersey, U.S.A.
- Stanford University, U.S.A.
- Texas A&M University, U.S.A.
- University at Buffalo, New York, U.S.A.
- University of California, U.S.A.
- University of Cambridge, U.K.
- University of Leicester, U.K
- University of Manchester, U.K
- University of Pennsylvania, U.S.A.
- University of Texas, Dallas & Austin, U.S.A.
- University of Toronto, Canada
  and many more...

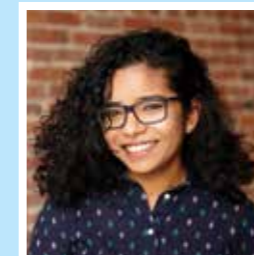## REPUTED COMPANIES HIRING OUR STUDENTS

- ABB, U.A.E.
- Accenture Middle East, U.A.E.
- BAIN & Company, U.A.E.
- Bosch, U.A.E.
- Careem, U.A.E.
- Dell International Services, India
- DNV GL, U.A.E.
- Dubizzle, U.A.E.
- EMERSON, U.A.E.
- Emirates Industrial Gases Co.,U.A.E.
- Emirates Sky Cargo, U.A.E.
- Ernst & Young India
- ESRI, Sharjah, U.A.E.
- ETA MELCO (Mitsubishi), U.A.E.
- Etisalat, U.A.E.
- Fly Dubai, U.A.E.
- Halliburton, K.S.A.
- Honeywell Middle East, U.A.E.
- HSBC, India
- IBM, India
- J Ray Mc Dermott, Middle East, U.A.E.
- Johnson Controls, U.A.E.
- L&T, U.A.E.
- Lucy Switchgear, U.A.E.
- Maersk, U.A.E.
- McKinsey, India
- Microsoft, U.S.A.
- Nestle, U.A.E.
- Oracle, U.S.A.
- Panasonic – Middle East, U.A.E.
- Petrofac International, U.A.E.
- Procter and Gamble Gulf FZE, U.A.E.
- Protiviti, U.A.E.
- PWC, U.A.E.
- Qualcomm, U.A.E.
- Reckitt Benckiser, U.A.E
- Redington Gulf
- RTA Dubai, U.A.E.
- Schindler, U.A.E.
- Schneider Electric , U.A.E.
- Siemens LLC, U.A.E.
- Sony Ericsson, NC, U.S.A.
- Standard Chartered Bank, U.A.E.
- Talabat, U.A.E
- Tanfeeth - Emirates NBD Group Company, U.A.E.
- Tata Consultancy Services, India
- Tetrapak, U.A.E.
- W.S. Atkins, U.A.E.
- Wipro, India
- Worley Parsons, U.A.E.
- Zomato- U.A.E
  and many more...

BITS Pilani
Dubai Campus

ALUMNI NETWORK

The truest worth of the institute can only be gauged by the success of its alumni. On this front, our students have made us proud. They are employed in globally reputed companies and many are also successful entrepreneurs. Several alumni are also pursuing higher studies in reputed universities around the world. Our vast alumni network is actively engaged with the institute and with the students, motivating them to perform and excel at whatever they do. The institute provides an e-mail address to each alumnus that remains active life-long to engage and stay connected with each other. All our alumni are also connected with each other through the Alma Connect Platform offered by this Institute.

Prashant Vaidyanathan
B.E. Electrical & Electronics Engineering
Researcher
Microsoft , Cambridge, UK

Sweekriti Satpathy
B.E. Computer Science
Software Engineer
Microsoft , San Francisco, U.S.A.

Abaan Ahamad Althaf
B.E. in Electrical & Electronics Engineering
Process Excellence Engineer
NOON Dubai, U.A.E.

Mustafa Sayed
B.E. Mechanical Engineering
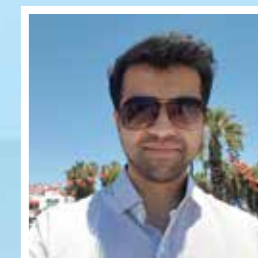Design & Estimation Engineer
Siemens, Dubai, U.A.E.

Akanksha Parikh
B.E. Biotechnology
Sales Manager,
Zomato Dubai, U.A.E.

Ankit Patel
B.E. Electrical & Electronics Engineering
Manager SI & S Business
Apple Inc. CA, U.S.A.

Shraddha shetty
B.E. Electronics & Communication
Functional Consultant ,
PWC, U.A.E.

Shreyas Patwardhan
B.E. Chemical Engineering
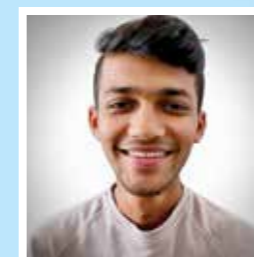R&D Operations Associate
Reckitt Benckiser, U.A.E.

Rishika Bansal
B.E. Computer Science
Junior Capabilities & Insights
Analytics Analyst
McKinsey & Company, India

Kunal Sethi
B.E. Computer Science
Senior Software Engineer
PwC, Middle East

Gayathri Ganesh
B.E. Biotechnology
Ph.D. Programme
State university of New York
Suny, Upstate, U.S.A.

Dhanesh Deoda
B.E. Mechanical Engineering
Joint Manager - Procurement
Dabur International, Dubai, U.A.E.

ADMISSIONS FOR B.E. PROGRAMMES

FIRST DEGREE PROGRAMMES

Admission to BITS Pilani, Dubai Campus (BPDC) is based entirely on the candidate's merit, facilities available and availability of seats in the discipline preferred

APPLICATION PROCEDURE

The Application form is available on www.bits-pilani.ac.in/dubai

Under the admissions link, click on 'Apply Online' to access the Application form.

All Applications will be accepted online.

Read Admission Bulletin 2022- 23 carefully for detailed instructions on the application procedure, list of documents to be uploaded with the application form and application fee amount with payment instructions.

ELIGIBILITY CRITERIA

1. For admission to any of the first degree programmes, candidates must have passed the requisite qualifying examination, such as the General Secondary Education Certificate Examination of Ministry of Education, U.A.E.; Senior School Certificate Examination of the Central Board of Secondary Education (CBSE- 12th grade), New Delhi, India; IB Board; Advanced Levels from Cambridge International examinations / Edexcel / Pearson or its equivalent from any recognized State National or International board with Physics, Chemistry and Mathematics.

2. The candidates must have obtained a minimum 60% overall aggregate of marks in the qualifying examination and must have a minimum aggregate of 60% in Physics, Chemistry & Mathematics subjects with atleast 50% marks in each subject.

However, for admission to B.E. Biotechnology, Candidates with Physics, Chemistry & Biology will also be accepted with a minimum aggregate of 60% in Physics, Chemistry & Biology subjects with at least 50% marks in each subject. If instead of marks any letter grades or GPA are awarded (or any other system of evaluation), their equivalences in marks will be decided by the Admissions Committee.

If a Candidate has secured less than 50% marks in any one of these subjects - Physics, Chemistry, Mathematics / Biology but has passed in the subjects and meets the aggregate criteria mentioned above, he/she may be considered for provisional admission. The admission will be confirmed only upon the successful completion of a foundation course in that subject with a minimum grade of 'C', offered by the institute preferably before the commencement of the first semester.

3. English is the medium of instruction and a good proficiency in English is essential for admission. Hence, candidates who have completed their qualifying examination from a Non-English medium school must have a TOEFL Score of 500 in paper based test or 61 in internet based test or have an IELTS Score of 5. If required, they may also be assessed by the Admission Committee for English Comprehension.

ADMISSION WITH ADVANCED STANDING

Candidates seeking admission to any First Degree programme of BITS Pilani, Dubai Campus with a preparation higher than the minimum entrance qualification (12th Grade) will be considered for admission at some intermediate stage in a programme under the provisions "Admission with Advanced Standing", wherein candidate will be given credit for the courses cleared at the previous University with good academic performance matching with the course requirements of the programme, to which the candidate seeks admission. Here the guiding principle is two-fold: The courses the candidate has already done before entering the institute cannot be repeated and also that the time spent elsewhere is not wasted.

ELIGIBILITY CRITERIA FOR ADMISSION WITH ADVANCED STANDING

In order to be considered for Admission with Advanced Standing, a candidate is required to meet the below criteria.

1. Satisfy the basic eligibility criteria mentioned under Section 2 of the Admission Bulletin 2022-23.

2. The academic programme pursued after Grade 12 must be in a recognized & accredited University.

3. Must have completed a minimum of 30 credit hours or 10 courses at university level.

4. The latest/last semester studied at the university, the minimum overall aggregate must be 70% or a CGPA of 7 on a 10 scale.

Admission will be offered in one of the programmes offered from the campus, clearly indicating the courses which are exempted and expected normal time the student will take to complete the degree. Courses with a performance of 60% or above (or equivalent Grade) will only be considered for evaluation. The exemption for a course will be based on an individual evaluation of course studied to determine whether the course is equivalent to the corresponding course offered by BITS Pilani. A candidate can get a transfer of a maximum of 70 credit hours only. The discipline allotment will be done based on the student's latest performance, Grade 12 Percentage and availability of seats in the discipline of student's preference.

FLEXIBILITIES IN FIRST DEGREE PROGRAMME

DUAL DEGREE

One of the most popular flexibilities provided in the BITS Pilani's educational structure is the Dual Degree Scheme. Under this scheme, it is possible for a student to work for & complete two Degrees within a reasonable period of time. All the admitted students are given an opportunity to take up a Dual Degree. This assignment is made by competition based on the performance of the student in the first year of the programme. In such a case, the student will take a minimum of one additional year and pay an additional Admission/Tuition fee to complete both the degree programmes and receive the Degree in respective disciplines. For example: A Student who has been allotted Chemical Engineering or any other discipline can choose to take Computer Science or any other discipline as his/her Dual Degree

TRANSFER

It is possible for a student to seek transfer from one programme to another in the end of first year without starting from the beginning. This is possible because he/she is given credit for what he/she has done till then towards the requirements of the programme to which he/she seeks the transfer.

Since admission to a programme is done on assigned and competitive basis, there cannot be any scope of undoing the fact of an assigned admission through transfer.

Thus only exceptionally meritorious students in a limited number of cases can expect to compete for transfer to a more sought-after programme. On the other hand, transfer to a less sought-after programme for a student who is unable to cope with the rigours of the programme in which he/she has been admitted would be readily used to rehabilitate him/her without much loss of time. In any event, transfer must be treated as an admission process.

BITS Pilani
Dubai Campus

ADMISSION IN BOTH SEMESTERS

The structural flexibilities available in the Institute make it possible to admit students in both the semesters. The few admissions made for the second semester (January) are essentially to get the most outstanding students who could not apply in time for the first semester admissions. The second semester admissions of the students are merged with the students admitted in the first semester. They may be doing courses with the students admitted in the same academic year or in the next semester (academic year). The total normal duration of programme will be 4 years (Eight semesters). These students also get the option of Practice School. The Admission Notification for second semester admissions is issued in October every year.

CASUAL STUDENTS

Candidates other than regular students of BITS Pilani who desire to register for some courses to update their knowledge are designated as casual students. Casual students can register for courses on audit only and cannot enrol for a degree. The facility of taking a course on audit is principally conceived to give an opportunity to a candidate to update his/her knowledge Such a course will not be accepted for the fulfillment of requirements of any program, current or future in BITS Pilani.

MINOR PROGRAMMES

The students can also opt for a minor in addition to the main degree programme that they are enrolled in, at the end of first year. A minor would allow a student to fulfill his/her aspiration in an area other than his/her major discipline by using the open elective slots within the normal duration of the programme. The following minors are currently offered and are subject to change:

•Data Science •Aeronautics • Robotics and Automation •Finance •Entrepreneurship •Materials Science and Engineering • Philosophy, Economics and Politics

FEE STRUCTURE

FEE STRUCTURE FOR ACADEMIC YEAR 2022-23
FIRST DEGREE (B.E. PROGRAMMES)
The normal duration of the programme is 4 years (8 Semesters)
First Semester: September - January & Second Semester: February - June

PARTICULARS	AMOUNT
A. One-time Fee (payable at the time of Admission)	
Application Fee**	AED. 220
Admission Fee*	AED. 1,800
Activity Fee*	AED. 1,200
Caution Deposit$	AED. 5,000
B. Tuition Fees	
Tuition Fee*	AED. 24,200 per semester
(payable in 2 installments)	
Practice School I (PS I) Fees*	AED. 5,750
(One-time fee payable after second year for the summer term)*	
C. Visa and Insurance Fee (For students availing Visa/Insurance)	
Visa Fee (For Students on Visa provided by the institute)	
Fresh Visa Fee**	AED. 2,900
Visa Renewal Fee**	AED. 2,150 per annum
Medical Insurance Fee*	AED. 2,000 per annum
(Current prevailing Visa & Insurance Fee, subject to change)	
D. Hostel Fee (For students availing Hostel)	
Hostel Fee***	AED. 15,000 per semester
Facility Fee*	AED. 750 per annum
Summer Term (if availing) ***	AED. 5,200 per term
Hostel Caution Deposit$	AED. 2,000
Laundry charges and Service charge for using refrigerator in room are additional	
E. Transport Fee (For Day Scholars availing Institute Transport)**	
For Dubai	AED. 2,000 per semester
For Sharjah & Ajman	AED. 2,300 per semester
(Current prevailing Transport Fee, subject to change)	

Note: A fee of AED 4000 per course plus VAT is applicable for casual students registering for any course on audit only during any semester apart from a one-time admission fee.
* VAT of 5% is applicable on this fee;   **VAT of 5% is included in this fee; ***VAT of 5% will be charged on the food cost of this fee.
$ Refundable on graduation or on leaving the institute, after due adjustment for damages, breakages caused by the student, if any.
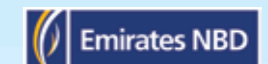
FINANCIAL ASSISTANCE

BITS Pilani, Dubai has an arrangement with SBI, ICICI, a HDFC Credila, Axis Bank in India and Emirates NBD in UAE for providing student loans to all the students seeking admission at Dubai Campus.

You may avail this student loan which covers the entire cost of your education and most of the living expenses based on your eligibility, with competitive interest rates. There is also an option for repayment after you graduate from the Institute in some Indian banks.

Additional Advantages:

1. Attractive Tax benefits (Banks in India)
2. Easy, Convenient & Flexible
3. Cost of education + Living expenses taken care of
4. Repayment period of 10-15 years

0% INTEREST FREE INSTALLMENT PLAN FOR FEE PAYMENT BY Emirates NBD

IMPORTANT DATES

IMPORTANT DATES FOR FIRST DEGREE ADMISSION 2022-23

EVENT	FIRST SEMESTER	SECOND SEMESTER
Last date for receipt of Applications	4 July 2022	15 Dec 2022
Issue of admission offer letters	6 July 2022	16 Dec 2022
Reporting for Admission	29 Aug 2022	1 Feb 2023
Orientation	29-31 Aug 2022	1 Feb 2023
Registration	1 Sept 2022	2 Feb 2023
Class Commencement	5 Sept 2022	6 Feb 2023

Applications received after the last date will be considered as 'Late Applications' and will be accepted for admissions, subject to merit and availability of seats.

SCHOLARSHIPS & CONCESSION

MERIT SCHOLARSHIPS

1.1 Board Toppers

Candidates who have secured the top position in 12th standard in their respective boards (General Secondary Education Certificate Examination of Ministry of Education, UAE or CBSE-India or any other State, National, or International Board) are given a merit scholarship of 50% of the first-year tuition fee. The minimum overall aggregate of the candidate must be a minimum of 90% or equivalent in the qualifying exam to avail of the scholarship.

1.2 Excellence in the Qualifying Examination

a) Tuition Fee Scholarship

i. Candidates who have obtained 95% or above in the aggregate of the Qualifying Examination are given a merit scholarship of 40% of the first-year tuition fee.

ii. Candidates who have obtained 90% or above but less than 95% in the aggregate of the Qualifying Examination are given a merit scholarship of 25% of the first-year tuition fee.

iii. Candidates who have obtained 80% or above but less than 90% in the aggregate of the Qualifying Examination are given a merit scholarship of 15% of the first-year tuition fee.

iv. Candidates who have obtained 70% or above but less than 80% in the aggregate of the Qualifying Examination are given a merit scholarship of 10% of the first-year tuition fee.

b) Hostel Fee Concession

Admitted candidates who have obtained 70% or above in the aggregate of the Qualifying Examination will be offered a 25% concession in the Hostel fee for the normal duration of the programme (4 years)

1.3 Merit in BITSAT
(BITS Online Admission Test)

a) Tuition Fee Scholarship

Admitted candidates with a BITSAT 2022 (or BITSAT 2021) score of 200 or above will be eligible for the following merit scholarship for the first year of Academic Year 2022-23, depending on the score secured in BITSAT.

Sl.No	BITSAT Score	Scholarship
1	> 300	75% of Tuition Fee*
2	250 to 299	50% of Tuition Fee*
3	200 to 249	25% of Tuition Fee

This scholarship is applicable for the first year only of the Academic year 2022 - 23 and subsequently, the students will be eligible for the merit scholarship of the institute as mentioned under 1.4 below

*Students availing this scholarship will not be eligible for any other Scholarship/ Concession in the first year.

b) Hostel Fee Concession

Admitted candidates with a BITSAT 2022 (or BITSAT 2021) score of 150 or higher will receive a 25% discount on the Hostel fee for the duration of the program (four years).

1.4 Merit Scholarship for continuing Students

Students with a CGPA of 9.00 or above on a 10.00 scale at the end of a previous semester will be given a merit scholarship of 20% of tuition fee for the current semester for the normal duration of the program.

FEE CONCESSIONS

2.1 For GCC/Arab Nationals

Meritorious GCC / Arab Nationals may be offered a concession of up to 75% on the tuition fee for the normal duration (8 Semesters) of the program based on their performance in the qualifying examination (Grade 12 or equivalent) at the entry level and continuity of a minimum CGPA of 6.00 on a 10.00 scale for subsequent semesters during the programme. These concessions will be restricted to a specific number of students under each of the above-mentioned categories.

2.2 For sudden bereavement of earning member of the family

The Institute helps such students by waiving off 100% tuition fee for a semester for those students who face financial hardships due to the sudden and untimely demise of the sole earning member of their family in that semester. A concession of up to 75% can be offered in the subsequent semesters, on a case-to-case basis, depending on means and need and the overall performance/discipline of the student.

2.3 For Physically challenged candidates

All physically challenged candidates satisfying the conditions laid out are given a 15% concession on the tuition fee throughout the program subject to satisfactory academic performance in each semester.

2.4 For Sibling

For families that have more than one child enrolled concurrently, a concession of 25% on the tuition fee is offered to the second child until the first child graduates.

Please Note:
• All students must pay their specified fee at the time of Admission and any amount awarded as scholarship will be adjusted in the subsequent fee payment.

• At any given time, a student can avail more than one scholarship / concession unless otherwise mentioned, provided the total scholarship/concession amount does not exceed more than 50% of the tuition fee amount of that semester including all or any scholarship/concession availed by the student.

• A student can avail hostel fee concession under one category only.

• The decision of the institute shall be final and cannot be contested on all matters of scholarships and concessions at BITS Pilani, Dubai Campus. The institute has the right to discontinue the scholarship/concession at any time in case the student is found guilty in any disciplinary case.

• While Scholarship based on "Merit in Qualifying Examination" will be given automatically based on the Grade 12 / B.E. marks of the student, application for scholarship under all other categories must be submitted within one month from the date of registration to the Admissions Office. Any application received after one month will not be considered.

INNOVATION & ENTREPRENEURSHIP

BITS Pilani, Dubai has taken a leap forward to encourage innovation & entrepreneurship skills among students by taking the following Initiatives

INITIATIVES BY BITS PILANI, DUBAI

• Incubation Centre – Powered by Dubai SME

• 24X7 Creative Lab

• Minor programme offered in Entrepreneurship with courses such as Entrepreneurship, New Venture Creation, Business Management and more

• Seed funding support through Alumni and Dubai SME

• Meeting and interactions with experts and investors

• Mentor allocation to all start-ups through alumni & Dubai SME

• Encouraging students participation in various events, pitching sessions and B-Plan competitions

MORE THAN 45 START-UPS INITIATED IN LAST 5 YEARS BY STUDENTS AND ALUMNI

Presenting at Innovation Hub

27x7 Creative Lab

Incubation Centre

Innovation Hub at Expo2020

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Dubai Campus