PROSPECTUS
2015-16

BITS Pilani
Dubai Campus

innovate achieve lead


Welcome to
BITS,Pilani-Dubai Campus

BITS Pilani
Dubai Campus

contents

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. Kumara Mangalam Birla
Chancellor, BITS,Pilani

Our model of education is to produce engineers who will find innovative solutions to problems for which solutions available today are less than acceptable or to those problems that are yet to be identified.

Dr. B.N. Jain
Vice Chancellor, BITS,Pilani

Birla Institute of Technology and Science at Pilani (BITS, Pilani) is the top private technological Institution in India declared as a deemed to be university since 1964 . The great visionary late Mr. G.D. Birla was its Founder Chairman. BITS Pilani is located at Pilani in the state of Rajasthan and offers degree at all levels in Engineering, Sciences, Management and Pharmacy.

Late Dr. K.K. Birla, who took over as the Chairman in 1983, realized the need for providing top class higher education facility to greater number of promising students in science and technology, and under his patronage, BITS 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.

In 2000, BITS Pilani became the first Indian Higher Education Institution to set up a campus abroad, at Dubai, with the permission of University Grants Commission (UGC) and Ministry of HRD, Government of India.

BITS Pilani is ranked No.1 among the private engineering institutions in India in several media rankings such as the The Week (dated 22 June 2014), Outlook (dated 7 July 2014), Higher Education Review (dated Dec 2014). and is consistently ranked among the top seven technical universities of India by the India Today- Nielson Survey. It is also ranked among the Top 100 Universities in the QS University rankings- BRICS 2014 and ranked among the Top 250 Universities in the QS University rankings- Asia 2014. BITS Pilani had been accredited by the National Assessment and Accreditation Council (NAAC), in 2009 and had been awarded the coveted 'A' Grade with a CGPA of 3.71 on 4 Scale.

Birla Institute of Technology and Science, Pilani has also received the prestigious "Excellence in ICT integration" award by Federation of Indian Chamber of Commerce and Industry (FICCI) during the first "FICCI Higher Education Awards 2014".

Under the leadership of Dr. Kumar Mangalam Birla, who was elected as Chancellor in 2008 and Dr. B.N. Jain, Vice Chancellor, the institute has embarked on a journey to become one of the leading universities in the world by the year 2020 through a new strategic plan entitled "Vision 2020."




Message from the Director

Welcome to Dubai Campus of Birla Institute of Technology and Science, Pilani (BITS Pilani), Rajasthan, India. Established in 2000, with the approval of UGC and Ministry of HRD, Government of India, BITS Pilani, Dubai Campus (BPDC) situated at Dubai International Academic City, Dubai, UAE has grown into an integrated International Campus offering three tier education- first degree, higher degree and doctoral programmes. It has the distinction of being the first offshore campus of any Indian Higher Education Institution. It gives the opportunity to study at a BITS Pilani campus and acquire qualifications and knowledge recognized worldwide with international exposure.

The Dubai Campus carries forward the Charter of the brand "BITS Pilani" and is committed to the highest standards of academic excellence. It provides latest technology and learning tools such as telepresence system classrooms, campus wide Wi-Fi network, modern laboratories and a conducive environment to the students to become top technocrats, professionals, entrepreneurs, leaders or researchers and responsible global citizens.

The unique broad based education system with various flexibilities including dual degree and options like Electives, Practice School Programme etc. gives BITS Pilani a distinct character. In the Practice School Programme, students are exposed to the professional work environment and get the hands on experience in solving real life problems.

The academic flexibilities are complemented by a host of opportunities to participate in and contribute to a variety of co-curricular, extra-curricular and professional activities. We lay emphasis on well-rounded personality development of the students and also in inculcating the values, creativity, leadership, teamwork and integrity. We strive to develop each BITSian to work with all vigor and values for the betterment of humanity, to be better persons and leaders of tomorrow. The graduates from BITS Pilani, Dubai Campus are very successful and have done exceptionally well in all spheres of life.

The graduates from BITS Pilani, Dubai Campus have done exceptionally well in all spheres of life and earned name and fame for themselves and made their Alma Mater proud.

The strong networks of the BITS Pilani alumni holding leading positions in industry and academia all over the globe, are a testimony to the BITS Pilani's focus of nurturing individuals in the pursuit of excellence. This worldwide alumni network also provides immense support to the Institute and offers extensive help to its students.

Choosing a university for higher education is one of the most significant decisions to shape your career and life. You will find in this booklet all the essential information on BITS Pilani, Dubai Campus, the programmes offered, admission procedures and other information.

I invite you to visit our website to learn more.

Prof.R.N.Saha
Director & Shri B.K.Birla & Smt Sarala Birla Chair Professor

BITS Pilani, Dubai Campus

innovate achieve lead

BITS Pilani Dubai Campus (BPDC) is the branch campus of the internationally reputed Birla Institute of Technology and Science (BITS), Pilani-India and the largest Engineering institution in Dubai International Academic City. Set-up in the year 2000, we offer quality engineering education to the residents of UAE, Gulf, India and other Countries. The campus is licensed by Knowledge & Human Development Authority (KHDA), Government of Dubai.

BITS Pilani, Dubai Campus carries forward the Charter of the brand BITS Pilani and is committed to the highest standards of academic excellence with continuous innovation in curriculum and pedagogy, pervasive industry engagement through practice school and an enriched campus life. We have 1700 students admitted from over 20 countries world-wide. 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.

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 attempt to teach them how to apply that knowledge to real situations. In the Practice School Programme students are exposed to the work environment and get the hands on experience in solving real life problems during their educational years. 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 exceptionaly well in all spheres of life. They are occupying leading positions in diverse fields across the world. They have been recruited by more than 1000 prestigious companies around the world and several have completed or pursuing Masters and PhD programmes from more than 75 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.

We also offer exhaustive opportunities to students to participate in and contribute to a variety of co-curricular and extra-curricular activities. We lay emphasis on well-rounded personality development and the several laurels our students have won at the various national and international events are a testimony to this.

Why BITS Pilani, Dubai Campus

01 World class curriculum and faculty

Our curriculum is constantly updated to reflect the latest in technology and research.Most of our faculty members are Ph.Ds from reputed universities and have vast experience.

02 Stellar Ratings

BITS Pilani is consistently ranked No.1 among the private engineering institutions in many surveys of educational institutes conducted in India.It is also ranked among the top 100 universities in the QS University rankings-BRICS 2014 and among the top 250 in QS University rankings-Asia 2014.

03 Licensure & Accreditation

We had been awarded the highest grade 'A' by NAAC and the Dubai Campus is licensed by the Knowledge and Human Development Authority (KHDA), Government of Dubai.

04 Industry Internship

The Practice School(PS) programme ensures that students spend over 7 months working in industry even before graduation. The PS gives students the vital experience needed to adapt quickly to careers in industry.

05 Placement Assistance

We organize Campus Placement Programme every year for our graduates. The Dubai Campus is a preferred recruitment ground for most corporates in Middle East and India including MNCs and large conglomerates.

06 State-of-the-art infrastructure

The vibrant campus offers high-tech laboratories of international standards, well sourced library, modern classrooms, excellent hostel and sports facilities.

07 All-Round Development

We believe wholeheartedly 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 presentation and open ended learning components. Extracurricular activities, student managed clubs and events give them further avenues to express themselves and develop skills beyond academics.

08 Successful Alumni

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

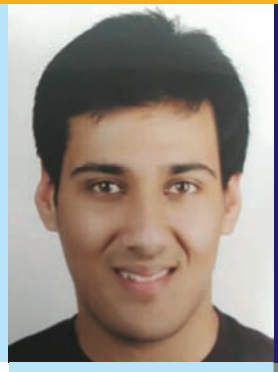
09 International Exposure

Dubai, an international business and 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 and offers the best healthcare, shopping, sport and entertainment and leisure opportunities in the world.

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 over 1000 globally reputed companies and many are also successful entrepreneurs. Several alumni are also pursuing higher studies in over 75 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.

Rohit Ratnaparkhi
Class of 2012
Engineer
L&T Electrical & Automation
Korea

Madhumitha Balasubramani
Class of 2012
M Sc. Forensic Science
Kings College London.



Rohan Maloo
Class of 2014
Graduate Engineer
Petrofac International
Sharjah, U A E.

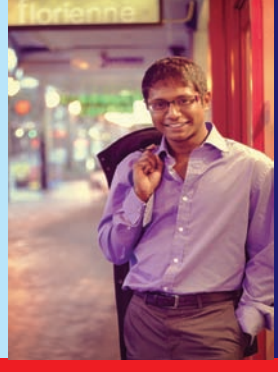
Sahana Vemuri
Class of 2013
Systems Engineer
Johnson Controls Inc.
Dubai, U A E.

Fahad Mohamed
Class of 2006
Facilties Manager
Deyaar Development P.J.S.C
U A.E.

Jyotika Singh
Class of 2014
M S. Electrical Engineering
University of California
LA, USA

Ankit Patel
Class of 2007
Manager - IS&S Business Operations
Apple Inc.,
CA, USA

Arya Mohandas
Class of 2012
Software Support Executive
Neosys
U A.E.



Annamalai Alagappan
Class of 2008
Controls and Planning Manager
Visionstream
Auckland, New Zealand

Alumni Network


“
The Programmes incorporate up-to-date techniques
of analysis and synthesis in the respective discipline

Programmes Offered

innovate achieve lead

First Degree Programmes

-B.E. (Hons.) Chemical Engineering

-B.E. (Hons.) Electrical & Electronics Engineering

-B.E. (Hons.) Mechanical Engineering

-B.E. (Hons.) Computer Science

-B.E. (Hons.) Electronics & Instrumentation Engineering

-B.E. (Hons.) Biotechnology

-B.E. (Hons.) Electronics & Communication Engineering

Higher Degree Programmes

M.E. Programmes

-M.E. Design Engineering

-M.E. Biotechnology

-M.E. Microelectronics

-M.E. Software Systems

Master of Business Administration (M.B.A.)

Doctoral Programme

-Doctor of Philosophy (Ph.D.)

Educational Process - First Degree Programmes

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 preceeds and what comes after. Attempt is 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 and the students with the Practice school option get a 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.(Hons.) 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 eight semesters.

The Structure and the requirements of the First Degree Programmes.

1. The category-wise structure of each programme:

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. Courses under General Institutional Requirement:

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

b) Mathematics I, II and III under Mathematics Foundation.

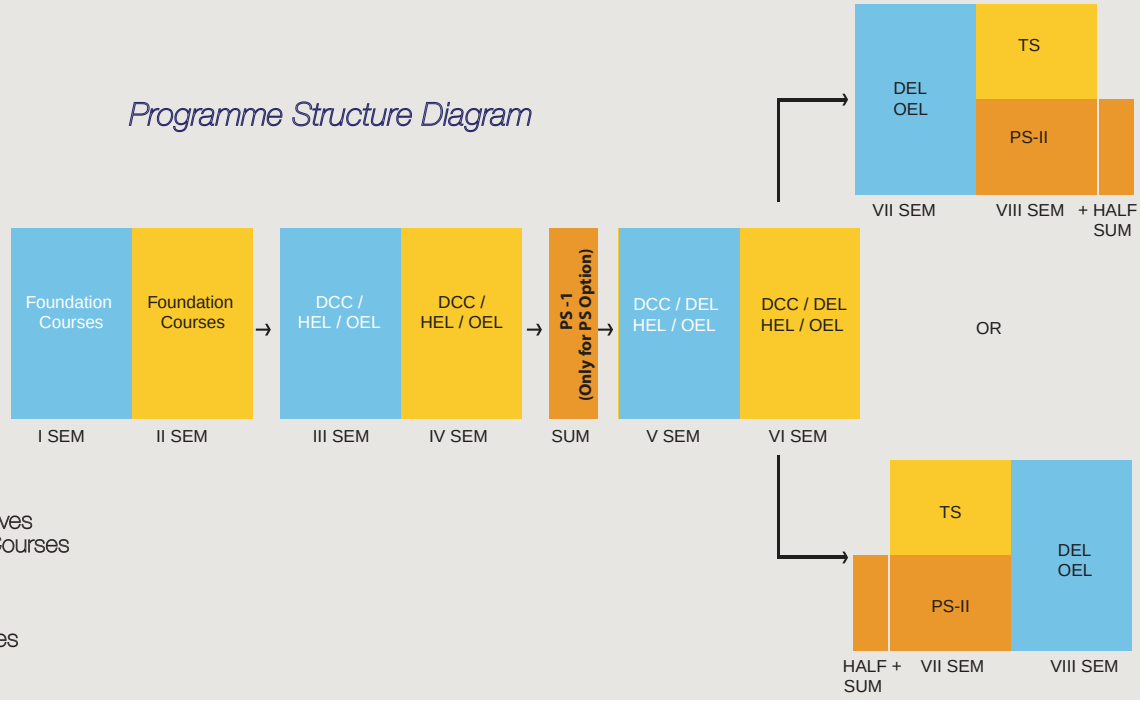
c) Electrical Sciences and Thermodynamics under the head of Engineering Foundation.

d) Computer Programming, Workshop Practice, Engineering Graphics, and Technical Report Writing under the head of Technical Arts.

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

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

Programme Structure Diagram



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

Department of Chemical Engineering

Overview

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 undoubtly the most versatile of Engineering disciplines. Through a judicious mix of mandatory and elective courses, the students at Dubai campus gain expertise in various areas of chemical engineering such as petroleum and petrochemicals, electro- chemicals, paper, cement, ceramics and glass, polymers and plastics, food processing and products, paints and dyes, textiles and synthetics fibers, etc. Also, students are enabled to enter interdisciplinary areas like Surface Science, Corrosion Engineering, Combustion Engineering, Polymers, Nano-technology and Environment Engineering.

Programmes Offered

First Degree Programme

B.E. (Hons.) Chemical Engineering

Doctoral Programme

Doctor of Philosophy (Ph.D.)

For Programme details and research areas, refer page no.29

Semester-wise Pattern for B.E. (Hons.) Chemical Engineering*		
Year	First Semester	Second Semester
I	Biology Laboratory General Biology Chemistry Laboratory General Chemistry Mathematics 1 Physics Laboratory Mechanics, Oscillations and Waves Engineering Graphics	Mathematics II Workshop Practice Computer Programming Electrical Sciences Technical Report Writing Probability and Statistics Thermodynamics
II	Mathematics III *Humanities Electives* Fluid Mechanics Chemical Process Calculations Engineering Chemistry Chemical Engineering Thermodynamics	Principles of Economics or Principles of Management *Humanities Electives* Heat Transfer Numerical Methods for Chemical Engineers Material Science & Engineering Separation Processes I
III	*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 Principle II *Discipline Electives*
IV	*Open Electives* *Discipline Electives*	Practice School-II OR Thesis or Thesis (9) and Electives (6 to 9)

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

List of some Discipline Elective Courses:

Transport Phenomena
Corrosion Engineering
Chemical Process Technology
Process Plant Safety
Bio-chemical Engineering
Environmental Pollution Control
Process Equipment Design
Advanced Process Control
Molecular and Statistical Thermodynamics
Process Plant Design Project I & II
Modelling and Simulation in Chemical Engg
Fluidization Engineering
Petroleum Refining and Petrochemicals
Environmental Management Systems
Polymer Technology
Nuclear Engineering
Energy Conservation and Management
Introduction to Nanoscience & Technology
Paper and Pulp Technology
Alternate Energy Resources
Petroleum Reservoir Engineering
Petroleum Refinery Engineering
Petroleum Downstream Processing

Discipline Core Courses - 45 Units (15 Courses)
Discipline Electives - 12 Units (5 Courses)
Humanities Electives - 8 Units (3 Courses)

Career Options

Our graduates in Chemical Engineering are employed as Chemical Engineers, Process Engineers, Plant Engineers, Managers and Executives in reputed companies, such as Gulf Petrochem-UAE, Emirates Industrial Gas-UAE, Ducab-UAE, Petrofac-UAE, Perfect Polymers-UAE, Caspian Chemicals-UAE, Waterbird Water Treatment-UAE, Cera Decor-UAE, Fernas-India, Lipotech Engineering-Malaysia.

Several graduates are pursuing higher studies in Chemical Engineering, Process Engineering, Petroleum Engineering, Management, Environment Engineering, Materials Engineering etc. at various globally reputed Institutions.

Department of Electrical & Electronics Engineering

Overview

Electrical & Electronics Engineering is a broad field that encompasses many sub-fields including those that deal with electrical power generation and transmission, automatic control system, electronics and telecommunication. Electrical & Electronics Engineers apply the theories of electricity, electronics and electromagnetics to design, develop and operate these systems.

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

Electronics & Instrumentation Engineering is the engineering specialization focused on the development and implementation of electrical and electronic instruments for the purpose of measuring, monitoring and recording physical phenomena. Among many other types of instruments, instrumentation engineers develop seismic sensors, blood glucose sensors, Fire detectors and a host of sensors for many applications. Major users of these instruments include industries that rely on automated processes such as Chemical, Petroleum and Manufacturing plants.

Programmes Offered

First Degree Programmes

B.E. (Hons.) Electrical and Electronics Engineering (EEE)
B.E. (Hons.) Electronics and Communication Engineering (ECE)
B.E. (Hons.) Electronics and Instrumentation Engineering (EIE)

Higher Degree Programme

M.E. Microelectronics
(For programme details & course structure, refer page no.25)

Doctoral Programme

Doctor of Philosophy (Ph.D.)
(For programme details and research areas, refer page no. 29)

Semester-wise Pattern for B.E.(Hons.) EEE, ECE & EIE		
Year	First Semester	Second Semester
I	Biology Laboratory General Biology Chemistry Laboratory General Chemistry Mathematics 1 Physics Laboratory Mechanics, Oscillations and Waves Engineering Graphics	Mathematics II Workshop Practice Computer Programming Electrical Sciences Technical Report Writing Probability and Statistics Thermodynamics
II	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(EIE only)
III	*Open/Humanities Electives* Communication Systems (EEE & ECE) Analog & Digital VLSI Design (EEE & EIE) Electromagnetic Fields & Microwave Engineering (ECE) Digital Signal Processing (ECE) Electronics Instruments & Instrumentation Technology (EIE) Transducers & Measurement Systems (EIE) *Discipline Electives*	*Open/Humanities Electives* Analog Electronics(EEE,ECE & EIE) Power Electronics (EEE & EIE) Power Systems (EEE) Communication Networks (ECE) Information Theory & Coding (ECE) Industrial Instrumentation & Control (EIE) *Discipline Electives*
IV	*Open Electives* *Discipline Electives*	Practice School-II OR Thesis or Thesis (9) and Electives (6 to 9)

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

List of some Discipline Elective Courses:

Medical Instrumentation
Introduction To MEMS
Satellite Communication
Mobile Telecommunication Networks
Power Apparatus & Networks
Telecommunication Switching Systems & Networks
Electromagnetic Fields & Waves
Modern Control Systems
Data Communication Networks
Computer Architecture
Object Oriented Programming
Operating Systems
Digital Signal Processing
Digital Image Processing
Advanced Process Control
Digital Control
Virtual Instrumentation
Design of Instrumentation Systems
Instrumentation for Petrochemical Industry
Modern Communication Technologies
Electric Power Utilization and Illumination
Cryptography

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

Career Options

Our graduates are employed as Electrical Engineers, Project Engineers, Design Engineers, Instrumentation Engineers, Sales and Service Engineers with reputed companies such as Apple-USA, Siemens-UAE, L & T-UAE and Korea, McDermott-UAE, Bharat Petroleum-India, Det Norske Veritas-Singapore, Honeywell-UAE, Halliburton-KSA, DU Telecom-UAE, Petrofac International-UAE, Unilever-UAE, Johnson Controls-UAE, ABB-UAE etc.

Several graduates have opted for higher education in Electrical Engineering, Aeronautics, Astronautics, Communications, Digital Signal Processing, Wireless Communications, Biomedical Engineering, Computer Control and Automation, Systems Engineering, Business Management etc. with globally reputed universities.

Department of Mechanical Engineering

Overview

The Mechanical Engineering Department educates the Engineers of tomorrow by integrating Class room theory and practical hands-on projects. If 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 CAD, Energy Conversion and Energy Management, HVAC, Materials, Design, Mechatronics, Robotics and Automation. Training is provided in Softwares such as AUTOCAD, CATIA, ANSYS, MSC ADAMS and AUTOMATION STUDIO.

Opportunities are available to the students to serve as the members of professional bodies such as ASME, SAE and ASHRAE.

Programmes Offered

First Degree Programme

B.E. (Hons.) Mechanical Engineering

Higher Degree Programme

M.E. Design Engineering

(For programme details & course structure, refer page no.24)

Doctoral Programme

Doctor of Philosophy (Ph.D.)

(For programme details and research areas, refer page no. 29)

Semester-wise Pattern for B.E. (Hons.) Mechanical Engineering*		
Year	First Semester	Second Semester
I	Biology Laboratory General Biology Chemistry Laboratory General Chemistry Mathematics 1 Physics Laboratory Mechanics, Oscillations and Waves Engineering Graphics	Mathematics II Workshop Practice Computer Programming Electrical Sciences Technical Report Writing Probability and Statistics Thermodynamics
II	Mathematics III *Humanities Electives* Material Science & Engineering Mechanics of Solids Applied Thermodynamics Mechanical Engineering Laboratory Fluid Mechanics	Principles of Economics or Principles of Management *Humanities Electives* Machine Design & Drawing IC Engines Production Techniques I Kinematics & Dynamics of Machinery
III	*Open/Humanities Electives* Heat Transfer Advanced Mechanics of Solids Production Techniques II *Discipline Electives*	*Open/Humanities Electives* Prime Movers & Fluid Machines Mechanical Vibrations Computer Aided Design Engineering Optimization *Discipline Electives*
IV	*Open Electives* *Discipline Electives*	Practice School-II OR Thesis or Thesis (9) and Electives (6 to 9)

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

List of some Discipline Elective Courses:

Fluid Power Systems
Nonlinear Vibrations
Total Product Integration Engineering
Gas Dynamics
Reverse Engineering and Rapid Prototyping
Advanced Metal Forming
Rocket and Spacecraft Propulsion
Power Plant Engineering
Computer Aided manufacturing
Automotive Vehicles
Quality Control, Assurance and Reliability
Mechanical Equipment Design
Composite Materials & Design
Refrigeration and Air conditioning
Precision Engineering
Introduction to MEMS
Combustion
Wind Energy
Automotive Technology
Solar Thermal Process Engineering
Numerical Techniques for Fluid Flow and Heat Transfer

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

Career Options

Our graduates in Mechanical Engineering are employed as Design Engineers, Production Engineers, Project Engineers, Quality Control Engineers, Estimation Engineers and Sales Engineers and Consultants in reputed companies such as, Baker Hughes-UAE, Thyssen Krupp Elevators-UAE, L &T-UAE, Petrofac-UAE, Siemens-UAE, Lucy Switchgears-UAE, Daikin-McQuay ME-UAE, ETA M&E-UAE, Hindustan Unilever-India, Mott McDonald-UAE, Det Norske Veritas-UAE etc.

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 and Business Administration from globally recognized universities.

Department of Computer Science

Overview

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.

Most of the courses have both theoretical and practical sessions which aid to 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, Information Retrieval Systems. We also have an academic alliance with Microsoft through which students are provided with latest software tools in cutting edge technologies.

Programmes Offered

First Degree Programme

B.E. (Hons.) Computer Science

Higher Degree Programme

M.E. Software Systems
(For programme details & course structure, refer page no.26)

Doctoral Programme

Doctor of Philosophy (Ph.D.)
(For programme details and research areas, refer page no. 29)

Semester-wise Pattern for B.E. (Hons.) Computer Science*		
Year	First Semester	Second Semester
I	Biology Laboratory General Biology Chemistry Laboratory General Chemistry Mathematics 1 Physics Laboratory Mechanics, Oscillations and Waves Engineering Graphics	Mathematics II Workshop Practice Computer Programming Electrical Sciences Technical Report Writing Probability and Statistics Thermodynamics
II	Mathematics III *Humanities Electives* Logic in Computer Science Discrete Structures for Comp Sc Object Oriented Programming Digtal Design	Principles of Economics or Principles of Management *Humanities Electives* Data Structures & Algorithms Microprocessors & Interfacing Database Systems
III	*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	*Open Electives* *Discipline Electives*	Practice School-II OR Thesis or Thesis (9) and Electives (6 to 9)

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

List of some Discipline Elective Courses:

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

Discipline Core Courses - 48 Units (14 Courses)
Discipline Electives - 12 Units (6 Courses)
Humanities Electives - 8 Units (3 Courses)

Career Options

Our Computer Science graduates are employed as Software Engineers, Software Design Engineers, Development Engineers and System Engineers in globally reputed companies such as Microsoft-USA, Oracle-USA, Google-USA, Emirates IT-UAE, Al Futtaim Systems-UAE, LG Electronics-UAE, ESRI-UAE and USA, Standard Chartered Bank-UAE, General Electric-India, Dell Int'l Services-India, Wipro-India etc.

Several graduates have joined well known institutions across the globe for higher studies in Computer Science, Information Technology, Software Systems, Information Security Technology, Multimedia and Animation, Gaming and Web development.

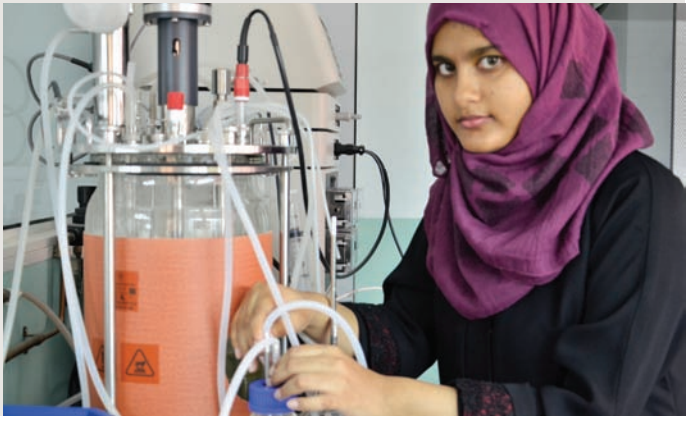
Department of Biotechnology

Overview

Globally, biotechnology represents a high technology professional career. The demands from the biotechnology work force sector for development of knowledge and competencies were a major driving force for setting up the Department of Biotechnology at BITS Pilani in Dubai. The biotechnology department is supported with state-of-the-art laboratories which are active in teaching and research.

The main objectives of the department are:

- Offering world class biotechnology teaching and research
- Laboratory facilities for taking up R&D projects from various sponsoring agencies / industries.
- Strengthening the University-Industry linkage through sponsored R&D projects.
- To conduct hands on training for the faculty members and students in the field of biotechnology.



Programmes Offered

First Degree Programme

B.E. (Hons.) Biotechnology

Higher Degree Programme

M.E. Biotechnology

(For programme details & course structure, refer page no.27)

Doctoral Programme

Doctor of Philosophy (Ph.D.)

(For programme details and research areas, refer page no. 29)

Semester-wise Pattern for students admitted to B.E. (Hons.) Biotechnology*		
Year	First Semester	Second Semester
I	Biology Laboratory General Biology Chemistry Laboratory General Chemistry Mathematics 1 Physics Laboratory Mechanics, Oscillations and Waves Engineering Graphics	Mathematics II Workshop Practice Computer Programming Electrical Sciences Technical Report Writing Probability and Statistics Thermodynamics
II	Mathematics III *Humanities Electives* Biological Chemistry Microbiology Biophysics Cell Biology	Principles of Economics or Principles of Management *Humanities Electives* Genetic Engineering Techniques Genetics Introduction to Environmental Biotechnology Instrumental Methods of Analysis
III	*Open/Humanities Electives* Recombinant DNA Technology Industrial Microbiology & Bioprocess Engineering *Discipline Electives*	*Open/Humanities Electives* Immunology Experiments in Biotechnology Downstream Processing *Discipline Electives*
IV	*Open Electives* *Discipline Electives*	Practice School-II OR Thesis or Thesis (9) and Electives (6 to 9)

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

List of some Discipline Elective Courses:

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

Discipline Core Courses - 43 Units (13 Courses)
Discipline Electives - 17 Units (5 Courses)
Humanities Electives - 8 Units (3 Courses)

Career Options

Our Graduates are employed with various Biotech industries, Pharmaceutical Industries, Agricultural & Allied Industries and R&D departments such as ICT Health-UAE., Linaria Chemicals-Thailand, Merck-UAE, Telematics-UAE. , Saurav Chemicals-India, San book quality consultants-UAE and Doha, Affluence Commodities pvt ltd-India, Piramal Healthcare-UAE etc.

Many of our students have joined reputed universities for their higher studies in Forensic Sciences, Bio-medical Engineering, Genetic Counseling, Bio-pharmaceuticals, Bio-sciences and Biotechnology.

Higher Degree Programmes

The Higher Degree Programmes are designed and structured to meet the learning aspirations of Engineers, entrepreneurs and working professionals, meeting their continuing education pursuits. The classes for these programmes are held normally during evenings and weekend holidays.

M.E. Design Engineering

The curriculum for the M.E. Design Engineering programme has been specially designed to ensure transformation of a Mechanical Engineering graduate into a full-fledged Design Engineer. The students will gain networked knowledge in the core and intersection areas of design, development, simulation and manufacturing. In addition, the student will carry out design projects as well as dissertation which emphasizes on developing a well rounded education through an exposure to academic and professional traits. Students are also exposed to the design engineering software tools such as CATIA, ANSYS, AUTOMATION STUDIO and MSC ADAMS.

Core Courses

- Materials Testing & Technology
- Mechanisms & Robotics
- Finite Element Methods
- Computer Aided Analysis and Design
- Product Design
- Dynamics & Vibrations
- Research Practice
- Dissertation

Elective Courses (Any Five)

- Tribology
- Fracture Mechanics
- Design Projects
- Introduction to MEMS
- Advanced Engineering Mathematics
- Computational Fluid Dynamics
- Mechanical System Design
- Advanced Composites
- Machine Tool Engineering
- Theory of Elasticity and Plasticity
- Mechatronics
- Experimental Stress Analysis Techniques
- Concurrent Engineering
- Nondestructive Testing Techniques
- Experimental Stress Analysis Techniques

M.E. Microelectronics

ME Microelectronics programme curriculum lays its focus on training its students in the design and implementation of Integrated Circuits and state of the art systems on chips. Chip Technologies being employed today accommodate analog, digital, and mixed signal circuits on micro-dimensional semiconductor wafers. Thus, the programme provides hands-on experience in a variety of Electronic Design Automation tools, to equip with requisite skill set needed for today's microelectronic circuit designers for use in industry, research and development in the emerging areas namely: Fault-tolerant systems, MEMs, Mobile Communications, Mixed Signal Circuits and VLSI. Further, the programme provides an opportunity to research and carry out in-depth work on focused areas under the guidance of experienced faculty via Dissertation.

Core Courses

- IC Fabrication Technology
- VLSI Design
- Physics and Modeling of Microelectronic Devices
- Analog IC Design
- CAD for IC Design
- Research Practice
- Dissertation

Elective Courses (Any Six)

- Reconfigurable Computing
- Advanced Architecture and Performance Evaluation
- Digital Signal Processing
- RF Microelectronics
- Optoelectronic Devices, Circuits and Systems
- Advanced Digital Signal Processing
- Hardware Software Codesign
- Optoelectronic Devices Circuits and Systems
- Integrated Electronics Design
- Advanced VLSI Design
- Advanced Analog and Mixed Signal Design
- VLSI Test and Testability
- VLSI Architectures

"The faculty is very supportive and offers detailed knowledge in every course including some of the latest advances in modern Microelectronics

-Nilay Vinod Acharya
MBA-Class of 2012
Systems Analyst
McDermott,UAE

M.E. Software Systems

M.E. Software Systems programme has been specially designed to ensure development of systems theory approaches in software engineering context. It involves a focused study of major components of software and their architecture & interactions in a variety of categories of software systems namely: application software, programming software, system software. These software categories find applications in computer reservation systems, air traffic control,command and control systems, telecommunication networks, web browsers, expert systems, word processors, and so on. The M.E. Software Systems programme aims at offering courses that provide necessary skill sets required by software systems engineers.

Core Courses

-Data Mining
-Object Oriented Programming and Design
-Software Engineering & Management
-Data Ware Housing
-Software Architecture
-Dissertation
-Research Practice

Elective Courses (Any Six)

-Computer Networks
-Real Time Systems
-Parallel Computing
-Pervasive Computing
-Software for Embedded System
-Internetworking Technologies
-Multimedia Computing
-Network Programming
-Advanced Data Mining
-Cloud Computing
-Network Security
-Advance Compilation Techniques
-Software Testing Methodologies
-Distributed Data Systems

"BITS Pilani, Dubai Campus has helped me realize my true potential in the field of management. It has helped me find the talent in me and made me competente nough to face the corprate world.

-Karish Manchanda
MBA-Class of 2013
Financial Management Consultant,
KPMG, Dubai

M.E. Biotechnology

M.E. Biotechnology program offers a blend of specialized courses in the area of genetics, molecular biology, cell biology & applied microbial biotechnology to ensure that the student acquires a well-rounded academic qualification with core competency to handle the current and forth-coming challenges in biotechnology.

Core Courses

- Molecular Mechanism of Gene Expression
- Advanced Cell and Molecular Biology
- Environmental Biotechnology and Waste Management
- Research Practice
- Animal Cell Technology
- Plant Biotechnology
- Advanced and Applied Microbiology
- Dissertation

Elective Courses (Any Seven)

- Biomolecular Modeling
- Enzymology
- Biochemical Engineering
- Recombinant DNA Technology
- Microbial and Fermentation Technology
- Molecular Immunology
- Stem Cell and Regenerative Biology
- Interferon Technology
- Cancer Biology
- Biostatistics and Biomodelling
- Bioremediation and bio-metallurgy
- Molecular Parasitology & Vector Biology
- Human Genetics
- Membrane and Liposome Technology
- Transgenic Technology
- Experimental Techniques
- Protein and Enzyme Bioengineering
- Gene Toxicology
- Bioconversion Technology
- Bioethics and Biosafety
- Introduction to Bioinformatics

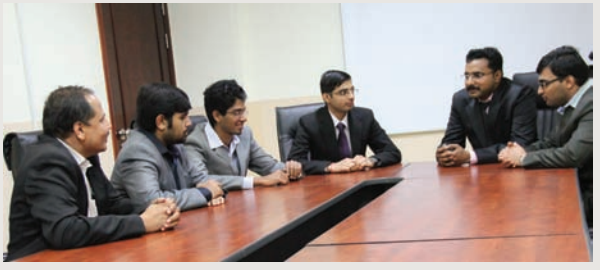
Higher Degree Programmes

Masters of Business Administration (M.B.A.)

The M.B.A programme endeavors to create manpower who have scientific and engineering approach to business administration. The programme which is offered exclusively for engineers equips them with the necessary business and management skills required to run an organization successfully. As the world of technology continues to change relentlessly spiraling upwards, rapid changes in various pioneering areas concerning Engineering & Technology are inevitable and are being observed by one and all. Career (advancement) opportunities are awaiting those who are successful in managing the changes applicable to their typical business/ organizational set-up.

M.B.A. programme is offered in two streams

1. Engineering & Technology Management
2. IT Enabled Services Management



Core Courses

- Managerial Economics
- Business Structure & Processes
- Managerial Skills
- Legal and Economic Environment of Business
- Management Framework and Functions
- Organizational Behavior
- Quantitative Methods
- Financial & Management Accounting
- Managerial Communication
- Negotiation Skills & Techniques
- Human Resource Management
- Corporate Finance and Taxation
- Marketing
- Production & Operations Management
- Supply Chain Management
- Management Information Systems
- Business & Society
- Business Policy & Strategic Management
- International Business
- Dissertation

Elective Courses (Any Four)

- New Venture Creation
- Enterprise Resource Planning
- Business Analysis and Valuation
- Financial Engineering
- Risk Management and Insurance
- Technology Management
- R&D Management
- Recent Advances in ETM
- Internetworking Technologies
- Project Appraisal
- Entrepreneurship
- Marketing Research
- Manufacturing Strategy
- Total Quality Management
- Project Management
- Total Productive Maintenance
- Software Project Management
- Retail Management Systems
- Database Management Systems
- Security Analysis and Portfolio Management
- e-Business and Internet Marketing
- Internet Security and Cyber-laws
- Advertising and Sales Promotion
- Strategic Financial Management
- Expert Systems
- Services Management System

Doctor of Philosophy (Ph.D.)

Research is an important academic activity at BITS Pilani and students at all levels of educational programmes are involved in research.Strong emphasis is laid on inter-disciplinary, mission oriented and relevant research.Topics of Research can be chosen from any of the disciplines in which the Institute offers the First and Higher Degree Programmes or any Interdisciplinary or allied areas.

The required components for doctoral programme are :
Qualifying Examination, Course Work, Teaching Practice, Seminar/Independent Study & Doctoral Thesis.

On-Campus Programme

Candidates registered for the On-Campus programme will undergo the entire pursuit of their thesis on the campus. Registration in prescribed minimum number of units and components normally requires 4-6 semesters depending on the time of approval of topic/-supervisor and locale of research work by the Research Board. It is expected that the Ph.D. Scholar submits his/her Ph.D. thesis within an upper limit of ten semesters subsequent to passing the Qualifying examination.

Part-time and Off- Campus Programme

The Institute offers a unique opportunity for employed professionals working in Industries, Academic Institutes and R&D organizations and having long experience and proven competence in various fields to work towards the Ph.D. degree. Candidates meeting the input qualifications and working in an organization, which encourages and facilitates research and situated preferably in the close vicinity of the BITS Pilani campus are eligible to apply for admission in "Part-Time" Ph D programme. Candidate meeting the input qualification and working in an organization collaborating with BITS will normally be considered for admission to "Off-Campus" programme.

Some Research Areas

Chemical: Process systems engineering, catalysis and reactor design, adsorption, water quality management, nanofluidics.

Electrical & Electronics: Power Electronics & drives, Power systems, Microelectronics & VLSI design, Embedded systems, Digital Signal Processing, Image processing, Communication Systems.

Mechanical Engineering: Mechatronics & Robotics, Experimental & Computational Fluid Dynamics, Material Science & Manufacturing, Materials science & Manufacturing, Computer Aided Design & Analysis, Thermal Engineering & IC Engines.

Computer Science: Web Services and Security, cloud computing, Software Engineering and Component based modeling, Computer Networks protocol verification, Data Mining and mobile computing.

Electronics & Instrumentation: Medical Instrumentation, ANN, Application of Engineering in Medicine & Biology, Electronic Instrumentation, Sensors, Circuits, Systems & Devices, Fiber optics, Fetal ECG Extraction in early pregnancy, Bio Signal processing, Process Control, fuzzy Logics.

Biotechnology: Molecular biology, Microbial biotechnology, Environmental biotechnology, Biosensor technology, Plant biotechnology, Computational biology and Water Quality Modeling and Simulation.

Management: Entreprenuership, Negotiation Skills, Managerial Skills, Project Management, Production Management, Technology Management, R&D Management, Supply Chain Management, Quantitative Methods, MIS, E-business, Organizational Behavior.

Interdisciplinary Research: Nanotechnology and nanoscience, Nano-robotics, Micro-electromechanical systems (MEMS), Nanomaterials, Mechatronics.

Practice School (Internship) in First Degree Programme

BITS Pilani is a pioneer in the field of university-industry linkage and 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 and 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 and experts from the host organization. The PS programme will have two components. PS I of two months duration during the summer following the second year and PS II of 5½ months duration during one of the semesters of final year.

Some Companies Offering Practice School

- ABB
- Honeywell
- L & T
- Microsoft
- Nokia Siemens Networks
- BOSCH
- Fedex
- Lamprell
- DUBAL
- Petrofac International
- Yokogawa
- GE Consumer and Electrical
- OTIS
- DNV
- Jones Lang Lasalle
- Siemens
- Al Futtaim Technologies
- Dodsal
-Thyssen Krupp
-Lucy Switchgear
-Emerson
-Gulf Petrochem
-Merck

The contribution of the students is highly appreciated by us and has been of value to our operations. The conduct of your students while with our company has been exemplary and they have maintained high standards of professionalism.

Ravi Kashyap
General Manager, Steinweg-Sharaf FZE, Dubai

The students were dynamic, enthusiastic and worked with dedication in the allotted projects. They came out with brilliant ideas related to their project. The PS Programme bridges the gap between the university education system and the industry and gives ample opportunity to students to understand expectations of the industry.

Sumit Kumar Chordla
Business Head,Power Tools BOSCH (Central Motors), Dubai

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

Satish Kumar Menon
Cheif Operations Manager, ESRI Global Inc, Sharjah

Student Activities

Cultural, Social and Sports Activities

Extracurricular 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 through various extra-curricular activities such as painting, sketching, singing, dancing, art etc. and drama competitions such as Just a minute, literary events such as The Big Fight, Impromptu Histrionics, Proscenium, etc. organized by the respective clubs. An inter university cultural festival "Jashn" is organized every year where music, dance and drama competitions are held.

The faculty and students actively promote and participate in several socially relevant activities such as blood donation camps, city clean-up drives, environment protection related activities etc. that contribute to the service of the society and help create awareness on social issues.

Students and faculty are encouraged to be involved in recreational sports through intramural and extramural competitions and tournaments. An indoor sports complex provides for badminton, table tennis, carrom, chess etc., in addition to the outdoor sports facility for basketball, volleyball, throwball, football, handball and nets for cricket practice. The facilities are supervised and maintained by a separate instructor who is also responsible for training the students and supervising their activities. An inter-university sports festival called BITS Sports Festival (BSF) is organized every year in which more than 20 colleges / universities from across the U.A.E. participate.

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, Social and Environment Clubs. The aim of each club is to enrich the social and cultural life on the Institute campus.

Discipline Association and Professional Bodies

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

Facilities & Support Services

Library

The library located in a separate building has a great ambience and facilities for internet browsing, large reading area on the ground and first floors, and stack area for library resources. The Library currently holds around 17,000 volumes. There are reference sections, periodical section for current magazines and journals, digital library and the exclusive lounge for faculty & staff.

The Library provides:

- Information and reference services on a wide variety of subjects through books, periodicals, back volumes, CD-ROMs, reports, videos and audio materials along with internet to provide maximum opportunities for learning and access to information in different formats.
- Good collection of reputed magazines and journals.
- Access to various open source electronic journals, databases and other reading materials through the library website.
- Automated library operations with web enabled OPAC (Online Public Access Catalogue).
- Access to IEEE,ASME,ACM and Proquest online databases with back volumes.
- Access to Ebrary- Collection of ebooks(116000).
- Access to more than 4000 electronic books on various subjects.
- Access to educational sites for obtaining worldwide information.
- WiFi facility
- Network printing, photocopying and scanning facilities for students.
- Study carrels for students.

Library services are closely monitored by a competent committee and its steady growth in holdings and services are given utmost priority. The working hours of the library are from 7.30 AM to 10.00 PM on all working days and 10.00 AM to 10.00 PM on Saturdays. During comprehensive examinations, it is open till midnight. Library is closed on Fridays & national holidays.

Laboratories

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

- Manufacturing Process Lab
- Engineering Graphics & CAD Lab
- Computer Networking Lab
- Physics Lab
- Chemistry Lab
- Biology Lab
- Electrical & Electronics Engineering Lab
- Measurement Techniques in Civil, Chem & Mech Engineering Lab
- Analog Electronics Lab
- Communication Lab
- Digital Electronics and Computer Organization Lab
- Instrumentation Lab
- Electromechanical Energy Conversion Lab
- MEMS Lab
- Power Electronics Lab
- Digital Signal Processing Lab
- Microprocessor Programming & Interfacing Lab
- Production Techniques Lab
- Transport Phenomena Lab
- Prime Movers and Fluid Machinery Lab
- Chemical Engineering Lab I
- Chemical Engineering Lab II
- Process Control Lab
- Microbiology Lab
- Instrumental Methods of Analysis Lab
- Advanced Molecular Biology Lab
- Genetic Engineering Lab
- Industrial Microbiology & Bioprocess Engineering Lab

Information Technology Services

The Campus and the hostels are covered with the latest Cisco network Infrastructure of both wired and wireless hotspot environment which provide 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 to high level of networking. The Cisco lab has all the paper and soft copy material to help the students to learn and start the practical training on Cisco which will lead the students to achieve the Cisco certifications and do software defined Network projects. Our data centre is equipped with IBM Server, HP multiple series servers and SAN storage facility.

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 seating capacity of 160 will help the students to participate in the online classroom sessions. The software tools like AUTOCAD, MATLAB, CATIA, SYNOPSYS, ANSYS, SPSS and ASPEN are available to the students along with a variety of compilers and operating systems.

Facilities & Support Services

Academic Advising

Academic Advising is available to assist students in understanding and resolving their educational and vocational related issues. Academic Advising 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 and 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.

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 and assist the faculty in conducting / understanding 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.

Student Housing

Separate hostel facilities are available for boys and girls. The accommodation is suitably equipped to provide a safe and secure living environment. Each hostel has a resident warden and other essential staff. The hostel rooms are fully air-conditioned and furnished with a bed, cupboard and study table. All rooms are provided with internet facility at a nominal cost. The hostels are also provided with Laundromat / Gymnasium/ Salon / Firstaid and Sports facilities. Both vegetarian and non- vegetarian food is provided in the hostel mess.

Health Services

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

Cafeteria

There is a full-fledged cafeteria within the campus for students and faculty to have snacks, meals, soft drinks and beverages. There is a Mini Mart within the premises which sells several items including food and 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 U.A.E. residence visa. If the U.A.E. resident parents cannot sponsor their ward or if the student is from another country, then we can facilitate U.A.E. Student Residence Visa through Dubai International Academic City (DIAC) subject to the submission of necessary documents and rules & regulations of the Institute and Government of U.A.E. If visa is not granted by the Government of U.A.E., admission is not possible.

Health Insurance

It is mandatory for every student to have medical insurance. Students must submit proof of valid health insurance which can be used in U.A.E. at the time of admission. The Institute has made arrangements with a leading insurance company to provide health insurance to their students at a reduced cost.

Transport Services

Transport facility for day scholars is arranged through a leading transport agency in air-conditioned buses for students from different points in Dubai, Sharjah and Ajman. The transportation fee is set as per the destination category, the details of which are available on the fee structure page. Transportation is also facilitated for students residing in Abu Dhabi.

Placements

In keeping with our tradition and recognizing the importance of career counseling and services as an integral part of an Engineering Institution, we organize Campus Placement Programme (CPP) for Graduates every year and invite local and international companies to recruit the graduating students. All facilities for conducting pre-placement presentations, interviews and screening tests are provided to the visiting companies and the students are given an opportunity to interact with the organization officials.

Graduates of BITS Pilani, Dubai Campus have been recruited by more than 1000 companies across the globe both through Campus Placement Programme and through their own initiative.

Some reputed companies where our students are employed are:
- ABB, U.A.E.
- Clipsal Middle East, U.A.E.
- Dell International Services, India
- Emirates Industrial Gases Co., U.A.E.
- Etisalat, U.A.E.
- Halliburton, K.S.A.
- Honeywell Middle East, U.A.E.
- Infosys Technologies Ltd, India
- J Ray Mc Dermott, Middle East, U.A.E.
- L&T, U.A.E.
- Maersk, U.A.E.
- Microsoft, U.S.A.
- Oracle, U.S.A.
- Panasonic – Middle East, U.A.E.
- Petrofac International, U.A.E.
- Procter and Gamble Gulf FZE, U.A.E.
- RTA Dubai, U.A.E.
- Schlumberger, U.A.E.
- Siemens LLC, U.A.E.
- Sony Ericsson, NC, U.S.A.
- Standard Chartered Bank, U.A.E.
- Tata Consultancy Services, India
- Wipro, India
- Worley Parsons, U.A.E.
- W.S. Atkins, U.A.E.

Several Graduates have opted for further studies and have completed or pursuing Masters and Ph.D. from more 75 reputed universities across the world. Some of the reputed Universities are:

- Carnegie Mellon University, USA
- Cornell University, USA
- Duke University, Durham, USA
- ESSEC Business School, Paris
- Harvard University, USA
- IIM Calcutta, India
- Illinois Institute of Technology, USA
- McMaster University, Canada
- MIT Sloan School of Management
- New Jersey Institute of Technology, USA
- Rutgers - State University of New Jersey, USA
- Stanford University, USA
- Texas A&M University, USA
- University at Buffalo, New York, USA
- University of Leicester, UK
- University of Manchester, UK
- University of Pennsylvania, USA
- University of Texas, Dallas & Austin, USA
- University of Toronto, Canada


BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE
PILANI (RAJASTHAN) 333 031, INDIA
innovate
achieve

Admissions

First degree Programme

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.

Eligibility Criteria

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

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 at least 50% marks in each subject. However, for admission to B.E.(Hons.) Biotechnology, Candidates with Physics, Chemistry and 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.

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.

Application Procedure

The Applications are available under the link www.bits-dubai.ac.ae/admission and are also available at the Admissions Office of Dubai Campus. You can apply through any of the following methods:

(i) Apply online
(ii) Print or Collect the Application form and fill it with pen.

If you are not opting for online application submission and payment, you must submit the filled-in application forms in person or by courier with the requisite documents and application fee by cash/ demand draft.

Read Admission Bulletin 2015-16 carefully for detailed instructions on the application procedure, documents to be enclosed/uploaded with the application form and application fee amount with payment details.

Higher degree Programme

Eligibility Criteria for M.E. / M.B.A. programmes

- A minimum aggregate of 60% in the qualifying degree as indicated below for each programme.

M.E. Design : B.E. / B.Tech. in Mechanical Engineering or equivalent.
M.E. Microelectronics : B.E. / B.Tech. in EEE / E&I / ECE / CS or M.Sc. Physics or equivalent.
M.E. Software Systems : B.E. / B.Tech. / M.Sc. / M.C.A or equivalent
M.E. Biotechnology : B.E. / B.Tech. / M.Sc. with adequate preparation in Microbiology and Biochemistry or equivalent.
M.B.A. Programmes : B.E. / B.Tech. or its equivalent

The admission will be based on the performance in the qualifying degree, experience, Admission test and interview.

Doctoral Programme

Eligibility Criteria

M.E./ M.S./M.B.A./M.Phil. of BITS Pilani or its equivalent with a minimum of 60% aggregate.
The admission will be based on the performance in the qualifying degree, experience and Admission Test.

Application Procedure for Higher Degree and Doctoral Programmes

The Applications are available under the link www.bits-dubai.ac.ae/admission and are also available at the Admissions Office of Dubai Campus. You can apply through any of the following methods:

(i) Apply online
(ii) Print or Collect the Application form and fill it with pen.

If you are not opting for online application submission and payment, you must submit the filled-in application forms in person or by courier with the requisite documents and application fee by cash/ demand draft.

Read Admission Bulletin 2015-16 carefully for detailed instructions on the application procedure, documents to be enclosed/uploaded with the application form and application fee amount with payment details.

Flexiblilites 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 and 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 middle of a programme 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.

Second Semester Admission

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 (February 2016) are essentially to meet the depletion during the first semester and also 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 will be issued in October 2015.

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 with good academic perfor-mance 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 2015-16.
2.The academic programme pursued after Grade 12 must be in a recognized and 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 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 preferences.

Application Procedure:

In addition to filling up the Application for admission, Candidates applying for Advanced Standing admission must fill up the supplementary information form for advanced standing (available on the website or can be collected from the admissions office), and submit it with the below mentioned additional documents:

a) Official College Transcript / Mark Sheets for the semesters/ years completed.
b) Syllabus of courses cleared.
c) Question Papers of the Examinations for the courses cleared.

Important Dates in the Admission Process

Important Dates in the First Degree Admission Process

Event	Date
Last date for receipt of Application	8 June 2015
Announcement of Admission list and dispatch of Admission offer letters	11 June 2015
Last date for receipt of acceptance of Admission Offer along with requied documents and Fee	6 July 2015
Reporting for Admission	31 August 2015
Orientation	31 August 2015
Registration	1 September 2015
Classwork begins	2 September 2015

Important Dates in the Higher Degree Admission Process

Event	First Semester	Second Semester
Last date for receipt of Applications	15 June 2015	15 December 2015
Admission Test/ Interview Dates	24 June 2015 and 25 June 2015	21 December 2015 and 22 December 2015
Orientation	31 August 2015	1 February 2016
Registration	1 September 2015	1 February 2016
Commencement of Classes	2 September 2015	2 February 2016

Important Dates in the PhD Admission Process

Event	First Semester	Second Semester
Last date for receipt of Applications	15 June 2015	15 December 2015
Admission Test/ Interview Dates	25 June 2015	10 January 2015
Orientation	31 August 2015	1 February 2016
Registration	1 September 2015	1 February 2016
Commencement of Classes	2 September 2015	2 February 2016

Fee Structure

innovate achieve lead

Each Academic Year consists of two semesters. First Semester: September-January and Second Semester: February-June

A. One-Time Fees (Payable at the time of Admission)			
FEE	FIRST DEGREE	HIGHER DEGREE	Ph.D.
Application Fee	AED. 210/-	AED. 210/-	AED. 210/-
Admission Fee	AED. 1,500/-	AED. 1,500/-	AED. 1,500/-
Activity Fee	AED. 1,000/-	AED. 1,000/-	AED. 1,000/-
Caution Deposit *	AED. 5,000/-	AED. 2,000/-	AED. 2,000/-
Hostel Caution Deposit*	AED. 2,000/-	AED. 2,000/-	AED. 2,000/-
B. Tuition Fee			
First Semester	AED. 17,500/- (Payable in 2 installments)	AED. 15,000/- (Ppayable in 2 installments)	AED. 12,000/- **
Second Semester	AED. 17,500/- (Payable in 2 instalments)	AED. 15,000/- (Payable in 2 installments)	AED. 12,000/- **
Summer Semester	AED. 4,500/- (Payable for PS I after 2nd year)	————	————

C. Visa / Insurance Fee (Payable for each Academic Year)

Visa Fee (For Students on Visa provided by the Institute)

Fresh Visa Fee : AED. 2,700/-

Visa Renewal Fee : AED. 2,100/-

Medical Insurance Fee : AED. 1,550/-

(Currently prevailing Visa Fee, subject to change by Govt of U.A.E.)

D. Hostel Fee (Only for Hostel Residents)

First Semester : AED. 15,000/-

Second Semester : AED. 15,000/-

Summer Term : AED. 5,200/-

Internet facility Fee : AED. 750/- per annum

Laundry charges and service charge for using refrigerator in the room are additional and information on the same is available on the website.

E. Transport Fee (Only for Day Scholars)

For Dubai : AED. 1,750/- per semester

For Sharjah & Ajman : AED. 2,000/- per semester

(Currently prevailing Transport Fee, subject to change)

*Refundable on graduation or on leaving the Institute, after due adjustment for damages, breakages caused by the student, if any.

**1. Full- time On-Campus Ph.D.Scholars will be considered for 80% Tuition Fee waiver and Part-time Ph.D.Scholars will be considered for 70% Tuition Fee waiver for the normal duration of the Programme subject to terms and conditions.

2. On-Campus and Part-time Ph.D. scholars who are UAE/GCC Nationals are considered for 100% Tuition Fee waiver and may be offered suitable Research Assistantships/Fellowships.

FIRST DEGREE PROGRAMME

1. Merit Scholarships

1.1 Board Toppers

Students who have secured top three positions (First, Second and Third position) in 12th standard in their respective boards (General Secondary Education Certificate Exam of Ministry of Education, U.A.E. or CBSE-India or any other State, National or International Board) are given merit scholarship of 100%, 75% and 50% of the first semester tuition fee respectively for the first semester.

1.2 Merit in Qualifying Examination

a) Students who have obtained 90% or above in the aggregate of the qualifying examination are given a merit scholarship of 20% of first semester tuition fee.

b) Students 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 semester tuition fee.

1.3 Merit in BITSAT 2015 (BITS Online Admission Test)

a) *Scholarship*: Admitted candidates with BITSAT 2015 (or BITSAT 2014) score of 200 or above will be eligible for the following merit scholarship for two semesters (first year) of Academic Year 2015-16, depending on the score secured in BITSAT.

S.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

b) *Hostel Fee Concession*: Admitted Candidates with BITSAT 2015 (or BITSAT 2014) score of 150 or above will be offered a 25% concession in the Hostel fee for the normal duration of the programme (four years).

1.4 Merit Scholarship for continuing students

All Students who obtained a CGPA of 9.00 or above on a 10.00 scale at the end of a semester are given a merit scholarship of 20% of tuition fee for the following semester.

2 . Fee Concessions

2.1 For GCC/ Arab Nationals

Meritorious GCC / Arab Nationals will be offered a scholarship of 50% to 100% on the tution fee for the normal duration of the programme based on

their performance in the qualifying examination (Grade 12 or equivalent) and continuity of certain minimum performance during the programme. These scholarships will be restricted to specific number of students under each of the above mentioned scholarship category.

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 scholarship 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 Students

All physically challenged students satisfying the conditions laid out are given a 15% concession on the tuition fee throughout the programme 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.

2.5 Sports Excellence

a) Students who have participated and won medals in International championships representing their country are given scholarship of 50% of the first semester tuition fee and students who have participated in such International Championships are given scholarship of 15% of first semester tuition fee.

b) Students who have participated and won medals in National tournaments representing their state/city are given scholarship of 20% of first semester tuition fee and students who have participated in National Tournaments are given scholarship of 5% of first semester tuition fee.

HIGHER DEGREE PROGRAMME

1. For New Admissions

a) Students who are UAE Nationals will be offered full tuition fee scholarship for the normal duration of the programme.
b) BITS Alumni, Candidates from Collaborative Organizations/ Companies and Siblings / Parents of continuing students will be offered a 10% concession on the tuition fee, during the normal duration of the programme.

2. Merit Scholarship For Continuing Students

Merit Scholarship amounting to 20% of semester tuition fees is awarded to the topper of each programme every semester based on the performance of the students in the previous semester. The minimum CGPA for the eligibility of this scholarship shall be 9 on a 10 point scale.

Special Moments in Time

Convocation 2014 at BITS Pilani, Dubai Campus. Seen are(Left to right) Dr. B.N. Jain, Vice Chancellor, BITS Pilani, Mr. Essa Al Ghurair, Chairman, Al Ghurair Resources LLC, Jyotika Singh, Student Topper (Silver Medalist) , Padma Shri Prof. D Balasubramanian, Director- Research, L.V.Prasad Eye Institute, Hyderabad, India. Dr. R.N. Saha, Director, BITS Pilani, Dubai Campus and Dr. Ayoub Kazim, Managing Director, Education Cluster of TECOM Investment.

International conference on Biotechnology & Bioengineering (ICBB-2014), held in Dubai jointly organized by BITS Pilani, Dubai Campus & Microbiologist Society of India graced by Honourable Consul General of India in U.A.E. Mr. Anurag Bhushan as the Guest of Honour and Dr. Ismahane, Director General, International Centre for Biosaline Agriculture, Dubai, UAE as the Chief Guest.

Intrenational Conference on Secure Knowledge Management held on the campus in Dec 2014. Seen (from left to right) are Dr. Chittaranjan Hota, BITS Pilani, Hyderabad (Program Co-Chair), Dr. R.N.Saha, Director, Dr. B.N.Jain, Vice-Chancellor, Dr. Raghurama, director, Pilani Campus, Dr. Nasir Memon, New York University (General Chair) and Dr. Jamal Al-Karaki, Abu Dhabi Polytechnic (Program Co-Chair).

Dr. Kumar Mangalam Birla, Chancellor, Dr. B.N. Jain, Vice Chancellor, Dr. R.K. Mittal, Director and University Officials / Faculty seen with Dr. Abdullah Karam, Director General, KHDA, Dr. Ayoub Kazim, Managing Director, Education Cluster- Tecom Investments and Mr. M. Salahuddin, Managing Director, ETA Group at Convocation 2012.

Students of BITS Pilani, Dubai Campus after winning the overall championship ate the BITS Sports Festival 2014.The chief Guest for the event is Mr. Piyush Chawla, Indian Cricketer.

Ms.Sania Mirza (World Tennis Champion), Chief Guest at the 8th BITS Sports Festival, 2011.

H.H. Sheikh Maktoum Bin Mohammed Bin Rashid Al Maktoum, Deputy Ruler of Dubai with Dr. A.P.J. Abdul Kalam, the then President of India during their visit to BITS Pilani, Dubai Campus in the year 2003.

Prof. Dr. R.K. Mittal, Director, Mr. M. Salahuddin MD, ETA Ascon Group, BITS Pilani, Dubai Campus, seen with the Hon ble President of India, Mrs. Pratibha Patil during her visit to Dubai International Academic City in November, 2010.

Ms. Saina Nehwal, the World Badminton Champion, visiting BITS Pilani, Dubai Campus as the Chief Guest for the 7th BITS Sports Festival.

Inauguration of the new campus at the Dubai International Academic City by Dr. K. K. Birla, the then Chancellor, BITS Pilani, Dubai Campus in the presence of Mr. M. Salahuddin, Managing Director, ETA Ascon and Star Group and Mr Essa Al Ghurair, Director, ETA Ascon and Star Group.

Mr. Madan Lal, Former Indian Cricketer – the Chief Guest at the BITS Sports Festival 2013 seen with the students and University officials.

Faculty and Staff of BPDC during Chancellor's visit.

innovate achieve lead

BITS Pilani
Dubai Campus

BITS Pilani, Dubai Campus
Dubai International Academic City
P.O. Box: 345055, Dubai, UAE • Tel: 4200811 / 4200700 4 00971 • Fax: 4200822 4 00971
Email: admission@dubai.bits-pilani.ac.in • Website: www.bits-pilani.ac.in/dubai