UNIVERSITY OF PETROLEUM
&
ENERGY STUDIES

- **Established through an Act passed by Uttarakhand State Legislature**
- **Maintained by University Grants Commission under Section 2(f) of the UGC Act, 1956**
- **Accredited by National Assessment & Accreditation Council (NAAC)**
- **Member Association of Indian Universities (AIU)**

INFORMATION BULLETIN

ACADEMIC YEAR 2015 – 2016

- **COLLEGE OF MANAGEMENT & ECONOMICS STUDIES**
- **COLLEGE OF ENGINEERING STUDIES**
- **COLLEGE OF LEGAL STUDIES**

UPES

THE NATION BUILDERS UNIVERSITY

ENROLLMENT OFFICE

Dehradun: UPES Campus, P.O. Bidholi, Via Prem Nagar, Dehradun - 248 007 (Uttarakhand) Tel: 09557899090, 08410080040, 0135-2102549

Delhi:2nd Floor, 210, Okhla Industrial Estate Phase III, New Delhi -110020.Tel: 011 - 41730151/52/53,

Toll Free No.: 1800-102-8737

UGC website-www.ugc.ac.in

UNIVERSITY GRANTS COMMISSION
BAHADURSHAH ZAFAR MARG
NEW DELHI-110 002
4 JUN 2004

No. F.9-20/2003 (CPP-I)

NOTIFICATION

A new university sponsored by "University of Petroleum and Energy Studies, Dehradun" has been established by Act No. 15 of 2003 of State Government of Uttaranchal and notified through the State Gazette vide Notification No. 83(6)/Higher Education/2003-3 (.8) 2003 dated 1-09-2003. The said university has been included in the list of universities maintained by the University Grants Commission under Section- 2 (f) of the UGC Act, 1956.

However, the above university will not be eligible to receive any assistance from University Grants Commission and any other source funded by the Government of India.

(Mrs. Urmil Gulati)
Under Secretary

Copy to:-

1. The Vice-Chancellor, University of Petroleum and Energy Studies, Building No. 7, Street No. 1, Vasant Vihar Enclave, Dehradun-284 005 (Uttaranchal).
2. The Secretary, Government of India, Ministry of Human Resource Development (Department of Secondary & Higher Education), Shastri Bhavan, New Delhi-110 001
3. The Secretary to the Government of Uttaranchal, Dehradun
4. The Secretary General, Association of Indian Universities, 16 Kotla Marg, New Delhi-110 002.
5. Director, (NAAC) National Assessment and Accreditation Council (NAAC) Bangalore 560 010
6. The Director, Medical Council of India, Kotla Road, New Delhi- 110 002
7. The Secretary, Union Public Service Commission, Shahajahan Road, New Delhi -110 001
8. The Joint Secretary, (CPP), UGC, New Delhi
9. Senior Statistical Officer, UGC, 35 Ferozshah Road, New Delhi-110 001.
10. JSO (web-site), UGC, New Delhi.
11. Section Officer (Meeting Section), UGC, New Delhi
12. All Regional Offices, UGC
13. All Section of the UGC, New Delhi
14. EPP Cell, UGC, New Delhi
15. Guard file.

(Mrs. Urmil Gulati)
Under Secretary

CONTENTS

ADMISSION CRITERIA

MANAGEMENT PROGRAMS

COLLEGE OF MANAGEMENT & ECONOMICS STUDIES			
PROGRAM	**ELIGIBILITY CRITERIA**	**ADMISSION CRITERIA**	**DURATION (YEARS)**
BBA Oil & Gas Marketing	Science / Commerce stream with minimum 50% marks at Higher & Senior Secondary level (10th & 12th)	Group Discussion & Interview. Students appearing in class XII and awaiting result can also apply. Shortlisted candidates will be given a provisional offer letter. First round GD&PI to commence. From November 2014.	3
BBA Aviation Operations	Minimum 50% marks at Higher & Senior Secondary level(10th & 12th)		3
BBA Logistics Management	Minimum 50% marks at Higher & Senior Secondary level. (10th & 12th) Math in Class XII Preferred		3
BBA Auto Marketing	Minimum 50% marks at Higher & Senior Secondary level(10th & 12th)		3
BBA Foreign Trade	Minimum 50% marks at Higher & Senior Secondary level (10th & 12th)		3
BBA Retail Management	Minimum 50% marks at Higher & Senior Secondary level (10th & 12th)		3
BBA Digital Marketing	Minimum 50% marks at Higher & Senior Secondary level (10th & 12th)		3
BBA Financial Services Marketing	Minimum 50% marks at Higher & Senior Secondary level (10th & 12th). Commerce Stream Preferred		3
MA Energy Economics	(1) Minimum 50% marks at Higher & Senior Secondary level (10th & 12th) (2) B.Com/BA Economics (Hons)/B.Sc./BA Programme with Economics or B.Tech with minimum 50% marks from a recognized University (3) Students who have read Statistics/Mathematics with minimum 50% marks at the graduation level from a recognized University	Online Test followed by Personal Interview.	2
MBA Oil & Gas Management	(1) Minimum 50% marks at Higher &Senior Secondary level (10th & 12th)(2)Engineering*/ B. Sc. (PCM) Graduates with minimum 50% marks from a recognized University.	MBA admissions through UPESMET Online Test/ National Level Test + Group Discussion & Interview	2
MBA Energy Trading	(1) Minimum 50% marks at Higher &Senior Secondary level (10th & 12th)(2) Graduation in Commerce/Economics/Mathematics/ Statistics/CA/ICWA/Engineering*/B.Sc (PCM) with minimum 50% marks from a recognized University /		2
MBA Power Management	(1) Minimum 50% marks at Higher &Senior Secondary level (10th & 12th)(2)Engineering*/ B. Sc. (PCM) Graduates with minimum 50% marks from a recognized University.		2
MBA Port & Shipping Management	(1) Minimum 50% marks at Higher &Senior Secondary level (10th & 12th) (2) Graduation with minimum 50% marks from a recognized University.		2
MBA Logistics & Supply Chain Management	(1) Minimum 50% marks at Higher &Senior Secondary level (10th & 12th) (2) Graduation with minimum 50% marks from a recognized University		2
MBA International Business	(1) Minimum 50% marks at Higher &Senior Secondary level (10th & 12th) (2) Graduation with minimum 50% marks from a recognized University		2
MBA Aviation Management	(1) Minimum 50% marks at Higher &Senior Secondary level (10th & 12th) (2) Graduation with minimum 50% marks from a recognized University		2
MBA Infrastructure Management	(1) Minimum 50% marks at Higher &Senior Secondary level (10th & 12th)(2)Engineering*/ B. Sc. (PCM) Graduates with minimum 50% marks from a recognized University		2
MBA (Business Analytics)	(1) Minimum 50% marks at Higher & Senior Secondary Level (class 10th 12th) (2) B.Tech / BE in any discipline, B.Sc (PCM) or B.Sc (Maths); BA (Economics/ Math/ Statistics); B.Com Pass or honors, BBA with minimum 50% marks from a recognized University		2

* Engineering Degree with relevant industry requirement is acceptable

MBA (UPESMET) Online Test

Test Date

Name of Program	Date of Test	Time	Duration
MBA (All Streams)	12 Feb to 16 Feb 2015	Test Slots can be chosen by students after the last date for application (Feb 1, 2015) is over.	2:00 Hours

Note: 1. Last date to receive the filled application (OMR Form) is 1 February 2015 (Sunday)

ONLINE TEST PROCESS

Candidates will appear for the ONLINE test by logging in with their credentials from their computer connected with a webcam and an internet connection. Candidates have the convenience to appear for the test from their residence, office or internet café.

Note: University reserves the right to change the Test Date or even cancel the Test.

Please note: The candidates will be sent their login credentials at least 24 hours before the exam on the registered email ID of the applicants.

Scheme of Test

Sections	No.of Questions
General English: Reading Comprehension, Verbal Reasoning, Verbal Ability	35
Quantitative: Data Interpretation & Data Sufficiency	35
General Awareness: General Knowledge, Current Affairs, Business Scenario	35
Analytical & Logical Reasoning	35
Total No. of Questions	140

Non Examination Pathway - MBA Admissions through National Level Tests**

For MBA Oil & Gas / Power Management / Energy Trading / Logistics & Supply Chain Management / International Business : Students having minimum CAT/XAT score of 75 percentile or MAT score of 80 Percentile will be exempted from UPES Online Management Entrance Test and will only be called for Group Discussion & Interview if qualified. Valid CMAT 2014 & 2015 / GMAT scores will also be accepted.

For MBA Port & Shipping Management / Aviation Management / Infrastructure Management / Business Analytics) Students having minimum CAT/XAT score of 70 Percentile or MAT score of 75 Percentile will be exempted from UPES Online Management Entrance Test and will only be called for Group Discussion & Interview. Valid CMAT 2014 & 2015/ GMAT scores will also be accepted.

Note: CAT November' 14, XAT January'15 and MAT scores of September' 14, December' 14, February' 15 and May' 15 will be accepted

** Upto 50% seats shall be filled through National Level Tests category. Incase candidates for such seats are not available, UPES has the right to fill these seats through UPES Online Entrance Test. University also reserves the right to conduct further physical (paper pencil test) / online test for admission in the month of May' 15 or June' 15

RESERVATION OF SEATS

For Uttarakhand bona fide resident candidates: 15% of the seats in all programs will be reserved for residents of Uttarakhand subject to production of "Sthai Niwas Praman Patra" (Permanent Residence Certificate) issued by the competent authority of Uttarakhand State. These seats will get allotted strictly based on the merit positions secured in this category, provided the candidate has declared his intent to opt under this category at the time of applying for admission.

Note: Candidates applying under this category would be required to produce the original "Sthai Niwas Praman Patra" during the day of admission failing which their candidature shall stand cancelled.

Seats remaining unfilled by the stipulated date in this category shall be treated as unreserved

B. Tech Programs

PROGRAM	ELIGIBILITY CRITERIA	ADMISSION CRITERIA	DURATION (YEARS)
COLLEGE OF ENGINEERING STUDIES			
B. Tech. Applied Petroleum Engineering with specialization in Upstream	Minimum 60% marks at Higher & Senior Secondary level (10th& 12th) and Minimum 60% aggregate in Physics, Chemistry & Mathematics at Senior Secondary level (12th)	UPES Engineering Aptitude Test (UPESEAT) followed by Centralized Counseling OR Centralized Counseling through Merit rank for Non Exam Category	4
B. Tech. Applied Petroleum Engineering with specialization in Gas Stream			
B. Tech. Chemical Engineering with specialization in Refining & Petrochemicals			
B. Tech. Geo Science Engineering			
B. Tech. Geo Informatics Engineering			
B. Tech. Mining Engineering			
B. Tech. Automotive Design Engineering			
B. Tech. Mechanical Engineering			
B. Tech. Aerospace Engineering			
B. Tech. Aerospace Engineering with specialization in Avionics			
B. Tech. Electronics Engineering			
B. Tech. Mechatronics Engineering			
B. Tech. Power System Engineering			
B. Tech. Electrical Engineering			
B. Tech. Instrumentation & Control Engineering			
B. Tech. Civil Engineering with specialization in Infrastructure Development			
B. Tech. Material Science Engineering with specialization in Nano Technology			
B. Tech. Fire & Safety Engineering			
B. Tech. Production and Industrial Engineering			
B. Tech. Energy Technology + LLB (Hons.) with specialization in Intellectual Property Rights (IPR)	Minimum 50% marks at Higher & Senior Secondary level (10th& 12th) and Minimum 50% aggregate in Physics, Chemistry & Mathematics at Senior Secondary level (12th)		6
B. Tech. Computer Science & Engineering + LLB (Hons.) with specialization in Cyber Laws			

School of Design Studies

Program	Eligibility Criteria	Admission Criteria	DURATION (YEARS)
Bachelor of Design (B. Des)	Minimum 50% marks at Higher & Senior Secondary level (10th& 12th) and Minimum 50% aggregate in Physics, Chemistry & Mathematics at Senior Secondary level (12th)	UPES Engineering Aptitude Test (UPESEAT) followed by Centralized Counseling OR UPES-DAT Online Entrance Test ** followed by presentation of portfolio and interview OR Centralized Counseling through Merit rank for Non Exam Category	4
Bachelor of Fine Arts with specialization in Digital Arts	Minimum 50% marks at Higher & Senior Secondary level (10th& 12th) (Any Stream)	UPES-DAT Online Entrance Test, Presentation of Portfolio and Interview	4

** For B. Des-Date of the examination UPES - DAT will be informed to B. Des applicants separately.

School of Planning and Architecture

Bachelor of Planning (B. Plan)

PROGRAM	ELIGIBILITY CRITERIA	ADMISSION CRITERIA	DURATION (YEARS)
Bachelor of Planning (B. Plan)	Minimum 50% marks at Higher & Senior Secondary level (10th & 12th) and Minimum 50% aggregate in Physics, Chemistry & Mathematics at Senior Secondary level (12th)	Engineering Aptitude Test (UPESEAT) followed by Centralized Counseling OR Centralized Counseling through Merit rank for Non Exam Category	4

Centre of Information Technology

PROGRAM	ELIGIBILITY CRITERIA	ADMISSION CRITERIA	DURATION (YEARS)
B. Tech. Computer Science & Engineering with specialization in Cloud Computing & Virtualization Technology*	Minimum 60% marks at Higher & Senior Secondary level (10th& 12th) and Minimum 60% aggregate in Physics, Chemistry & Mathematics at Senior Secondary level (12th)	UPES Engineering Aptitude Test (UPESEAT) followed by Centralized Counseling OR Centralized Counseling through Merit rank for Non Exam Category	4
B. Tech. Computer Science & Engineering with specialization in Open Source & Open Standards*			
B. Tech. Computer Science & Engineering with specialization in Mainframe Technology*			
B. Tech. Computer Science & Engineering with specialization in Oil & Gas Informatics*			
B. Tech. Computer Science & Engineering with specialization in Telecom Informatics*			
B. Tech. Computer Science & Engineering with specialization in E-Commerce, Retail and Automation*			
B. Tech. Computer Science & Engineering with specialization in IT Infrastructure*			
B. Tech. Computer Science & Engineering with specialization in Business Analytics and Optimization*			
B. Tech. Computer Science & Engineering with specialization in Banking, Financial Services and Insurance*			
B.Tech Computer Science & Engineering with specialization in Graphics & Gaming *			
B. Tech. Computer Science & Engineering with specialization in IT Security & Cyber forensics*			
B.Tech Computer Science & Engineering with specialization in Manufacturing Systems*			
B.Tech Computer Science & Engineering with specialization in Healthcare Informatics*			

*In academic collaboration with IBM

Age Criteria

Only candidates whose date of birth falls on or after October 1, 1993 are eligible to apply for admission. Date of Birth as recorded in the Secondary Education Board only will be taken as authentic.

B. Tech / B. Des/ B. Plan (UPESEAT)

Test Date

Name of Program	Date of Test	Time	Duration
B.Tech/ B. Des/B. Plan - All Streams (UPESEAT)	16 May 2015 (Saturday)	09:30 – 12:30 Hours	3 Hours
B. Des (Online Design Test)**	Will be Informed later	Test Slots will be assigned by the University	1 Hours

Note: Last date to receive the filled application (OMR Form/ Online) is 3 May 2015.

** For B. Des-UPES-DAT Online Entrance Test will be conducted before UPESEAT exam. Duration of Exam will be1 hour. Date of the examination will be informed to B. Des applicants subsequently

Admit Card (to be downloaded from UPES website)

On the basis of information in the Application form, admit card of provisionally eligible candidates will be uploaded on the University website www.upes.ac.in on 10 May, 2015. Candidates are required to download the admit card accordingly. The duly completed downloaded admit card with photograph affixed (duly attested) in the space provided will have to be produced at the allotted test center. Candidates without the admit card or card without the photograph will NOT be permitted to take the test.

Entrance Test Locations / City Codes

Kindly refer to the following table for filling up the OMR/ Online Application form. Candidates are cautioned to fill the City code and shade correctly as the allotment of required Test City will be based on this information only. Candidates need to give both first & second choice as per their city preference in OMR/Online Application form.

City Name	Test City Code
Agra	11
Ahmedabad	12
Aizawl	13
Allahabad	14
Bangalore	15
Bhopal	16
Bhubaneswar	17
Chandigarh	18
Chennai	19
Cochin	20
Dehradun	21
Delhi	22
Dhanbad	23
Faridabad	24

City Name	Test City Code
Ghaziabad	25
Guwahati	26
Gurgaon	27
Haldwani	28
Hyderabad	29
Indore	30
Jabalpur	31
Jaipur	32
Jalandhar	33
Jammu	34
Jodhpur	35
Kanpur	36
Kolkata	37
Lucknow	38

City Name	Test City Code
Mumbai	39
Nagaon	40
Noida	41
Patna	42
Pune	43
Raipur	44
Ranchi	45
Rohtak	46
Shillong	47
Siliguri	48
Trivandrum	49
Varanasi	50
Vishakhapatnam	51

Note: University reserves the right to change or cancel any test center /city at its discretion, if required.

Scheme of Tests

Sections	No.of Questions
Mathematics	50
Physics	50
Chemistry	50
English Language Comprehension	30
Current Affairs Awareness	20
Total No. of Questions	200

RESERVATION OF SEATS

For Uttarakhand bona fide resident candidates: 15% of the seats in all programs will be reserved for residents of Uttarakhand subject to production of "Sthai Niwas Praman Patra" (Permanent Residence Certificate) issued by the competent authority of Uttarakhand State. These seats will get allotted strictly based on the merit positions secured in this category, provided the candidate has declared his intent to opt under this category at the time of applying for admission.

Note: Candidates applying under this category would be required to produce the original "Sthai Niwas Praman Patra" during the day of admission failing which their candidature shall stand cancelled.

Seats remaining unfilled by the stipulated date in this category shall be treated as unreserved

Non Examination Pathway - B. Tech through Board Merit / JEE Merit#

ELIGIBILITY CRITERIA	ADMISSION CRITERIA
Board Merit Minimum 80% marks at Higher & Senior Secondary level (10th & 12th) and minimum 80% aggregate in Physics, Chemistry & Mathematics at Senior Secondary level (12th class) OR **JEE Main Merit** (1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) and minimum 60% aggregate in Physics, Chemistry & Mathematics at Senior Secondary level (12th class). (2) JEE Main cut-off Rank to be announced (on UPES website) after the declaration of JEE Main 2015 results)	Centralized Counseling through Merit Ranking

Upto 20% seats shall be filled through Board Merit / JEE Main Merit category. In case of seats following vacant in this category; UPES has the right to fill these through UPES Examination. University also reserves the right to conduct further physical (paper pencil test) / online test for admission

100% Scholarship on Tuition Fee:

1. Scholarship will be offered to students securing an aggregate of 85% marks in class XII & 90% marks in PCM for B.Tech. (All Streams) in CBSE or ICSE Examination Board passing out in 2015. Such scholarships will be limited to 5% of seats in each B.Tech. Program. Scholarships will be allotted after commencement of the classes in Merit order to eligible candidates.
2. Scholarships will be given on the basis of merit only.
3. Continuation of Scholarship in the subsequent year will be as per the University policy.

Candidates placed in compartment are not eligible for admission to any program of study in the University

LAW Programs

PROGRAM	ELIGIBILITY CRITERIA	ADMISSION CRITERIA	DURATION (YEARS)
COLLEGE OF LEGAL STUDIES			
BA LL.B (Hons.) with emphasis on Energy Laws* BBA LL.B (Hons.) with emphasis on Corporate Laws! B.Com LLB (Hons) with emphasis on Taxation Laws*	Minimum 50% Marks at Higher & Senior Secondary level (10th & 12th)	UPES Online Law Studies Aptitude Test(UL-SAT) / Board Merit / CLAT Merit/ L-SAT India Merit followed by Group Discussion & Interview	5
B. Tech. Energy Technology + LLB (Hons.) with specialization in Intellectual Property Rights (IPR)* B. Tech. Computer Science & Engineering + LLB (Hons.) with specialization in Cyber Laws*	(1) Minimum 50% marks at Higher & Senior Secondary level (10th & 12th) (2) Minimum 50% aggregate in Physics, Chemistry & Mathematics at Senior Secondary level	UPES Engineering Aptitude Test(UPESEAT) followed by Centralized Counseling	6
LLM with specialization in Energy Laws	Minimum 50 % Marks at Higher & Secondary Level (10th & 12th) and LLB Degree	Entrance test followed by Interview	1
LLM with specialization in International Law	Min.50% Marks at Higher & Senior Secondary level (10th& 12th) and LLB (3 years)/5 yrIntg. LLB programme	Entrance test followed by Interview	1

Note: *Programs are approved by Bar Council of India

Age Criteria

Only candidates whose date of birth falls on or after October 1, 1993 are eligible to apply for admission. Date of Birth as recorded in the Secondary Education Board only will be taken as authentic.

LAW (UL-SAT) Online Test Details

Test Date

Name of Program	Date of Test	Time	Duration
LLB- All Streams	11 May to 17 May 2015	Test Slots can be chosen by students from 1 May 2015 till 6 May 2015 on www.upes.ac.in	2 Hours

Note: Last date to receive the filled application (OMR Form/ Online) is 3 May 2015

ONLINE TEST PROCESS

Candidates will appear for the ONLINE test by logging in with their credentials from their computer connected with a webcam and an internet connection. Candidates have the convenience to appear for the test from their home, office or internet café.

Note: University reserves the right to change the Test Date or cancel the Test.

Please note: The candidates will be sent their login credentials at least 24 hours before the exam on the registered email ID of the applicants.

Scheme of Tests

Sections	No. of Questions
Language Comprehension	30
Quantitative & Numerical Ability	30
Logical Reasoning	30
Legal General Knowledge	30
Legal Aptitude	30
Total No. of Questions	150

Non Examination Pathway - LAW Programs through Board Merit/ CLAT Merit / L-SAT India Merit

CLAT Merit / L-SAT India Merit

- For BA LLB (Hons.)/ BBA LLB (Hons.)/ B.Com, LLB (Hons)- Candidates with minimum 50% Marks in Higher & Senior Secondary (10th & 12th) and CLAT ranking upto 5000/ L-SAT India score of 60 percentile or above will be exempted from UPES Law Studies Aptitude test and will be invited directly for GD and Interview.
- For B. Tech+ LLB (Hons.) Candidates with minimum 60% Marks in Higher & Senior Secondary (10th & 12th), minimum 60% Marks in PCM at Senior Secondary Level (12th) and CLAT ranking upto 5000/ L-SAT India score of 60 percentile or above will be exempted from UPES-EAT and admissions through Merit Ranking.

Board Merit

- For BA LLB (Hons.)/ BBA LLB (Hons.)/B.Com LLB (Hons)- Candidates with 85% marks in 10th and 12th best of five subjects (English as one of the compulsory paper) are exempted from UPES Law Studies Aptitude Test (UL-SAT) and will be invited directly for GD and Interview.
- For B.Tech+ LLB (Hons.) Candidates with minimum 80% marks in 10th, 12th and 12th PCM (Physics, Chemistry & Maths) are exempted from UPES-EAT and admissions will be through Merit Ranking.

#Upto 20% seats shall be filled through Board Merit/ CLAT/ L-SAT India Category. In case, any seat remaining vacant UPES has the right to fill such seats through UPES Entrance Exam.

Candidates placed in compartment are not eligible for admission to any program of study in the University

M. Tech Programs

PROGRAM	ELIGIBILITY CRITERIA	ADMISSION CRITERIA	DURATION (YEARS)
M. Tech. Health, Safety & Environment	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech /BE in Chemical/ Mechanical/ Electrical/ Civil/ Industrial Safety/ Petroleum Engg./ Geo- Science Engg./ Fire Safety Engg or M. Sc. in Environment Science/ Chemistry with minimum 60% marks	Screening of Application & Interview	2
M. Tech. Petroleum Exploration	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech/ BE in Petroleum/ Geo Science/ Geo Informatics/ Mechanical/ Chemical or M.Sc. in Geology/ Geo Physics with minimum 60% marks	Screening of Application & Interview	2
M. Tech. Energy Systems	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech/BE in Electrical/Mechanical/Chemical/EEE/ Electronics/ Instrumentation Control with minimum 60% marks	Screening of Application & Interview	2
M. Tech. Pipeline Engineering	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech /BE in Mechanical/Chemical/Civil/ Petroleum Engineering with minimum 60% marks	Screening of Application & Interview	2
M. Tech Chemical Engineering with specialization in Process Design	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech/BE in Chemical Engineering/ Chemical Technology/Petro Chemical Engineering, with minimum 60% marks	Screening of Application & Interview	2
M. Tech. Robotics Engineering	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech /BE in Electronics /Mechanical /Electrical /CSE/ Instrumentation & Control Engineering/ EEE with minimum 60% marks	Screening of Application & Interview	2
M. Tech. Artificial Intelligence & Artificial Neural Networks	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B.Tech./ BE (IT/CSE/EEE/ECE /Instrumentation & Control) / M.Sc.(IT/CSE)/ Maths/ MCA with minimum 60% marks	Screening of Application & Interview	2
M. Tech. Computational Fluid Dynamics	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech /BE in Aerospace/ Aeronautical/ Mechanical/ Civil/ Chemical Engg. with minimum 60% marks	Screening of Application & Interview	2
M. Tech. Disaster Management	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech /BE in any discipline/ M.Sc (Env. Sc/ Phsyics/ Industrial Chemistry) with minimum 60% marks	Screening of Application & Interview	2
M. Tech. Renewable Energy Engineering	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech /BE in any discipline with minimum 60% marks	Screening of Application & Interview	2
M. Tech. Embedded Systems with specialization in Wearable Technology	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech /BE in IT/ CSE/ EEE/ ECE/ Electronics &Comm. Engg/Electrical/ Instrumentation Control/M. Sc IT/ CSE/ Maths with minimum 60% marks	Screening of Application & Interview	2
M. Tech Power System& Industrial Drives	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech/BE in Electrical/ Electronics/ ECE/ Power System/ Instrumentation and Control Engg. with minimum 60% marks	Screening of Application & Interview	2
M. Tech Power Distribution with Specialization in Smart Grids	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech/BE in Electronics & Comm. Engg/ Electronics/ Power Systems/ Instrumentation and Control/ Electrical with minimum 60% marks	Screening of Application & Interview	2
M. Tech Rotating Equipment	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech /BE in Mechanical with minimum 60% marks	Screening of Application & Interview	2
M. Tech Nuclear Science & Technology	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech/BE/M. Sc (Physics) with minimum 60% marks	Screening of Application & Interview	2
M. Tech Structural Engineering with specialization in Offshore Structures	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech/BE in Civil Engineering/ Mechanical with minimum 60% marks	Screening of Application & Interview	2
M. Tech Aerospace Engineering with specialization in Unmanned Aerial Vehicles	(1) Minimum 60% marks at Higher & Senior Secondary level (10th & 12th) (2) B. Tech/BE in Aerospace/Aeronautical/Avionics/CSE/ECE/MECH/EEE/EIE with minimum 60% marks	Screening of Application & Interview	2

Please Note:

- For all MBA/ M. Tech./ M. Des./ M. Plan programs, Candidates appearing in final year qualifying examination are also eligible to apply provided they submit the proof of their eligibility latest by October 30, 2015. Admission of students failing to submit the proof of their eligibility by October 30, 2015 even on account of non-declaration of results by their respective Universities will stand automatically cancelled & no refund of fee will be admissible, in such cases.
- Candidates placed in compartment are not eligible for admission to any program of study in the University in graduation.
- For all M. Tech. programs, candidates with valid GATE score will be preferred and will be offered teaching and research assistantship while pursuing the program as per University's requirements and discretion. For details refer page no.14
- Admissions will be purely on the basis of merit and candidates are strongly advised against canvassing and/or extraneous pressure on the selection process. Any candidate found guilty in above activities, his/her candidature is liable for immediate disqualification.
- The University of Petroleum & Energy Studies reserves the right to cancel any advertised course due to insufficient enrollments or for any other reason beyond its control. In such an eventuality, full fee shall be refunded to the student.
- Candidates having M.Sc qualification require 60% marks in B.Sc as well
- Programmes where M.Sc is a qualification the candidates require 60% marks both at UG and PG level

GATE 2015

Students admitted to M.Tech (full-time) program in the academic session 2015-16 with GATE 2015 scores higher than 90 percentile and above will be considered for half time research assistantship@ Rs.6000/- per month (half time 12 hrs work every week on campus from August – May month within 2 years of study.)

Students admitted to M.Tech (full-time) program in the academic session 2015-16 with GATE 2015 scores less than 90 percentile or don't have a GATE score will be given quarter time teaching / research assistantship for 2 years @ Rs.3,000/- per month(6 hrs of work every week on campus from August – May month within 2 years of study.)

School of Design Studies

M. DES PROGRAMS

PROGRAM	ELIGIBILITY CRITERIA	ADMISSION CRITERIA	DURATION (YEARS)
M. Des Transportation Design M. Des Product Design M. Des Industrial Design M. Des Interaction Design	(1) Minimum 50 % marks at Higher & Senior Secondary Level (10^{th}& 12^{th}) (2) B. Tech / BE in any discipline / B. Arch / BFA-4 yrs / B. Des/ 3 years B.Sc in Design plus 1 year of foundation /Applied Arts with minimum 50% marks	UPES Online Design Test (UPES –DAT) / Presentation of Portfolio followed by interview	2

Note: - Candidates having valid CEED-2014/2015 Score will be exempted from UPES – DAT Online Test.

M. DES SCHOLARSHIPS

50% Scholarship on 1st Year Tuition Fee

- Such scholarship will be limited to only 10% of total admissions in each M. Des program. It will be allotted in the merit order (based on graduation percentage) after completion of program registration i.e. on commencement of classes
- Eligibility Criteria:
  - Minimum 65% in 10th, 12th and Graduation
  - Minimum 35 marks in CEED exam or 60 in UPES – DAT
  - The annual family income should not exceed Rs. 6 lacs

25% Scholarship on 1st Year Tuition Fee

- Such scholarship will be limited to only 25% of total admissions in each M. Des program. It will be allotted in the merit order (based on graduation percentage) after completion of program registration i.e. on commencement of classes
- Eligibility Criteria:
  - Minimum 60% in 10th, 12th and Graduation
  - Minimum 30 marks in CEED exam or 50 in UPES – DAT
  - The annual family income should not exceed Rs. 6 lacs

Scholarship in the subsequent year will be guided by the scholarship policy of the university.

School of Planning and Architecture

M PLAN PROGRAMS

PROGRAM	ELIGIBILITY CRITERIA	ADMISSION CRITERIA	DURATION (YEARS)
M. Plan – Urban Design	a) Minimum 50% marks at Higher & Senior Secondary level (10th & 12th) b) B. Tech/ BE in Planning/ Architecture /Planning from a recognized university or equivalent with minimum 50% marks	Screening of Application & Interview	2
M. Plan – Environmental Planning	a) Minimum 50% marks at Higher & Senior Secondary level(10th & 12th) b) B. Tech/ BE in Planning/ Architecture/ Civil Engineering/ Architectural Engineering/ Environmental Engineering/ Master's Degree in Geography/ Economics/ Sociology/ Environmental Science*/ Environmental Management* of a recognized university or equivalent with minimum 50% marks.		
M. Tech in Building Engineering and Management	a) Minimum 50% marks at Higher & Senior Secondary Level (10th & 12th) b) B. Tech/ BE in Civil Engineering/ Building Engineering/ Architecture/ Architectural Engineering/ Building Science or Five Year Diploma in Construction Technology or equivalent from a recognized University/ Institution established by an Act of Parliament or State Legislature with minimum 50% marks		

School of Public Policy and Governance

BA PROGRAM

PROGRAM	ELIGIBILITY CRITERIA	ADMISSION CRITERIA	DURATION (YEARS)
BA Public Policy and Administration*	Min. 50% in Class 10th & 12th	Counselling Interview	3

MA PROGRAM

PROGRAM	ELIGIBILITY CRITERIA	ADMISSION CRITERIA	DURATION (YEARS)
MA - Public Policy*	Min.50% Marks at Higher & Senior Secondary level(10th & 12th)/ Min. 50% in graduation	Counselling Interview	2

School of International Law and Diplomacy

MA PROGRAMS

PROGRAM	ELIGIBILITY CRITERIA	ADMISSION CRITERIA	DURATION (YEARS)
MA – International Affairs**	Min.50% Marks at Higher & Senior Secondary level (10th & 12th) and B.A / LLB (3 years)/5 yr Intg. LLB programme	Screening of Application & Interview	2
MA – Criminal Law & Justice***			

*With IAS Coaching and test preparation embedded.

** With IFS Coaching and test preparation embedded.

***With IPS Coaching and test preparation embedded.

PROGRAM FEE STRUCTURE

COLLEGE OF MANAGEMENT & ECONOMICS STUDIES

BBA FEE STRUCTURE (In Rs.)

Programs: -BBA Oil & Gas Marketing / BBA Aviation Operations* / BBA Logistics Management / BBA Auto Marketing/ BBA Foreign Trade / BBA Retail Management/ BBA Digital Marketing / BBA Financial Services Marketing

Semester 1	
Tuition Fee	63,188
Academic Service Fee	21,062
Total Fee	84,250

Semester 2	
Tuition Fee	63,188
Academic Service Fee	21,062
Total Fee	84,250

Semester 3	
Tuition Fee	67,500
Academic Service Fee	22,500
Total Fee	90,000

Semester 4	
Tuition Fee	67,500
Academic Service Fee	22,500
Total Fee	90,000

Semester 5	
Tuition Fee	72,188
Academic Service Fee	24,062
Total Fee	96,250

Semester 6	
Tuition Fee	72,188
Academic Service Fee	24,062
Total Fee	96,250

*In addition, IATA (International Air Transport Association) course fee (approx. Rs. 35000/- or as applicable) is payable during October 2015). Qualifying IATA Certification Program is mandatory for award of BBA (AVO) degree. Also, it is mandatory for these students to have a valid Passport. Students not having a Passport can apply and must submit a copy of the passport to the office by 31st Oct 2015.

MBA FEE STRUCTURE (In Rs.)

Programs: -MBA Oil & Gas Management / MBA Energy Trading / MBA Power Management / MBA Port &Shipping Management / MBA Logistics & Supply Chain Management / MBA International Business / MBA Aviation Management / MBA Infrastructure Management / MBA Business Analytics

Semester 1	
Tuition Fee	155,438
Academic Service Fee	51,812
Total Fee	207,250

Semester 2	
Tuition Fee	155,438
Academic Service Fee	51,812
Total Fee	207,250

Semester 3	
Tuition Fee	166,313
Academic Service Fee	55,437
Total Fee	221,750

Semester 4	
Tuition Fee	166,313
Academic Service Fee	55,437
Total Fee	221,750

M.A. ENERGY ECONOMICS FEE STRUCTURE (In Rs.)

Semester 1	
Tuition Fee	80,250
Academic Service Fee	26,750
Total Fee	107,000

Semester 2	
Tuition Fee	80,250
Academic Service Fee	26,750
Total Fee	107,000

Semester 3	
Tuition Fee	85,688
Academic Service Fee	28,562
Total Fee	114,250

Semester 4	
Tuition Fee	85,688
Academic Service Fee	28,562
Total Fee	114,250

COLLEGE OF ENGINEERING STUDIES
B. TECH FEE STRUCTURE (In Rs.)

Programs: -B. Tech. Applied Petroleum Engineering with specialization in Upstream/ B. Tech. Applied Petroleum Engineering with specialization in Gas Stream /B. Tech. Chemical Engineering with specialization in Refining & Petrochemicals/ B. Tech. Automotive Design Engineering/B. Tech. Mechanical Engineering

Semester 1	
Tuition Fee	74,400
Academic Service Fee	49,600
Total Fee	124,000

Semester 2	
Tuition Fee	74,400
Academic Service Fee	49,600
Total Fee	124,000

Semester 3	
Tuition Fee	79,500
Academic Service Fee	53,000
Total Fee	132,500

Semester 4	
Tuition Fee	79,500
Academic Service Fee	53,000
Total Fee	132,500

Semester 5	
Tuition Fee	85,050
Academic Service Fee	56,700
Total Fee	141,750

Semester 6	
Tuition Fee	85,050
Academic Service Fee	56,700
Total Fee	141,750

Semester 7	
Tuition Fee	90,900
Academic Service Fee	60,600
Total Fee	151,500

Semester 8	
Tuition Fee	90,900
Academic Service Fee	60,600
Total Fee	151,500

B. TECH / B. DES FEE STRUCTURE (In Rs.)

Programs: -B.Tech. Geo Science Engineering/ B.Tech. Geo-Informatics Engineering/ B.Tech Mining Engineering/ B.Tech. Aerospace Engineering/ B.Tech. Aerospace Engineering with specialization in Avionics/ B.Tech. Electronics Engineering/ B.Tech. Mechatronics Engineering/ B.Tech. Power System Engineering/ B.Tech Electrical Engineering/ B. Tech Instrumentation & Control Engineering/ B. Tech. Civil Engineering with specialization in Infrastructure Development / B. Tech. Material Science Engineering with specialization in Nano Technology / B. Tech. Fire & Safety Engineering / B. Tech Production & Industrial Engineering / Bachelor in Design (B. Des)/ B .Tech Computer Science & Engineering with specialization in Cloud Computing and virtualization Technology / B .Tech Computer Science & Engineering with specialization in Open Source & Open Standards / B .Tech Computer Science & Engineering with specialization in Oil & Gas Informatics / B .Tech Computer Science & Engineering with specialization in Mainframe Technology / B .Tech Computer Science & Engineering with specialization in Telecom Informatics / B .Tech Computer Science & Engineering with specialization in E-Commerce, Retail & Automation / B .Tech Computer Science & Engineering with specialization in IT Infrastructure / B .Tech Computer Science & Engineering with specialization in Business Analytics & Optimization / B .Tech Computer Science & Engineering with specialization in Banking, Financial Services & Insurance / B .Tech Computer Science & Engineering with specialization in IT Security and Cyber Forensics/ B .Tech Computer Science & Engineering with specialization in Graphics and Gaming/ B .Tech Computer Science & Engineering with specialization in Manufacturing Systems/ B .Tech Computer Science & Engineering with specialization in Healthcare Informatics.

Semester 1	
Tuition Fee	69,300
Academic Service Fee	46,200
Total Fee	115,500

Semester 2	
Tuition Fee	69,300
Academic Service Fee	46,200
Total Fee	115,500

Semester 3	
Tuition Fee	74,100
Academic Service Fee	49,400
Total Fee	123,500

Semester 4	
Tuition Fee	74,100
Academic Service Fee	49,400
Total Fee	123,500

Semester 5	
Tuition Fee	79,200
Academic Service Fee	52,800
Total Fee	132,000

Semester 6	
Tuition Fee	79,200
Academic Service Fee	52,800
Total Fee	132,000

Semester 7	
Tuition Fee	84,600
Academic Service Fee	56,400
Total Fee	141,000

Semester 8	
Tuition Fee	84,600
Academic Service Fee	56,400
Total Fee	141,000

B. TECH LL.B FEE STRUCTURE (In Rs.)

Programs:-B. Tech. Energy Technology + LLB (Hons.) with specialization in Intellectual Property Rights (IPR)/ B. Tech. Computer Science & Engineering + LLB (Hons.) with specialization in Cyber Laws.

Semester 1	
Tuition Fee	59,100
Academic Service Fee	39,400
Total Fee	98,500

Semester 2	
Tuition Fee	59,100
Academic Service Fee	39,400
Total Fee	98,500

Semester 3	
Tuition Fee	63,150
Academic Service Fee	42,100
Total Fee	105,250

Semester 4	
Tuition Fee	63,150
Academic Service Fee	42,100
Total Fee	105,250

Semester 5	
Tuition Fee	67,500
Academic Service Fee	45,000
Total Fee	112,500

Semester 6	
Tuition Fee	67,500
Academic Service Fee	45,000
Total Fee	112,500

Semester 7	
Tuition Fee	72,150
Academic Service Fee	48,100
Total Fee	120,250

Semester 8	
Tuition Fee	72,150
Academic Service Fee	48,100
Total Fee	120,250

Semester 9	
Tuition Fee	77,100
Academic Service Fee	51,400
Total Fee	128,500

Semester 10	
Tuition Fee	77,100
Academic Service Fee	51,400
Total Fee	128,500

Semester 11	
Tuition Fee	82,350
Academic Service Fee	54,900
Total Fee	137,250

Semester 12	
Tuition Fee	82,350
Academic Service Fee	54,900
Total Fee	137,250

Bachelor of Fine Arts (BFA) FEE STRUCTURE (In Rs.)

Semester 1	
Tuition Fee	38,700
Academic Service Fee	25,800
Total Fee	64,500

Semester 2	
Tuition Fee	38,700
Academic Service Fee	25,800
Total Fee	64,500

Semester 3	
Tuition Fee	41,400
Academic Service Fee	27,600
Total Fee	69,000

Semester 4	
Tuition Fee	41,400
Academic Service Fee	27,600
Total Fee	69,000

Semester 5	
Tuition Fee	44,250
Academic Service Fee	29,500
Total Fee	73,750

Semester 6	
Tuition Fee	44,250
Academic Service Fee	29,500
Total Fee	73,750

Semester 7	
Tuition Fee	47,250
Academic Service Fee	31,500
Total Fee	78,750

Semester 8	
Tuition Fee	47,250
Academic Service Fee	31,500
Total Fee	78,750

Note: Additional annual charge of Rs. 15000/- shall be levied for consumables (towards studio raw materials & consumables. This fee is payable by BFA. students only and will cover items like clays, wood and other items.)

M. TECH FEE STRUCTURE (In Rs.)

Programs:-M. Tech. Health, Safety & Environment/ M. Tech. Petroleum Exploration/ M. Tech. Energy Systems/ M. Tech. Pipeline Engineering/ M. Tech Chemical Engineering with specialization in Process Design/ M. Tech. Robotics Engineering/ M. Tech. Artificial Intelligence & Artificial Neural Networks/ M. Tech. Computational Fluid Dynamics/ M. Tech. Disaster Management/ M. Tech. Renewable Energy Engineering/ M. Tech. Embedded Systems with specialization in Wearable Technology/ M. Tech Power System& Industrial Drives/ M. Tech. Power Distribution with specialization in Smart Grids/ M. Tech. Rotating Equipment/ M. Tech. Nuclear Science & Technology/ M. Tech. Aerospace Engineering with specialization in Unmanned Aerial Vehicles/ M. Tech Structural Engineering with specialization in Offshore Structures.

Semester 1	
Tuition Fee	75,750
Academic Service Fee	25,250
Total Fee	101,000

Semester 2	
Tuition Fee	75,750
Academic Service Fee	25,250
Total Fee	101,000

Semester 3	
Tuition Fee	81,000
Academic Service Fee	27,000
Total Fee	108,000

Semester 4	
Tuition Fee	81,000
Academic Service Fee	27,000
Total Fee	108,000

M. DES FEE STRUCTURE (In Rs.)

Programs: - M. Des Transportation Design / M. Des Product Design/ M. Des Industrial Design/ M. Des Interaction Design

Semester 1	
Tuition Fee	152,250
Academic Service Fee	50,750
Total Fee	203,000

Semester 2	
Tuition Fee	152,250
Academic Service Fee	50,750
Total Fee	203,000

Semester 3	
Tuition Fee	162,000
Academic Service Fee	55,000
Total Fee	217,000

Semester 4	
Tuition Fee	162,000
Academic Service Fee	55,000
Total Fee	217,000

Bachelor of Planning (B. Plan) FEE STRUCTURE (In Rs.)

Semester 1	
Tuition Fee	51,900
Academic Service Fee	34,600
Total Fee	86,500

Semester 2	
Tuition Fee	51,900
Academic Service Fee	34,600
Total Fee	86,500

Semester 3	
Tuition Fee	55,500
Academic Service Fee	37,000
Total Fee	92,500

Semester 4	
Tuition Fee	55,500
Academic Service Fee	37,000
Total Fee	92,500

Semester 5	
Tuition Fee	59,250
Academic Service Fee	39,500
Total Fee	98,750

Semester 6	
Tuition Fee	59,250
Academic Service Fee	39,500
Total Fee	98,750

Semester 7	
Tuition Fee	63,300
Academic Service Fee	42,200
Total Fee	105,500

Semester 8	
Tuition Fee	63,300
Academic Service Fee	42,200
Total Fee	105,500

M. Plan/ M. Tech FEE STRUCTURE (In Rs.)

Programs: - M. Plan Urban Design/ M. Tech in Building Engineering and Management/ M. Plan Environmental Planning

Semester 1	
Tuition Fee	75,750
Academic Service Fee	25,250
Total Fee	101,000

Semester 2	
Tuition Fee	75,750
Academic Service Fee	25,250
Total Fee	101,000

Semester 3	
Tuition Fee	81,000
Academic Service Fee	27,000
Total Fee	108,000

Semester 4	
Tuition Fee	81,000
Academic Service Fee	27,000
Total Fee	108,000

B.A. Public Policy and Administration FEE STRUCTURE (In Rs.)

Semester 1	
Tuition Fee	63,188
Academic Service Fee	21,062
Total Fee	84,250

Semester 2	
Tuition Fee	63,188
Academic Service Fee	21,062
Total Fee	84,250

Semester 3	
Tuition Fee	67,500
Academic Service Fee	22,500
Total Fee	90,000

Semester 4	
Tuition Fee	67,500
Academic Service Fee	22,500
Total Fee	90,000

Semester 5	
Tuition Fee	72,188
Academic Service Fee	24,062
Total Fee	96,250

Semester 6	
Tuition Fee	72,188
Academic Service Fee	24,062
Total Fee	96,250

M.A. FEE STRUCTURE (In Rs.)

Programs: -M.A. Public Policy/ M.A. International Affairs/ M.A. Criminal Law and Justice

Semester 1	
Tuition Fee	93,750
Academic Service Fee	31,250
Total Fee	125,000

Semester 2	
Tuition Fee	93,750
Academic Service Fee	31,250
Total Fee	125,000

Semester 3	
Tuition Fee	100,313
Academic Service Fee	33,437
Total Fee	133,750

Semester 4	
Tuition Fee	100,313
Academic Service Fee	33,437
Total Fee	133,750

LL.B. FEE STRUCTURE (In Rs.)

Programs: -BA LL.B (Hons) with emphasis on Energy Laws/ BBA LL.B (Hons.) with emphasis on Corporate Laws/ B.Com LLB (Hons.) with emphasis on Taxation Laws

Semester 1	
Tuition Fee	51,900
Academic Service Fee	34,600
Total Fee	86,500

Semester 2	
Tuition Fee	51,900
Academic Service Fee	34,600
Total Fee	86,500

Semester 3	
Tuition Fee	55,500
Academic Service Fee	37,000
Total Fee	92,500

Semester 4	
Tuition Fee	55,500
Academic Service Fee	37,000
Total Fee	92,500

Semester 5	
Tuition Fee	59,250
Academic Service Fee	39,500
Total Fee	98,750

Semester 6	
Tuition Fee	59,250
Academic Service Fee	39,500
Total Fee	98,750

Semester 7	
Tuition Fee	63,300
Academic Service Fee	42,200
Total Fee	105,500

Semester 8	
Tuition Fee	63,300
Academic Service Fee	42,200
Total Fee	105,500

Semester 9	
Tuition Fee	67,650
Academic Service Fee	45,100
Total Fee	112,750

Semester 10	
Tuition Fee	67,650
Academic Service Fee	45,100
Total Fee	112,750

LLM. FEE STRUCTURE (In Rs.)

Program: - LLM with specialization in Energy Laws/ LLM with specialization in International Law

Trimester 1	
Total Fee	33,750

Trimester 2	
Total Fee	33,750

Trimester3	
Total Fee	33,750

Trimester 4	
Total Fee	33,750

OTHER FEE

Industrial Tour Fee: In order to give real life exposure of the industry, short duration industrial tours would be organized for all students of full time programs. Participation in the industrial tour is mandatory and is a credited course for which a charge of₹20,000/- (one time) is payable at the time of registration. In case travel of industrial tour by air is necessitated additional charges, if any, would be intimated to the students concerned for payment prior to commencement of the tour.

Alumni Fee: This Fee is applicable to students of all the programs of the University. An Alumni Fee of ₹1,500/- is to be paid along with 3rd Semester fee of MBA / M. Tech /M. Des./ M. Plan/ M.A., 7th Sem. fee of B. Tech / B. Des / BFA and B. Plan, 5th Sem. fee of BBA and BA, 9th Sem. fee of BA LL.B (Hons.) / BBA LL.B & B. Com LLB (Hons.) /11th Sem. of B.Tech LL.B (Hons.). An Alumni Fee for LLM programme will be paid by the student during the time of admission.

Personality Development Program (PDP) Fee: To improve communication & soft skills, it is mandatory for all the students to attend the Personality Development Program organized by UPES. PDP fee for MBA / M. Tech /M. Des./ M. Plan and M.A.is ₹15,000/- payable along with 2nd Semester Fee; and for Undergraduate Programs(BBA/BA LLB/BBA LLB/B.Com LL.B/BTECH/B. Des/B. Plan/ BFA/ BA and B.TECH+LLB) is ₹20,000/- payable along with 3rd semester fee.

Refundable Security: Refundable (interest free) security amount of ₹ 20,000/- is also payable at the time of registration. In case any taxes/ levies on fee are charged by the Central/State/Local Authorities/Overseas Authorities from time to time, the same shall also be borne by the students.

Academic Computing fee: ₹5,000/- will be charged in the first year of the program and is to be paid in equal installment in 1st and 2nd semester. For the subsequent year of the program 7% increase will be applicable each year till the end of the program. It is mandatory for all students to bring their Laptop as per the configuration mentioned in the admission offer letter or on the UPES website.

Students of **BBA Aviation Operations** will additionally have to pay one time applicable IATA course fee (approx.₹ 35,000/-) in addition to the semester fee during October 2015.

Fee Payment Schedule for those admitted in Academic Year 2015-16.

1st Semester	2nd Semester	3rd Semester	4th Semester	5th Semester	6th Semester
At the time of admission	by 10th January, 2016	by 10th July, 2016	by 10th January, 2017	by 10th July, 2017	by 10th January, 2018
7th Semester	**8th Semester**	**9th Semester**	**10th Semester**	**11th Semester**	**12th Semester**
by 10th July, 2018	by 10th January, 2019	by 10th July, 2019	by 10th January, 2020	by 10th July, 2020	by 10th January, 2021

SCHOLARSHIP/FEE CONCESSION

- University of Petroleum & Energy Studies offers limited scholarships in some specific programs as decided by the University. The scholarships are awarded purely on academic merit cum means.

- Waiving of Tuition Fee partially/fully will be considered for those who are awarded scholarships.

- The details of the scholarships would be provided to the students in the student's bulletin given to the students at the time of registration. Award of Scholarships will be decided by the Scholarship Committee & its decision shall be final and binding.

- 25% Concession on Tuition fee shall be provided only to Uttarakhand bonafide resident students on merit-cum-means basis to be decided by the University subject to fulfilling the following conditions:
- Students' whose gross annual family income is not more than 3 lakhs,
- Students' who possess valid 'Sthai Niwas Praman Patra' from Uttarakhand state,

- Should have passed class X & XII level schooling from Uttarakhand. However, this condition may be relaxed for wards of defense personnel subject to producing of posting certificate outside the state issued by competent authority.

HOSTEL FACILITY / FEE (2015-16)

Residential blocks have been earmarked for limited on – campus accommodation (on first come first serve basis) separately for boys and girls on triple sharing basis.
Student wishing to avail hostel facility (On-campus) will need to deposit;
The fee indicated below is for academic session 2015-16 only and is on triple sharing basis

Fee:
Rs. 1, 00,000/- For regular hostel.
However for girls students we also have a few additional triple sharing rooms with ad-on facilities at the Kandholi campus as indicated below:
(i). Rs.1, 20,000/- for hostel room with attached washroom
(II). Rs.1, 35,000/- for hostel room with attached washroom and Air conditioning
Interest free refundable Hostel security Fee: Rs.10, 000/-

Note: - Students desirous of availing the campus hostel facility should submit the following documents along with the requisite hostel fee without fail.

- **Medical Certificate**
- **Police Verification Report** (from their respective city/town)

A student registered in the Hostel (On-campus) and withdraws from the same at any point of time during the academic year will not be entitled to hostel fee refund. In case, the seat is filled up by another boarder, proportionate refund may be considered on the prorate basis.

RESERVATION OF SEATS

For Uttrakhand bona fide resident candidates: 15% of the seats in all programs will be reserved for residents of Uttrakhand subject to production of “Sthai Niwas Praman Patra” (Permanent Residence Certificate) issued by the competent authority of Uttarakhand State. These seats will get allotted strictly based on the merit positions secured in this category, provided the candidate has declared his intent to opt under this category at the time of applying for admission.

Note: Candidates applying under this category would be required to produce the original “Sthai Niwas Praman Patra” during the day of admission failing which their candidature shall stand cancelled.

Seats remaining unfilled by the stipulated date in this category shall be treated as unreserved

WITHDRAWAL OF ADMISSION

UPES will follow UGC guidelines regarding refund of fees on withdrawal. The refund cheque will be issued in the name of student only {For this purpose the academic session is deemed to commence from the date of PEP (Personality Enhancement Program)}.For more details of refund policy please visit www.upes.ac.in

TRANSPORTATION

Students residing at Dehradun city and wishing to avail transportation facility to the UPES campus can avail the same by paying a fee of Rs.20,000 for academic year 2015-16. Boarders residing in on-campus hostels will be provided to and fro transportation facility to the city once a week free of charge.

MEDICALFACILITIES

University provides basic healthcare facilities. Doctors on roll provide basic first aid in case of medical emergencies and subsequently student is assisted in evacuating him/her to nearest empaneled hospital.

The medical treatment cost is partially borne through medical insurance, balance is to borne by student or his/her parent. The onus of insuring the student is covered under medical insurance is on the student and he/she is expected to keep card handy.

PLACEMENT

UPES shall provide placement assistance to all enrolled students subject to their fulfilling eligibility conditions as prescribed in UPES Placement Regulations. However, the obligation of the University will be only to provide Placement assistance and not Placement guarantee.

RAGGING

- The University has zero tolerance policy on ragging and will strictly enforce it.
- Ragging in any form inside or outside the campus and hostel premises is strictly prohibited under UGC Regulations on ragging, Ragging being a cognizable offence; the punishment for ragging will be summary expulsion from the University.
- Ragging as defined by the Hon'ble Supreme Court of India: "Any disorderly conduct whether by words spoken or written, or by an act with the effect of teasing, treating or handling with rudeness any other student; indulging in rowdy or undisciplined activities which causes or is likely to cause annoyance, hardship or psychological or to raise fear or apprehension thereof, in a fresher or a junior student, or asking the students to do any act or perform something which such student will not do in the ordinary course and which has the effect of causing or generating sense of shame or embarrassment so as to adversely affect the physique or psyche of a fresher or a junior student."

HOW TO APPLY

Candidates desirous of seeking admission to any of the program may procure the prospectus and application form from UPES Enrolment Offices at Dehradun/ Delhi on payment of Rs. 1750/- (Rs. 1850/-, if required through post or courier). The payment should be made in the form of demand draft drawn in favor of "UPES Fee Account", payable at Dehradun/ Delhi.

COMMENCEMENT OF PROGRAM

Commencement of actual classes begins from the date of attending the PEP (Personality Enhancement Program) held immediately after registration.

ADMISSION POLICY FOR INTERNATIONAL STUDENTS

International Students

International students are defined as any applicant holding a passport of any country other than India, including applicants of Indian origin who are not Indian nationals/passport holders.

Non Resident Indians

Non Resident Indians (NRI's) or dependents of Non Resident Indians who have studied and passed qualifying examinations from schools or colleges outside India are required to pay the appropriate international/SAARC fees, depending on their country of residence.
Dependents of NRI's studying in India *are not* defined as NRI/International students

Eligibility Criteria:

1. Students must fulfil minimum eligibility requirements as laid down for their chosen program at UPES.
2. Student's educational degrees/certificates must be recognized as equivalent to the required Indian qualifications by the Association of Indian Universities.
3. It is recommended that students have the following:
   - College of Management & Economics Studies : MBA programs: GMAT score of 600
   - College of Engineering Studies: Undergraduate programs: SAT score of 1500/ Postgraduate programs: GRE Score of 1700 (cumulative)
4. Students from non -English speaking countries should have passed TOEFL/IELTS or equivalent
5. Students must possess a passport that is valid for the duration of study.

Procedure for admission:

1. Candidate may apply on prescribed format available online at www.upes.ac.in along with application fee of USD75 (which can be remitted online). Students may also request a manual application form in case of difficulties in access online.
2. UPES will review the students application and required documents and if found eligible, will issue a provisional offer of admission letter.
   Note: UPES may also request an interview – by phone or on line if the applicant is out of India - the cost of which will be borne by the applicant.

Important note: At the time of final registration, all successful international applicants will be required to submit attested copies of the following documents:

- 10th & 12th/Graduation grade card or equivalent
- Official transcripts/transfer certificate from Institution last attended
- Passport and student visa valid for duration of study
  NRI students only:
- Passport and PIO/OCI card valid for duration of study

3. All international students are required to register with the Foreigners Regional Registration Office (FRRO) / local police authorities as per regulation of the Ministry of External Affairs, Government of India. Students can request assistance from UPES with preliminary registration formalities. Once the preliminary registration formalities are complete, students will be responsible thereafter to maintain their registration with the FRRO/local police.

Program Fee Structure (in USD per Annum):

Programme	One time Fees (1st year)	1st year 2015-16	2nd year 2016-17	3rd year 2017-18	4th year 2018-19	5th year 2019-20	6th year 2020-21	Total Fees
BBA	1,280	3,740	3,740	3,740				12,500
MBA	1,100	8,700	8,700					18,500
B. Tech.	1,380	6,030	6,030	6,030	6,030			25,500
M. Tech. / M. Plan	1,100	5,200	5,200					11,500
Law	1,450	4,010	4,010	4,010	4,010	4,010		21,500
B. Tech. LLB	1,520	4,830	4,830	4,830	4,830	4,830	4,830	30,500
M. Des.	1,100	9,700	9,700					20,500

Note: Students of BBA Aviation Operations will additionally have to pay applicable IATA course fee (approx.₹ 35,000/-) along with the semester fee during October 2015.

One time fees include:

- Industrial Tour Charges – mandatory short and long duration industrial tours provide first hand exposure to industry for all students of full time UPES programs.

Note: In the event that air travel is necessary, there may additional charges which the student will have to pay prior to commencement of the tour.

- Alumni Fee
- Personality Development Program Fee

To improve communication and soft skills, all students must attend the Personality Development Program organized by UPES.

- Academic Computing Fees –Academic Computing fee includes maintenance of the hardware, providing licensed software's and internet bandwidth cost for the entire duration of the program. However it is mandatory for each incoming student to be equipped with a tablet or laptop conforming to the minimum specifications of UPES which will be detailed at the time of admission.
- Refundable (interest free) Security Deposit: After the successful completion of the registered program, the amount of USD333.

Note: In the event of any taxes/ levies on fees by the Central/State/Local Authorities/Overseas Authorities from time to time, these will be borne by students

HOSTEL FACILITY / FEE (2015-16)

Residential blocks have been earmarked for limited on – campus accommodation (on first come first serve basis) separately for boys and girls on triple sharing basis.
Student wishing to avail hostel facility (On-campus) will need to deposit;
The fee indicated below is for academic session 2015-16 only and is on triple sharing basis

Fee:
USD 1650 for regular campus hostel
However for girl's students we also have a few additional triple sharing rooms with ad-on facilities at the Kandholi campus as indicated below:
(i). USD 1950 for campus hostel room with attached washroom
(II). USD 2200 for campus hostel room with attached washroom and Air conditioner facility
Interest free refundable Hostel security Fee: USD 165

Note: - Students desirous of availing the campus hostel facility should submit the following documents along with the requisite hostel fee without fail.

- **Medical Certificate**
- **Police Verification Report** (from their respective city/town)

A student registered in the Hostel (On-campus) and withdraws from the same at any point of time during the academic year will not be entitled to hostel fee refund. In case, the seat is filled up by another boarder, proportionate refund may be considered.

PROGRAMS ON OFFER / INTAKE / CODES at UPES, Dehradun

Kindly refer to the following table for filling up the OMR Application Form

Program	Intake#	Code
BBA Oil & Gas Marketing	50	11001
BBA Aviation Operations	50	11002
BBA Logistics Management	50	11003
BBA Auto Marketing	30	11004
BBA Foreign Trade	40	11005
BBA Retail Management	30	11006
BBA Digital Marketing	30	11007
BBA Financial Services Marketing	50	11008
MBA Oil & Gas Management	80	12001
MBA Energy Trading	40	12002
MBA Power Management	60	12003
MBA Port & Shipping Management	25	12004
MBA Logistics & Supply Chain Management	80	12005
MBA International Business	60	12006
MBA Aviation Management	40	12007
MBA Infrastructure Management	30	12008
MBA Business Analytics	40	12009
MA Energy Economics	30	13001
B.Tech Applied Petroleum Engineering with specialization In Upstream	50	21001
B.Tech Applied Petroleum Engineering with specialization In Gas Stream	50	21002
B.Tech Chemical Engineering with specialization In Refining & Petrochemicals	50	21003
B.Tech Geo-Science Engineering	40	21004
B.Tech Geo-Informatics Engineering	40	21005
B.Tech Mining Engineering	40	21006
B.Tech Power System Engineering	60	21007
B.Tech Electrical Engineering	60	21008
B.Tech Civil Engineering with specialization In Infrastructure Development	60	21009
B.Tech Fire & Safety Engineering	40	21010
B.Tech Electronics Engineering	60	21011
B.Tech Mechatronics Engineering	60	21012
B.Tech Automotive Design Engineering	60	21013
B.Tech Mechanical Engineering	60	21014
B.Tech Instrumentation & Control Engineering	40	21015
B.Tech Production & Industrial Engineering	40	21016
B.Tech Material Science Engineering with specialization In Nano Technology	60	21017
B.Tech Aerospace Engineering	30	21018
B.Tech Aerospace Engineering with specialization In Avionics Engineering	30	21019
B.Tech Computer Science & Engineering with specialization In Cloud Computing & Virtualization Technology	60	21020
B.Tech Computer Science & Engineering with specialization In Open Source & Open Standards	60	21021
B.Tech Computer Science & Engineering with specialization In Mainframe Technology	60	21022
B.Tech Computer Science & Engineering with specialization In Oil & Gas Informatics	60	21023
B.Tech Computer Science & Engineering with specialization In Telecom Informatics	40	21024
B.Tech Computer Science & Engineering with specialization In E-Commerce, Retail and Automation	40	21025
B.Tech Computer Science & Engineering with specialization In IT Infrastructure	60	21026
B.Tech Computer Science & Engineering with specialization In Business Analytics & Optimization	60	21027
B.Tech Computer Science & Engineering with specialization In Banking , Financial Services & Insurance	60	21028
B.Tech Computer Science & Engineering with specialization In IT Security & Cyber Forensics	60	21029

B.Tech Computer Science & Engineering with specialization In Graphics & Gaming	30	21030
B.Tech Computer Science & Engineering with specialization In Healthcare Informatics	30	21031
B.Tech Computer Science & Engineering with specialization In Manufacturing Systems	30	21032
M. Tech Chemical Engineering with specialization In Process Design	15	22001
M. Tech Artificial Intelligence & Artificial Neural Networks	15	22002
M. Tech Embedded Systems with specialization In Wearable Technology	15	22003
M. Tech Power Distribution with specialization In Smart Grids	15	22004
M. Tech Health, Safety & Environment	40	22005
M. Tech Petroleum Exploration	20	22006
M. Tech Energy Systems	25	22007
M. Tech Pipeline Engineering	25	22008
M. Tech Robotics Engineering	15	22009
M. Tech Computational Fluid Dynamics	15	22010
M. Tech Disaster Management	15	22011
M. Tech Nuclear Science & Technology	15	22012
M. Tech Renewable Energy Engineering	15	22013
M. Tech Rotating Equipment	20	22014
M. Tech Aerospace Engineering with specialization In Unmanned Aerial Vehicles (UAV)	15	22015
M. Tech Structural Engineering with specialization In Offshore Structures	15	22016
M. Tech Power System & Industrial Drives	15	22017
M. Des Transportation Design	20	23001
M. Des Industrial Design	15	23002
M. Des Product Design	15	23003
M. Des Interaction Design	15	23004
Bachelor of Design (B. Des)	80	24001
Bachelor of Fine Arts (BFA)	40	25001
Integrated BA LLB (Hons.) with emphasis on Energy Laws	120	31001
Integrated BBA LLB (Hons.) with emphasis on Corporate Laws	60	31002
Integrated B.Com. LLB (Hons.) with emphasis on Taxation Laws	120	31003
Integrated B.Tech-Energy Technology + LL.B. (Hons.) with specialization in Intellectual Property Rights	40	31004
Integrated B.Tech Computer Science + LL.B. (Hons.) with specialization in Cyber Laws	60	31005
LLM with specialization in Energy Laws	15	32001
LLM with specialization in International Law	15	32002
Bachelor of Planning(B. Plan)	40	41001
M. Plan Urban Design	15	42001
M. Tech in Building Engineering & Management	15	42002
M. Plan Environment Planning	15	42003
BA (Public Policy & Administration) with IAS Coaching - 3 year	60	51001
MA (Public Policy) with IAS Coaching	30	52001
MA (International Affairs) with IFS Coaching	30	52002
MA (Criminal Law and Justice) with IPS Coaching	30	52003

*In academic collaboration with IBM.
As per Academic Council decision, the University at its discretion may exceed the approved intake by 20%

PROGRAMS ON OFFER / INTAKE / CODES at UTM, Shillong

Kindly refer to the following table for filling up the OMR Application Form

Name of Course	Intake#	Code
B.Tech. Computer Science &Engineering with specialization in Cloud Computing & Virtualization Technology*	60	81001
B.Tech. Computer Science& Engineering with specialization in Oil & Gas Informatics*	30	81002
B.Tech. Petroleum Engineering	40	81003
B. Tech. Civil Engineering with specialization in Infrastructure Development	40	81004
B.Tech. Mechanical Engineering	40	81005
B.Tech. Automotive Design Engineering	30	81006
BA Journalism and Mass Communication (BA - JMC)	20	62001
BBA Digital Marketing	40	62002
BBA Hospitality, Travel & Tourism	40	62003
PGDM Sports Management	20	72001

As per Academic Council decision, the University at its discretion may exceed the approved intake by 20%. *In academic collaboration with IBM. For more details on eligibility and admission criteria about UTM, Shillong programs please visit www.utm.ac.in

UNIVERSITY OF PETROLEUM & ENERGY STUDIES

Program Contents

COLLEGE OF MANAGEMENT & ECONOMICS STUDIES

UPES College of Management & Economics Studies (CoMES) combines all the facets of management and economic principles to provide graduate and post graduate programs that are focused on the vital domains of Oil & Gas, Power, Infrastructure, Aviation, Automobiles, Port & Shipping, Logistics & Chain Supply Management, International Business and Energy Trading.

- 20 Programs
- More than 1300 students
- 80 faculty
- Dedicated Libraries
- Visits by academicians and industry stalwarts

UNDER GRADUATE PROGRAMS

- BBA Oil & Gas Marketing
- BBA Aviation Operations
- BBA Logistics Management
- BBA Auto Marketing
- BBA Retail Management
- BBA Digital Marketing
- BBA Financial Services Marketing
- BBA Foreign Trade

POST GRADUATE PROGRAMS

- MBA Oil & Gas Management
- MBA Energy Trading
- MBA Power Management
- MBA Port & Shipping Management
- MBA Logistics & Supply Chain Management
- MBA International Business
- MBA Aviation Management
- MBA Infrastructure Management
- MBA Business Analytics
- MA Energy Economics

BBA (Oil & Gas Marketing)

Over the years, the Oil & Gas industry has helped fuel the rapid growth of the Indian economy. With this economic development, the demand for professionals working in the sector is also rising, thereby giving a boost to the job market in India and abroad.

The program aims to create industry-ready, marketing professionals customized for the petro-retailing and lubes marketing industries. The students are exposed to various aspects of the Oil & Gas industry in order to understand and develop skills to manage challenges faced in sales and marketing of petroleum products and allied services.

Career Options

- Brand Management
- Loyalty Program Management
- City Gas Marketing
- Lube Oil Sales & Marketing
- Petro Retailing Management
- Operations Management

SEMESTER I
Business Organization
Business Economics I
Business Mathematics
Business Accounting
Business Computing
Business Communication I

SEMESTER II
Organizational Behavior
Business Economics II
Business Statistics
Financial Management
Business Communication II
Marketing Management
Distribution and Channel Management
Understanding Oil & Gas Business

SEMESTER III
Human Resource Management
Operations and Materials Management
Logistics and Supply Chain Management
Consumer Behavior & Market Research
Oil / Gas Storage & Transportation
Petroleum Retail Development

SEMESTER IV
International Business
Advertising & Sales Promotion
Research Methodology & Report Writing
Understanding New Energy Resources
Internet & Petroleum E – Commerce
Petroleum Law & Policy
Industry Visit

SEMESTER V
Customer Relationship Management
Business Policy & Strategy
Negotiating Skills
HSE in Petroleum Industry
Summer Internship
Dissertation I

SEMESTER VI
Project Management
Entrepreneurship & Venture Management
Lubricant Marketing
Gas Fundamentals & Marketing
Energy Retail Economics
Dissertation II

BBA (Aviation Operations)

The BBA Aviation Operations program aims to create skilled professionals for the aviation sector and allied fields of travel and tourism. Delivered under the aegis of Center for Aviation Studies, a center of excellence under UPES, the program has a unique advantage of a built-in IATA/UFTAA foundation course within the main curriculum, thus increasing the application relevance of the program with respect to addressing the business requirements of the aviation sector and enabling students with an entrepreneurial bent to acquire necessary skills for starting their own venture.

The UPES center for Aviation Studies has also been awarded an IATA authorized partner certification.

Career Options

- Customer Service Management
- Customer Relationship Management
- Passenger Reservations & Ticketing
- Revenue Management
- Airline Sales & Marketing
- Flight/Data Analysis
- Loyalty Programs Management
- Fueling Management

SEMESTER I
Business Organization
Introduction to Aviation Industry
Business Mathematics
Business Accounting
Business Communication I
Business Computing

SEMESTER II
Organizational Behavior
Business Economics I
Business Statistics
IATA Travel & Tourism*

SEMESTER III
Marketing Management
Research Methodology and Report Writing
Airport Functions of Airlines
Financial Management
Business Economics II

SEMESTER IV
Business Communication II
Business Law
Marketing Communication
Consumer Behavior & Market Research
Cargo Handling
Travel Agency & Tour Operations

SEMESTER V
Essentials of Strategic Management
Customer Relationship Management
International Business
Understanding of Aviation Business
Tourism Enterprise Planning
Dissertation I
Summer Internship
Industrial Tour Report

SEMESTER VI
Airport Customer Services
Aviation Marketing
Human Resource Management
Dissertation II

* Non-credit but mandatory course to qualify to be eligible for award of BBA (AO) degree. Additional fee of Rs. 35,000/- will be payable in the month of Oct, 2014.

BBA (Logistics Management)

The program consists of a major stream and an elective stream selected from accounting, marketing, business management, and business information systems or operations management. The provision of the elective stream enables you to study a second business area in depth and to develop skills, overall marketability. This allows greater flexibility to choose alternative career paths. In addition, emphasis is also placed on logistics and supply chain management courses. Students also undertake a major dissertation and can opt for a specialization in retail logistics and manufacturing logistics.

Career Options

- Purchase/Sourcing
- Vendor Development
- Warehousing & Distribution
- Inventory Control
- Logistics Management
- Operations Management

SEMESTER I
Business Organization
Business Economics I
Business Mathematics
Business Accounting
Business Computing
Business Communication I

SEMESTER II
Organizational Behavior
Business Economics II
Business Statistics
Financial Management
Business Communication II
Understanding Logistics

SEMESTER III
Human Resource Management
Operations and Materials Management
Logistics and Supply Chain Management
Project Management
Marketing Management
Consumer Behaviour& Marketing Research

SEMESTER IV
Introduction to Multimodal Transportation
Introduction to ERP
Research Methodology & Report Writing
Decision Modeling using Spreadsheet
Logistics Information System
Supply Relationship Management
Industry Visit

SEMESTER V
Customer Relationship Management
Logistics Planning & Strategy
Business Policy & Strategy
Logistics in Manufacturing Sector
Summer Internship
Dissertation I

SEMESTER VI
Retail Logistics
Total Quality Management
Dissertation II

BBA (Auto Marketing)

The BBA Auto Marketing program is designed to create industry-ready, marketing professionals customized for the auto retailing and marketing of services associated to the sector. It is also aimed to expose participants to various aspects of the automobile industry, helping them understand and develop skills to manage challenges faced in sales and marketing of products and allied services.

Career Options

- Business Development
- Sales and Marketing
- Agency Management
- Customer Service
- Key Account Management

SEMESTER I
Business Organization
Business Economics I
Business Mathematics
Business Accounting
Business Computing
Business Communication I

SEMESTER II
Organizational Behavior
Business Economics II
Business Statistics
Financial Management
Business Communication II
Marketing Management

SEMESTER III
Human Resource Management
Operations and Materials Management
Logistics and Supply Chain Management
Consumer Behavior & Market Research
Introduction to Automotive Industry

SEMESTER IV
Marketing of Services
Research Methodology & Report Writing
Customer Relationship Management
Integrated Marketing Communication
Industry Visit

SEMESTER V
Automotive Internet Marketing
Business Policy & Strategy
Brand Management
Sales & Distribution Management
Summer Internship
Dissertation I

SEMESTER VI
B2B Auto Retailing
Entrepreneurship & Venture Management
Total Quality Management
Dissertation II

BBA (Retail Management)

The program is designed for developing Future Retail Leaders for Retail Organizations. This program caters to the growing demand of Retail Professionals who have the intellectual, academic and practical abilities mandatory to keep pace with fast changes in this dynamic global industry. It will provide comprehensive view of retailing, an analysis of the retail environment and provide exposure to issues and developments in the industry.

Career Options:

- Retail Merchandiser
- Category Manager
- Purchase Manager
- Retail Manager
- Floor Manager

SEMESTER I
Business Organization
Business Economics I
Business Mathematics
Business Accounting
Business Computing
Business Communication I

SEMESTER II
Organizational Behavior
Business Economics II
Business Statistics
Financial Management
Business Communication II
Marketing Management
Introduction to Retail

SEMESTER III
Human Resource Management
Operations and Materials Management
Logistics and Supply Chain Management
Consumer Behavior & Market Research
Retail Strategy & Formats
Mall Management

SEMESTER IV
International Retailing
Retail Business Analytics
Research Methodology & Report Writing
Store Design and Visual Merchandising
Retail Marketing
Retail Buying
Industry Visit

SEMESTER V
Customer Relationship Management
Business Policy & Strategy
Negotiating Skills
Category Management & ECR
Summer Internship
Dissertation I

SEMESTER VI
Project Management
Entrepreneurship & Venture Management
Location Strategy
Retail Logistics & Warehousing
Retail Operations
Dissertation II

BBA (Digital Marketing)

Interaction on Social Media has exploded in past few years and presence of Facebook, Twitter, LinkedIn has given us opportunity to explore the market on digital platform. Taking this opportunity UPES has taken a step ahead in introducing a graduate degree program that is designed for developing future Digital Marketing leaders. The course highlights the digital strategies, policies and technologies that have transformed the marketing paradigm and the rise of digital markets around the world. The program provides analysis of digital market environments, challenges and issues faced along with latest developments in digital market. It provides comprehensive view on e-business, online marketing, social media channels, the growing power of the connected customer, and an explosion of new digital tools for digital marketing. The program enables the students to plan, implement, and measure the impact of digital strategies that are suited to today's customers and integrated with their traditional marketing and business goals.

Career Options:

- Digital Strategist
- Interactive or direct advertising manager
- Digital Business Marketer
- B2B marketing Manager
- Digital Business Development Executive
- SEO Specialist
- Content Manager
- Account Manager
- Social Media Manager
- Search Engine Marketing Manager

SEMESTER I
Business Organization
Business Economics I
Business Mathematics
Business Accounting
Business Computing
Business Communication I

SEMESTER II
Organizational Behavior
Business Economics II
Business Statistics
Financial Management
Business Communication II
Marketing Management

SEMESTER III
Understanding Digital Marketing
Internet and Related Technologies
e-Business & e-Commerce
Human Resource Management
Operations and Materials Management
Consumer Behavior & Market Research

SEMESTER IV
Social Media Marketing
Mobile Marketing
E-Mail Marketing
Advertising & Sales Promotion
Logistics and Supply Chain Management
Research Methodology & Report Writing
Industry Visit

SEMESTER V
Digital Media Laws
Search Engine Optimization and Marketing
Web Design & Development
Customer Relationship Management
Business Policy & Strategy
Negotiating Skills
Summer Internship
Dissertation I

SEMESTER VI
Business Intelligence & Web Analytics
Digital Advertising
Content Marketing
Project Management
Entrepreneurship & Venture Management
Dissertation II

BBA (Financial Services Marketing)

The program is aimed to provide students with the opportunities to obtain the educational and competency skills necessary to operate as leading financial professionals for the 21st Century. It is also aimed to expose participants to various aspects of the Financial Services, helping them understand and develop skills to manage challenges faced in sales and marketing of financial products and allied services.

Career Prospects:

- Stockbroker
- Analyst
- Relationship Manager
- Credit Control Manager
- Corporate Banking Executive
- Financial Consultant
- Financial Analyst

SEMESTER I
Business Organization
Business Economics I
Business Mathematics
Business Accounting
Business Computing
Business Communication I

SEMESTER II
Organizational Behavior
Business Economics II
Business Statistics
Financial Management
Business Communication II
Marketing Management

SEMESTER III
Human Resource Management
Operations and Materials Management
Logistics and Supply Chain Management
Consumer Behavior & Market Research
Indian Financial System
Marketing of Financial Services

SEMESTER IV
International Business
Advertising & Sales Promotion
Research Methodology & Report Writing
Bank Marketing
Marketing of Mutual Funds
Insurance Marketing
Industry Visit

SEMESTER V
Customer Relationship Management
Business Policy & Strategy
Negotiating Skills
Marketing of non-fund based products
Summer Internship
Dissertation I

SEMESTER VI
Infrastructure Project Management & Control
Entrepreneurship & Venture Management
Fixed Income Securities
Commodities
Dissertation II

BBA (Foreign Trade)

The program is aimed to develop an understanding of fundamentals of foreign trade and its importance in Indian economy. It will impart knowledge of EXIM policy of India, trade procedures and documentation .In addition; it will provide a comprehensive knowledge of international trade bodies/multilateral agencies and their role/scope in foreign trade.

Career Options

- Export Houses
- Third party Logistics
- Banks and Financial Institutions
- Multilateral Agencies and Consultancies

SEMESTER I
Business Organization
Business Economics I
Business Mathematics
Business Accounting
Business Computing
Business Communication I

SEMESTER II
Organizational Behavior
Business Economics II
Business Statistics
Financial Management
Business Communication II
Marketing Management

SEMESTER III
International Business
Global Business Environment
Managing Trade and Risk in International Business
Trade Documentation
Introduction to Trade Logistics
Indian Economy and EXIM Policy
Overseas Industry Visit (non credit, paid visit)

SEMESTER IV
WTO Agreements
Role of Multilateral Agencies- IMF and World bank
Regional Economic Integration
World Geography and Major Trade Routes
Introduction to Multi-Modal Transport
Industry Visit

SEMESTER V
Contracts in International Trade and Business
International Trade and Finance
Introduction to International Business Strategy
International Marketing
Summer Internship
Dissertation I

SEMESTER VI
Custom Clearance Procedures
Business Law
Introduction to International Trade Negotiations
Dissertation-II

MBA (Oil & Gas Management)

To pursue a management career in the fast-growing Oil & Gas domain, the college offers a unique program that's formulated to produce future managers and leaders who can handle the ever changing nature of challenges and opportunities of the rapidly evolving sector. You will develop a thorough understanding of strategic business issues across the entire hydrocarbon value chain from exploration to the retailing of petroleum and petroleum products.

Career Options

- Refinery Management
- Loyalty Program Management
- Customer Relationship Management
- Brand Management
- Gas Business and Marketing
- Corporate Planning & Strategy
- Operations Management
- Business Analysis
- Financial Management

SEMESTER I
CORE COURSES
Economics & Management Decisions
Quantitative Techniques
Business Communication
Organizational Behavior
DOMAIN SPECIFIC COURSES
Fundamentals of Oil & Gas Business
Fundamentals of Petroleum Exploration
DOMAIN TAILORED COURSES
IT Applications in Petroleum Sector
Petroleum Industry Accounting

SEMESTER II
CORE COURSES
Operations & Materials Management
Marketing Management
Negotiations Skills & Board Management
Human Resource Management
Research Methodology and App. Statistics
DOMAIN SPECIFIC COURSES
Understanding of Natural Gas Business
Petro Economics
Fundamentals of Refining
Industrial Visit
DOMAIN TAILORED COURSES
Petroleum Financial Management

SEMESTER III
CORE COURSES
Project Mgmt. & Contract Administration
International Business Management
Strategic Management
Econometrics
DOMAIN SPECIFIC COURSES
POL: Retailing
Understanding Petro Chemical Business
Summer Internship
Dissertation I
DOMAIN TAILORED COURSES
Supply Chain & Logistics for Petroleum Industry
Financing Petroleum Sector Projects

SEMESTER IV
CORE COURSES
E- Enterprise Management
DOMAIN SPECIFIC COURSES
Oil & Gas Law & Policy
Dissertation II
DOMAIN TAILORED COURSES
Health, Safety & Environment for Petroleum

MBA (Energy Trading)

This program is designed for students who wish to obtain a practical understanding of the basic energy derivative structures that are currently used in trading, marketing and risk management. Also, the program provides you with a sound knowledge of the field of trading in the energy market, enabling you to become an accomplished energy/commodity trader.

MBA Energy Trading program will expose you to the global best practices involved in energy/commodity trading, the needs of the growing Oil & Gas trading, including pricing and risk management and oil economics.

Career Options

- Commodity Trading
- Business Analysis
- Oil & Gas Marketing
- Carbon Emission Trading
- Research Analysis
- Consultancy

SEMESTER I
CORE COURSES
Managerial Economics
Marketing Management
Business Communication
Quantitative Techniques
Organizational Behavior
DOMAIN SPECIFIC COURSES
Overview of Maritime Logistics
Understanding Energy Value Chain – 1 (Oil & Gas)
DOMAIN TAILORED COURSES
IT Applications in Energy Sector
Energy Industry Accounting

SEMESTER II
CORE COURSES
Econometrics
Human Resource Management
Trade Procedures and Documentation
Research Methodology & Applied Statistics
Negotiations Skills & Board Management
DOMAIN SPECIFIC COURSES
International Trade and Economics
Understanding Energy Value Chain-II (Power & Coal)
Energy Economics (Petro & Power)
Energy Trading Lab I
Industrial Visit Report
DOMAIN TAILORED COURSES
Financial Management in Energy Sector

SEMESTER III
CORE COURSES
International Finance Management
Strategic Management
DOMAIN SPECIFIC COURSES
Energy Trading Lab-II
Energy Trading-I (Oil & Gas Markets)
Energy Law & Policy-I
Energy Contracting & Negotiations
Energy Trading II (Power & Emissions)
Summer Internship
Dissertation I
DOMAIN TAILORED COURSE
Energy Derivatives & Risk Management

SEMESTER IV
CORE COURSES
Comparative International Management
DOMAIN SPECIFIC COURSES
HSE Challenges in Energy Sector
Oil Equity Acquisition & Asset Allocation
Energy Law & Policy II
Dissertation II

MBA (Power Management)

With the advent of private players in the power sector, there is a need to groom young managers equipped to handle the new and old issues pertaining to the sector. The program develops your skills and abilities to apply management theories and concepts to live problems of the power industry across the spectrum of Generation, Transmission and Distribution.

Career Options

- Project/Operations Manager
- Commodity Trader
- Business Analyst
- EPC Manager
- Research Analyst
- Customer Support Manager
- Commercial Manager
- Technical Consultants

SEMESTER I
CORE COURSES
Economics & Management Decisions
Quantitative Techniques
Business Communication
Organizational Behavior
DOMAIN SPECIFIC COURSES
Power Generation & PSM
Fuel Resources & Technology & Management
Power Sector Structure & Functioning
Power Transmission & Distribution
DOMAIN TAILORED COURSES
Power Industry Accounting

SEMESTER II
CORE COURSES
Operations & Materials Management
Marketing Management
Research Methodology and Application Statistics
Human Resource Management
DOMAIN SPECIFIC COURSES
Energy Power Trading
Regulatory Framework in Power Sector
Non-Conventional Method of Power Generation
Industrial Visits
DOMAIN TAILORED COURSES
Power Financial Management
IT Applications in Power Sector

SEMESTER III
CORE COURSES
Project Management & Contract Administration
Project Management Lab
Strategic Management
Econometrics
DOMAIN SPECIFIC COURSES
Global Power Business
Hydro & Nuclear Power Resources Management
Power Pricing & Purchase Agreements
Energy Conservation & Audit.
Summer Internship
Dissertation I
DOMAIN TAILORED COURSE
Supply Chain & Logistics for Power Industry
Financing Energy Sector Projects

SEMESTER IV
DOMAIN SPECIFIC COURSES
Energy Law & Policy
Integrated Power Resources Mgt. & Power Sector Planning
Rural Energy Management
Dissertation II
DOMAIN TAILORED COURSE
HSE for Power Industry

MBA (Port & Shipping Management)

The transportation sector in India is an integral part of the nation's economy, and the shipping industry is one of the main contributing factors to the growth of the transportation industry.

The core modules of this program are designed to lead the aspiring manager into the essential management skills required for meeting the challenges of the ever-growing shipping industry. You will learn and be able to manage the various development and operational needs of port and allied infrastructure.

Career Options

- Port Operations
- Container Yard Management
- Chartering Management
- Agency & Brokerage Management
- Port Planning & Development

SEMESTER I
CORE COURSES
Economics & Management Decisions
Quantitative Techniques
Business Communication
Organizational Behavior
DOMAIN SPECIFIC COURSES
Port & Terminal Management
International Maritime Transport
DOMAIN TAILORED COURSES
IT Applications in Port & Shipping
Port & Shipping Industry Accounting

SEMESTER II
CORE COURSES
Operations & Materials Management
Marketing Management
Research Methodology and Application Statistics
Human Resource Mgmt.
Negotiations Skills & Board Management
DOMAIN SPECIFIC COURSES
Maritime Economics
Ship Agency Management
Ship Brokering & Chartering
Industrial Visit
DOMAIN TAILORED COURSES
Port & Shipping Financial Mgmt.

SEMESTER III
CORE COURSES
Strategic Management
Econometrics
DOMAIN SPECIFIC COURSES
Port Planning
Liner Management
Summer Internship
Dissertation I
DOMAIN TAILORED COURSE
Supply Chain & Logistics for Port & Shipping
Maritime Enterprise Management

SEMESTER IV
CORE COURSES
Customer Relationship Mgmt.
DOMAIN SPECIFIC COURSES
Marine Insurance and Law
Dissertation II
DOMAIN TAILORED COURSE
Maritime HSE Management
Marketing of Shipping Services

MBA (Logistics & Supply Chain Management)

The program aims to train and develop future leaders and managers in the fast-growing Logistics & Supply chain sector. A highly integrated program, you would acquire knowledge and understanding of multiple facets of supply chain business including purchasing, materials management, supply-chain management, transportation, customs regulations, foreign exchange, international trade and information technology among various other aspects.

Career Options

- Purchase/Sourcing
- Logistics Management (Freight & Transportation)
- Vendor Development
- Process Management
- Warehousing & Distribution
- Inventory Control
- Supply Chain Management-Solution Designing
- Network Planning

SEMESTER I
CORE COURSES
Economics & Management Decisions
Quantitative Techniques
Organizational Behavior
Marketing Management
Operations & Materials Management
Business Communication
DOMAIN SPECIFIC COURSES
Introduction to Logistics & Supply Chain Management
DOMAIN TAILORED COURSES
Accounting in Logistics & Supply Chain Sector

SEMESTER II
CORE COURSES
Research Methodology and Application Statistics
Human Resource Management
Negotiations Skills & Board Management
DOMAIN SPECIFIC COURSES
Logistics Planning & Strategy
Lean Supply Chain Management
Industrial Visits
DOMAIN TAILORED COURSES
IT Application in Supply Chain
Financial Management in Supply Chain Industry

SEMESTER III
CORE COURSES
Strategic Management
Project Management & Contract Administration
Business Process Re- Engineering
Econometrics
DOMAIN SPECIFIC COURSES
Multi Model Transportation
Supplier Relationship Management
Retail Supply Chain Management
Summer Internship
Dissertation- I
DOMAIN TAILORED COURSE
Supply Chain Modeling & Design

SEMESTER IV
DOMAIN SPECIFIC COURSES
Supply Chain Simulation
Dissertation II
Global Supply Chain & Logistics Management
DOMAIN TAILORED COURSE

MBA (International Business)

The MBA in International Business has been designed to address managerial issues that are relevant to doing business internationally. The program develops an advanced understanding of critical awareness of the operation of global organizations, strategic concepts and current theories in the management of global businesses

Career Options

- Export-Import Management
- Marketing
- Brand Management
- Key Account Management
- Finance/Forex Management
- Compliance Management
- Logistics Management

SEMESTER I
CORE COURSES
Economics & Management Decisions
Quantitative Technique
Business Communication
Organizational Behavior
Marketing Management
IT for Managers
Financial Accounting

SEMESTER II
CORE COURSES
Research Methodology and Application Statistics
Human Resource Management
Financial Management
Negotiations Skills and Board Management
DOMAIN SPECIFIC COURSES
Industrial Visits
DOMAIN TAILORED COURSES
Indian Economy & Trade Policies
International Trade Operations and Documentation
Global Economic Environment
International Logistics & Supply Chain Management

SEMESTER III
CORE COURSES
Econometrics
DOMAIN SPECIFIC COURSES
International Finance Management
International Marketing Management
Commodity Trading & Price Risk Management
WTO & its impact on International Business
Summer Internship
Dissertation I
DOMAIN TAILORED COURSE
E- Business & E Commerce

SEMESTER IV
DOMAIN SPECIFIC COURSES
Cross Cultural Management
International Business Negotiations
Mergers, Acquisition, Corporate Regulation
International Business Strategy
Dissertation II

MBA (Aviation Management)

Prepared to bridge the gap between the industry demand and professionals with the global knowledge of the aviation industry, the core modules of the program are designed to equip the aspiring manager in you with specialized domain specific skills like ground handling, cargo, aviation safety & fleet management, regulatory management, fueling management & other allied issues relevant to the aviation industry.

Career Options

- Flight Analysis
- Airport Operations Management
- Business Development
- Corporate Planning & Strategy
- Airline/Airport Revenue Forecasting
- Airline Operations Management
- Loyalty Program Management
- Ticketing and Passenger Services
- Fueling Management

SEMESTER I
CORE COURSES
Economics & Management Decisions
Quantitative Techniques
Business Communication
Organizational Behavior
DOMAIN SPECIFIC COURSES
Fundamentals of Airlines Operations
Airport Planning & Management
DOMAIN TAILORED COURSES
IT Applications in Aviation Sector
Aviation Industry Accounting

SEMESTER II
CORE COURSES
Econometrics
Marketing Management
Research Methodology and Application Statistics
Human Resource Management
Negotiations Skills & Board Management
DOMAIN SPECIFIC COURSES
Aviation Safety & Security Management
Airport Economics
Air Cargo Management
Aviation Refueling
Industrial Visits
DOMAIN TAILORED COURSES
Aviation Financial Mgmt.

SEMESTER III
CORE COURSES
Strategic Management
Operations & Materials Management
DOMAIN SPECIFIC COURSES
Contemporary issues in Aviation
Airline Economics
Aviation Forecasting Techniques
Aviation Law and Insurance
Summer Internship
Dissertation- I
DOMAIN TAILORED COURSE
Supply Chain Mgmt. & Logistics for Aviation Industry
Aviation Marketing Management

SEMESTER IV
CORE COURSES
Customer Relationship Management
Competitive Intelligence
DOMAIN SPECIFIC COURSES
Aviation Regulatory Management
Dissertation II
DOMAIN TAILORED COURSE
Aviation Enterprise Management

MBA (Infrastructure Management)

To tap the possibilities that have recently emerged in the rapidly evolving Infrastructure domain, this program has been tailored to equip you with all the relevant knowledge and skill sets. The program not only imparts managerial skills in core subjects, but also the specialized domain related expertise in infrastructure management, contract administration and non-conventional methods of infrastructure creation. You also learn about the financing of infrastructure projects, IT applications as well as accounting, specifically in the context of infrastructure sector.

Career Options

- Project Management
- Project Marketing
- Finance & Accounting Management
- Facilities Management
- Project Consultancy
- Mergers & Acquisition Management

SEMESTER I
CORE COURSES
Economics & Management Decisions
Quantitative Techniques
Business Communication
Organizational Behavior
DOMAIN SPECIFIC COURSES
Basics of Realty & Construction Management
Understanding Infrastructure Sector
Sector Study- Infrastructure Management 1(Power Sector)
Infrastructure Sector Economy & Planning
DOMAIN TAILORED COURSES
IT Applications in Infrastructure
Accounting in Infrastructure Sector

SEMESTER II
CORE COURSES
Operations & Materials Management
Marketing Management
Research Methodology and App. Statistics
Negotiations Skills & Board Management
Human Resource Management
Project Mgmt. & Contract Administration
Project Management Lab
DOMAIN SPECIFIC COURSES
Competition and Regulation for Infrastructure Sector
Urban Infrastructure Mgmt.& Regulation
Sector Study - Infrastructure Management 2 (O&G Sector/ Telecom Sector)
Township Planning for Smart City
Industrial Visit
DOMAIN TAILORED COURSES
Financial Management in Infrastructure Industry

SEMESTER III
CORE COURSES
Strategic Management
Risk Management
DOMAIN SPECIFIC COURSES
Land Acquisition
Concessionaire Agreements
Sector Study- Infra Management 3 (Aviation, Port and Shipping Management)
Transport Economics & Mgmt.
Light Rail Light Metro Transit (LRMT) Planning
Summer Internship
Dissertation I
DOMAIN TAILORED COURSES
Financing Infrastructure Sector Projects
Logistics & Supply Chain Mgt. for infrastructure Management

SEMESTER IV
DOMAIN SPECIFIC COURSES
Non-Conventional Methods of Infrastructure Creations
Infrastructure for Rural & Social Sector & E Governance
Infrastructure Law & Policy
Dissertation II
DOMAIN TAILORED COURSES
HSE for Infrastructure Industry

MBA (Business Analytics)

This program emphasizes on "**Analytics",** one of the hottest technology topics in the world, which is a strange mix of arts, sciences and technologies. Analytics is an umbrella term referring to the processes, technologies and techniques, which turn data into information and knowledge that drive business decisions. The graduates of this program will develop knowledge and competencies on various analytical tools and technologies to collect and analyze data for generating business intelligence and support different functional areas of organizations belonging to various industry domains. Business Analytics are used in industries like financial services, retail, healthcare, manufacturing, energy, oil & gas, telecom, sports, social media, gaming, e-commerce, e-governance etc.

Career Options:

- Business Analyst
- Business Analyst Industry Expert
- Business Analyst Project Manager
- Data Analyst
- Data Analyst SAS Programmer
- Big Data Analyst
- Data Warehousing Expert
- Business Intelligence Expert
- Data Warehousing and BA Architecture
- Data Mining Expert

SEMESTER I
CORE COURSES
Organizational Behavior
Business Communication
Accounting for Managers
Economics & Management Decisions
Marketing Management
Applied Statistics
DOMAIN SPECIFIC COURSES
Data Analytics Basics
Spreadsheet Modeling and Analysis
Applied Statistics Lab
Query Languages

SEMESTER II
CORE COURSES
Human Resource Management
Operations Research
Marketing Research
Econometrics
Financial Management
Negotiations Skills & Board Management
DOMAIN SPECIFIC COURSES
Business Analytics Application - I
Big Data Analytics - I
Data Cleaning, Normalisation & data Mining
Industrial Tour

SEMESTER III
CORE COURSES
Strategic Management
DOMAIN SPECIFIC COURSES
Data Visualization
Business Analytics Application - II
Applied Business Intelligence
Big Data Analytics - II
Statistical Communication
Social & Web Analytics
Industry Applications of Analytics - Retail
Summer Internship
Mini Project / Dissertation I

SEMESTER IV
CORE COURSES
Enterprise Risk Management
DOMAIN SPECIFIC COURSES
Industry Applications of Analytics - Energy
DOMAIN TAILORED COURSE
Legal Aspects of Business
Dissertation II

*Industry Analytics – Retail Analytics, Insurance Analytics, Financial Services Analytics, Banking Analytics, Energy Analytics, Oil & Gas Analytics, Manufacturing Analytics, Telecom Analytics, Education Analytics etc.

**Functional Analytics – Marketing and Sales Analytics, Production Analytics, HR Analytics, Finance Analytics, SCM Analytics, Purchase Analytics, Materials Management Analytics etc.

MA (Energy Economics)

This program develops the specialists with sector -specific skills required by the graduates from a wide range of backgrounds who wish to develop business and management careers in energy- related businesses and organizations. The program prepares students for managerial, advisory and academic positions in the energy sector-private and public sectors and provide an academically stimulating program of study, which will excite the students' ability to evaluate theoretical concepts and analyze the practical problems. It also prepares the students for rapidly growing and highly competitive global business climate.

Career Options

- Consultancy firms
- Energy Research Organization
- Business Chambers (CII, ASSOCHAM, FICCI)
- Academic Institutions
- Energy Business Firms
- Journalism

SEMESTER I
Microeconomics
Quantitative Methods in Economics
Research Methodology and Advanced Statistics
Financial Statement Analysis
Understanding Energy Sector

SEMESTER II
Macroeconomics
Econometrics Modeling
International Economics
Public Finance
Oil & Gas Economics
Industrial Visit

SEMESTER III
International Energy Markets and Commercial Framework of Energy Industry
Power Economics
Energy Sector Project Financing
Energy Trading Markets and Risk Management
Regulation and Governance of Energy Sector
Economics of Energy and Environmental Interaction
Summer Internship
Dissertation I

SEMESTER IV
Renewable Energy and Energy Efficiency Economics
Advanced Strategic Analysis
Business Modeling in Energy Sector
Energy Laws
Dissertation-II

UNIVERSITY OF PETROLEUM & ENERGY STUDIES

COLLEGE OF ENGINEERING STUDIES

UPES College of Engineering Studies (CoES) is a distinctive institution with a strong tradition of fostering innovative engineering programs that impart sound engineering fundamentals along with the domain specific knowledge its strong industry interface ensures that the UPES College of Engineering Studies curriculum is relevant to the industry requirements today and for the years to come.

- 59 programs
- Over 4136 students
- 272 faculty members
- 65 hi-tech labs
- Dedicated library & computer & technical labs

UNDER GRADUATE PROGRAMS

- B. Tech. Applied Petroleum Engineering with specialization in Upstream
- B. Tech. Applied Petroleum Engineering with specialization in Gas Stream
- B. Tech. Chemical Engineering with specialization in Refining & Petrochemicals
- B. Tech. Geo Science Engineering
- B. Tech. Geo-Informatics Engineering
- B. Tech. Automotive Design Engineering
- B. Tech. Aerospace Engineering
- B. Tech. Aerospace Engineering with specialization in Avionics Engineering
- B. Tech. Electronics Engineering
- B. Tech. Mechatronics Engineering
- B. Tech. Power System Engineering
- B. Tech. Civil Engineering with specialization in Infrastructure Development
- B. Tech. Material Science Engineering with specialization in Nano Technology
- B. Tech. Fire & Safety Engineering
- B. Tech Electrical Engineering
- B. Tech Instrumentation & Control
- B. Tech Mechanical Engineering
- B. Tech Production & Industrial Engineering
- B. Tech Mining Engineering
- Bachelor of Design (B. Des)
- B. Tech. Computer Science & Engineering with specialization in Cloud Computing &Virtualization Technology*
- B. Tech. Computer Science & Engineering with specialization in Open Source & Open Standards*
- B. Tech. Computer Science & Engineering with specialization in Mainframe Technology*
- B. Tech. Computer Science & Engineering with specialization in Oil & Gas Informatics*
- B. Tech. Computer Science & Engineering with specialization in Telecom Informatics*
- B. Tech. Computer Science & Engineering with specialization in E-Commerce, Retail and Automation *
- B. Tech. Computer Science & Engineering with specialization in IT Infrastructure*
- B. Tech. Computer Science & Engineering with specialization in Business Analytics and Optimization *
- B. Tech. Computer Science & Engineering with specialization in Banking, Financial Services &Insurance*
- B. Tech. Computer Science & Engineering with specialization in IT Security & Cyber Forensics*
- B. Tech. Computer Science & Engineering with specialization in Graphics and Gaming *
- B. Tech. Computer Science & Engineering with specialization in Manufacturing Systems*
- B. Tech. Computer Science & Engineering with specialization in Healthcare informatics*

*In academic collaboration with IBM

POST GRADUATE PROGRAMS

- M. Tech. Health, Safety & Environment
- M. Tech. Petroleum Exploration
- M. Tech Energy Systems
- M. Tech. Pipeline Engineering
- M. Tech. Chemical Engineering with specialization in Process Design
- M. Tech. Robotics Engineering
- M. Tech. Artificial Intelligence and Artificial Neural Networks
- M. Tech. Computational Fluid Dynamics
- M. Tech. Disaster Management
- M. Tech. Nuclear Science & Technology
- M. Tech. Renewable Energy Engineering
- M. Tech. Power System& Industrial Drives
- M. Tech. Power Distribution with specialization in Smart Grids
- M. Tech. Rotating Equipment
- M. Tech. Embedded Systems with specialization in Wearable Technology
- M. Tech Aerospace Engineering with specialization in Unmanned Aerial Vehicles
- M. Tech Structural Engineering with specialization in offshore structures
- M. Des. Transportation Design
- M. Des. Industrial Design
- M. Des. Product Design
- M. Des. Interaction Design

B. Tech. (Applied Petroleum Engineering with specialization in Upstream)

The B. Tech Applied Petroleum Engineering program trains students in Petroleum Engineering and focuses primarily on exploration and production of Oil & Gas. You will gain a thorough knowledge of all major technical aspects in relation to the entire hydrocarbon value-chain and the strategic techno-commercial issues relevant to the domain.

Career Options

- MWD Engineer (Measurement While Drilling)
- Production Engineer
- Reservoir Engineer
- Drilling Engineer
- Well Logging Engineer
- Well Testing Analyst
- Mud Logging Engineer

SEMESTER I
Subject
Physics I
Chemistry I
Mathematics I
Computer Science
Communication Workshop 1.1
Workshop Technology
Environmental Studies
PRACTICAL
Physics Lab I
Chemistry Lab I
Computer Lab
Language Lab
Engineering Workshop

SEMESTER II
Subject
Physics II
Chemistry II
Mathematics II
Engineering Graphics
Communication Workshop 1.2
Material & Energy Flow Competition
Applied Geology I
PRACTICAL
Engineering Graphics Lab I
Physics Lab II
Chemistry Lab II
Language through Literature

SEMESTER III
Subject
Mathematics III
Mechanics of Solids
Introduction to Petroleum Operations
Thermodynamics & Heat Engines
Communication Workshop 2.0
Programming Language & DBMS
Applied Geology II
PRACTICAL
Petroleum Product Testing Lab
Engineering Graphics Lab II
Material Testing Lab
Programming Language & DBMS Lab
Geology Lab I

SEMESTER IV
Subject
Fluid Mechanics
Basics Electrical Engineering
Basics Electronics Engineering
Drilling Engineering & Well Completion
Applied Geology III
Surveying
PRACTICAL
Fluid Mechanics Lab
Surveying Lab
Electrical & Electronics Lab
Geology Lab II

SEMESTER V
Subject
Production Engineering I
Reservoir Engineering I
Heat Transfer Processes
Natural Gas Engineering
Communication Workshop 3.0
Chemical Thermodynamics
PRACTICAL
Heat Transfer Lab
Drilling Fluid & Cementation Lab
Minor Project I

SEMESTER VI
Subject
Applied Numerical Methods
Reservoir Engineering II
Well Log Analysis & Well Testing
Industrial Management
Material Science
PRACTICAL
Minor Project II
Comprehensive Viva I
Industrial Visit

SEMESTER VII
Subject
Offshore Drilling & Production Operations
Production Engineering II
Pipeline Transportation of Oil & Gas
Elective I (Choose any one)
Petroleum Production System Design
Reservoir Modeling & Simulation
Coal Bed Methane Technology
PRACTICAL
Reservoir & Production Engineering Lab
Major Project I
Seminar
Industrial Training
Comprehensive Viva II

SEMESTER VIII
Subject
Petroleum Engineering Economics
Safety, Health & Environment Management
Well Stimulation
Elective II
Enhanced Oil Recovery
Developing LNG Production & Handling
Oil Field Asset Management
PRACTICAL
Major Project II

B.TECH (Applied Petroleum Engineering with specialization in Gas Stream)

The program intends to create technical professionals who are fit to take on engineering responsibilities across the entire value-chain in the Gas Industry – a specialization that has seen growing demand in the recent years. The program is designed to help you understand and apply best global practices in the fields of natural gas processing, gas transportation and gas utilization techniques. You will also learn about specific upstream activities that encompass exploration, reservoir and production.

Career Options

- Production Engineer
- LNG Production & Handling Engineer
- Reservoir Engineer
- PNG, CNG Operation & Distribution Engineer
- Pipeline Transportation Engineer
- Natural Gas Modeling & Simulation Engineer
- Well Stimulating Engineer

SEMESTER I
Subject
Physics I
Chemistry I
Mathematics I
Computer Science
Communication Workshop 1.1
Workshop Technology
PRACTICAL
Physics Lab I
Chemistry Lab I
Computer Lab
Language Lab
Engineering Workshop

SEMESTER II
Subject
Physics II
Chemistry II
Mathematics II
Applied Geology
Engineering Graphics
Communication Workshop 1.2
Environmental Studies
PRACTICAL
Engineering Graphics Lab I
Physics Lab II
Chemistry Lab II
Language through Literature

SEMESTER III
Subject
Mathematics III
Basic Electrical Engineering
Basic Electronics Engineering
Introduction to Petroleum Operations
Thermodynamics & Heat Engines
Material & Energy Flow Computation
Communication Workshop 2.0
PRACTICAL
Engineering Graphics Lab II
Petroleum Product Testing Lab
Electrical & Electronics Lab

SEMESTER IV
Subject
Fluid Mechanics
Mass Transfer Operations
Chemical Thermodynamics
Drilling Engineering & Well Completion
Programming Language & DBMS
Engineering Mechanics & Mechanics of Solids
PRACTICAL
Fluid Mechanics Lab
Material Testing Lab
Mass Transfer Lab
Programming Language & DBMS Lab

SEMESTER V
Subject
Production Engg I
Reservoir Engg I
Heat Transfer Processes
Natural Gas Engineering
Instrumentation & Control
Material Science
Communication Workshop 3.0
PRACTICAL
Heat Transfer Lab
Drilling Fluid & Cementation lab
Minor Project I

SEMESTER VI
Subject
Applied Numerical Methods
Industrial Management
Chemical Reaction Engineering
Air Fractionation & Purification of Gases
Reservoir Engineering II
Gasification & Gas to Liquid Technology
Petroleum Refining and Petrochemical Technology
PRACTICAL
Minor Project II
Comprehensive Viva I
Instrumentation and Control Lab
Industrial Visit

SEMESTER VII
Subject
Production Engineering II
Pipeline Transportation of Oil & Gas
City Gas Distribution & Pipeline Network
Formation Evaluation & Well Stimulation
Coal Bed Methane Technology
Petroleum Refining Systems Design
PRACTICAL
Major Project I
Seminar
Industrial Training
Comprehensive Viva II

SEMESTER VIII
Subject
Safety, Health & Environment Management
Petroleum Engineering Economics
Natural Gas Processes, Modeling & Simulation
LNG & NGL Conversion & Handling
PRACTICAL
Major Project II

B.TECH (Chemical Engineering with specialization in Refining & Petrochemicals)

This field includes systematic design development and operations of process systems for the extraction, transformation and recovery of economically useful materials. The program strives to develop industry centric personnel with a specialization in petrochemicals, petroleum refining and other significant streams.

Career Options

- Refining Engineer
- Petrochemical Engineer
- Production Engineer
- Process Design Engineer
- Shift Engineer
- Chemical Equipment Engineer
- Consultant (pollution control, finance, audit, waste management, etc.)

SEMESTER I
Subject
Physics I
Chemistry I
Mathematics I
Environment Studies
Computer Science
Communication Workshop 1.1
Workshop Technology
PRACTICAL
Physics Lab I
Chemistry Lab I
Computer Lab
Language Lab
Engineering Workshop Lab

SEMESTER II
Subject
Physics II
Chemistry II
Mathematics II
Material & Energy Flow Computation
Engineering Graphics
Communication Workshop 1.2
Programming Language & DBMS
PRACTICAL
Programming Language & DBMS Lab
Engineering Graphics Lab I
Physics Lab II
Language through Literature
Chemistry Lab II

SEMESTER III
Subject
Mathematics III
Mechanics of Solids
Introduction to Petroleum Operations
Thermodynamics - I
Basic Electrical Engineering
Basic Electronics Engineering
PRACTICAL
Engineering Graphics Lab II
Material Testing Lab
Petroleum Product Testing Lab Electrical & Electronics Lab

SEMESTER IV
Subject
Fluid Mechanics
Thermodynamics - II
Mass Transfer I
Particulate Technology
Communication Workshop 2.0
Heat Transfer
PRACTICAL
Fluid Mechanics Lab
Particulate Technology Lab
Heat Transfer Lab

SEMESTER V
Subject
Mass Transfer II
Process Instrumentation
Petroleum Refining Technology
Chemical Reaction Engineering - I
Material Science
Applied Numerical Methods
PRACTICAL
Mass Transfer Lab
Minor Project I

SEMESTER VI
Subject
Chemical Reaction Engineering - II
Natural Gas Engineering& Processing
Industrial Management
Petrochemical Processes
Process Equipment Design
Process Control
Communication Workshop 3.0
PRACTICAL
Instrumentation & Control Lab
Reaction Engineering Lab
Industrial Visit
Minor Project II
Comprehensive Viva I

SEMESTER VII
Subject
Process Optimization
Pipeline Transportation of Oil & Gas
Petroleum Refining Process Design
Elective I (choose any one)
Catalyst Design & Catalysis
Fluidization
PRACTICAL
Major Project I
Seminar
Industrial Training
Comprehensive Viva II

SEMESTER VIII
Subject
Chemical Project Economics
Safety, Health & Environment Mgmt.
Elective II (choose any one)
Polymer Processing & Technology
Process Modeling & Simulation
PRACTICAL
Major Project II

B. Tech (Geo Science Engineering)

Geo science is related to the planet earth, its various strata and the tectonic plates, etc. In other words, the study combines geology and geophysics. At UPES, the program equips you with intensive knowledge about geo science and the earth's activities. This, then, boils down to the discovery and exploration of oil & gas, geo data analysis and interpretation.

Career Options

- Geo Science Engineer
- Geo-scientist
- Seismic Data Collection Engineer
- Seismic Data Interpretation Engineer
- Mineral Engineer
- Mines Development Engineer

SEMESTER I
Subject
Physics I
Chemistry I
Mathematics I
Introductory Geology
Computer Science
Communication Workshop 1.1
Environmental Studies
PRACTICAL
Physics Lab I
Chemistry Lab I
Computer Lab
Language Lab

SEMESTER II
Subject
Physics II
Chemistry II
Mathematics II
Sedimentology
Engineering Graphics
Communication Workshop 1.2
Workshop Technology
PRACTICAL
Engineering Workshop
Engineering Graphics Lab I
Physics Lab II
Geology Lab I
Language through Literature
Chemistry Lab II

SEMESTER III
Subject
Mathematics III
Applied Geology
Fluid Mechanics
Thermodynamics & Heat Engines
Ground water Exploration
Basics Electrical Engineering
Basics Electronics Engineering
PRACTICAL
Engineering Graphics Lab II
Geology Lab II
Fluid Mechanics Lab
Electrical & Electronics Lab

SEMESTER IV
Subject
Methods of Petroleum Exploration
Photogrammetry and Remote Sensing
Planning and Surveying
Programming Language & DBMS
Economic Geology
Exploration Geophysics
Communication Workshop 2.0
PRACTICAL
Surveying Lab
Programming Language & DBMS Lab
Instrumentation & Control Lab

SEMESTER V
Subject
Drilling Engineering & Well Completion
Applied Numerical Methods
Rock Mechanics & Geo Technical Engineering
Mineral Exploration and Mining Geology
Engineering Materials
Petroleum Geology
GIS and Satellite Navigation Systems
PRACTICAL
GIS Lab
Drilling Fluids & Cementation Lab
Minor Project I

SEMESTER VI
Subject
Basin Analysis
Statistical Methods in Geosciences
Applied Micro Paleontology
Soil Mechanics & Foundation Engg.
Analytical Methods in Geosciences
Industrial Management
Communication Workshop 3.0
PRACTICAL
Minor Project II
Comprehensive Viva I
Industrial Visit

SEMESTER VII
Subject
Formation Evaluation and Well Logging
Methods in Structural Geology
Geophysical Data Acquisition: Processing & Interpretation
Elective I (Choose one)
Principles of Petroleum Production Engineering
Principles of Reservoir Engineering
PRACTICAL
Major Project I
Seminar I
Industrial Training
Comprehensive Viva II

SEMESTER VIII
Subject
Asset Management
Safety, Health & Environment Mgmt.
Elective II (Choose one)
Resource Economics and Risk Management in Exploration
Operational Law & Contract Administration
PRACTICAL
Major Project II
Seminar II

B.TECH (Geo-Informatics Engineering)

The program entails the understanding of processing and simulation of scientific data required for the construction and monitoring of geo-structures, environmental modeling and analysis and finally leading to an analytical simulation/software development career.

Career Options

- GIS Engineer
- Geographic Information System Specialist
- GPS & GIS Software Developer
- Remote Sensing & Photogrammetric Expert
- City & Regional Planner
- Land Surveyor

SEMESTER I
Subject
Physics I
Chemistry I
Mathematics I
Introductory Geology
Computer Science
Communication Workshop 1.1
Environmental Studies
PRACTICAL
Physics Lab I
Chemistry Lab I
Computer Lab
Language Lab

SEMESTER II
Subject
Physics II
Chemistry II
Mathematics II
Sedimentology
Engineering Graphics
Communication Workshop 1.2
Workshop Technology
PRACTICAL
Engineering Graphics Lab I
Physics Lab II
Chemistry Lab II
Language through Literature
Geology Lab 1

SEMESTER III
Subject
Mathematics III
Applied Geology
Fluid Mechanics
Thermodynamics & Heat Engines
Introduction to Geoinformatics
Basic Electrical Engineering
Basics Electronics Engineering
PRACTICAL
GIS Lab I
Geology Lab II
Fluid Mechanics Lab
Electrical & Electronics Lab
Engineering Graphics Lab II

SEMESTER IV
Subject
Methods of Petroleum Exploration
Fundamentals of Remote Sensing
Planning and Surveying
Programming Language & DBMS
Instrumentation & Control
Communication Workshop 2.0
PRACTICAL
Instrumentation & Control Lab
Surveying Lab
Programming Language & DBMS Lab

SEMESTER V
Subject
Drilling Engineering & Well Completion
Exploration Geophysics
Rock Mechanics & Geo Technical Engineering
Mineral Exploration and Mining Geology
Petroleum Geology
Digital Photogrammetry
PRACTICAL
GIS Lab II
Drilling Fluids & Cementation Lab
Minor Project I

SEMESTER VI
Subject
Basin Analysis
Statistical Methods in Geosciences
Digital Image Processing
Spatial Database System
GIS and Satellite Navigation System
Industrial Management
Communication Workshop 3.0
PRACTICAL
Minor Project II
Comprehensive Viva I
Industrial Visit

SEMESTER VII
Subject
Formation Evaluation and Well Logging
Geophysical Data Acquisition: Processing and Interpretation
Application of Geo Informatics I
Elective I (any one)
Principles of Reservoir Engineering
Spatial Data Analysis & Modeling
PRACTICAL
Major Project I
Seminar
Industrial Training
Comprehensive Viva II

SEMESTER VIII
Subject
Asset Management
Advances in Geo Informatics Engg
Elective II (any one)
Mobile Mapping
Thermal and Microwave Remote Sensing
PRACTICAL
Major Project II

B.TECH (Automotive Design Engineering)

The program intends to meet the needs of the 21st century automotive industry. It trains the students on a range of topics including designing, manufacturing and maintenance of automobiles. The curriculum includes imparting knowledge on the related aspects of the transportation sector, energy and environmental concerns, application of fossil and alternative fuels and development of vehicles of the future.

Career Options

- Automotive Design Engineer
- Production Engineer at Automobile Plants
- Automotive Ancillary Development Engineer
- Production Planning & Control Engineer
- Maintenance Engineer at Automobile Dealerships
- Vendor Development Engineer
- Technical Consultant in Automotive Sector
- Value Engineering

SEMESTER I
Subject
Physics I
Chemistry
Mathematics I
Engineering Mechanics
Computer Science
Communication Workshop 1.1
Environmental Studies
PRACTICAL
Physics Lab I
Chemistry Lab
Language Lab
Computer Lab

SEMESTER II
Subject
Physics II
Mathematics II
Material Science
Engineering Graphics
Communication Workshop 1.2
Workshop Technology
Introduction to Transportation Systems
PRACTICAL
Engineering Graphics Lab I
Physics Lab II
Language through Literature
Engineering Workshop Lab

SEMESTER III
Subject
Mathematics III
Thermal Engineering
Strength of Materials
Basic Electrical Engineering
Basic Electronics Engineering
Applied Fluid Mechanics
Communication Workshop 2.0
PRACTICAL
Engineering Graphics Lab II
Fluid Mechanics Lab
Material Testing Lab
Electrical & Electronics Lab

SEMESTER IV
Subject
Components of Automotive Chassis
Automotive Electrical & Electronic Systems
I. C. Engine - I
Design of Machine Elements
Kinematics & Dynamics of Machines
Programming Language & DBMS
Manufacturing Technology
PRACTICAL
Automotive Chassis Component Lab
Manufacturing & Metrology Lab
Automotive Electrical & Electronic Lab
Programming Language & DBMS Lab

SEMESTER V
Subject
Advanced Transportation Studies
Automotive Chassis Components Design
I. C. Engine - II
Vehicle Dynamics
Applied Numerical Techniques & FEM
Communication Workshop 3.0
Micro Processor Based Control System
PRACTICAL
CAD Appl. in Automotive Engine Design
Engine Testing & Emission Measurement Lab
Engine Troubleshooting & Servicing Lab
Minor Project I

SEMESTER VI
Subject
Automotive Transmission Systems
Vehicle Body Engineering
Robotics & Mechatronics
Heat Transfer Processes
Industrial Engg. & Management
PRACTICAL
CAD Appl. for Chassis Components Design
Robotics & CAM Lab
Heat Transfer Lab & Thermal Lab
Industrial Visit
Minor Project II
Comprehensive Viva I

SEMESTER VII
Subject
Two & Three Wheelers Technology
Advanced Manufacturing Technology
Automotive Engine Component Design
PRACTICAL
Design & Analysis Software Lab.
Major Project I
Seminar
Industrial Training
Comprehensive Viva II

SEMESTER VIII
Subject
Computer Aided Design and Development
Economics and Life Cycle Concepts
Elective (any one subject)
Computational Fluid Dynamics
Vehicle Infotronics
Operation Research
Alternate Fuel for Automobiles
PRACTICAL
Major Project II

B.TECH (Aerospace Engineering)

The program endeavors to create industry ready professional by training students on a wide variety of technical issues involving design analysis and manufacturing of airplanes, rockets, missiles, space launch vehicles, UAVs, etc.

Career Options

- Aircraft Design & Analysis Engineer
- Aircraft Production Engineer
- Aerospace Modeling & Simulation Engineer
- Aerospace Maintenance Engineer
- Research in Satellite & Space Application Development

SEMESTER I
Subject
Physics I
Mathematics I
Basic Electronics Engineering
Basic Electrical Engineering
Communication Workshop 1.1
Engineering Graphics
Workshop Technology
PRACTICAL
Physics Lab I
Electrical & Electronics Lab
Engineering Graphics Lab I
Language Lab
Engineering Workshop Lab

SEMESTER II
Subject
Physics II
Chemistry
Mathematics II
Engineering Mechanics
Communication Workshop 1.2
Environmental Studies
PRACTICAL
Physics Lab II
Engineering Graphics Lab II
Chemistry Lab
Language through Literature

SEMESTER III
Subject
Mathematics III
Strength of Materials
Applied Fluid Mechanics
Thermodynamics & Heat Engines
Introduction to Aerospace & Avionics Engg
Theory of Machine
PRACTICAL
Applied Fluid Mechanics Lab
Material Testing Lab

SEMESTER IV
Subject
Design of Machine Elements
Aerodynamics I
Programming Language & DBMS
Propulsion I
Heat Transfer Processes
Communication Workshop 2.0
PRACTICAL
Heat Transfer Lab
Programming Language & DBMS Lab
CAD (Advanced Aero Drawing)

SEMESTER V
Subject
Flight Mechanics I
Aircraft Material & Manufacturing Techniques
Aircraft Structures I
Aerodynamics II
Applied Numerical Techniques & FEM
Aircraft Systems & Maintenance
PRACTICAL
Aerodynamics Lab
Aero Modeling & Fabrication Lab
Minor Project I
Aircraft Systems & Maintenance Lab

SEMESTER VI
Subject
Introduction to Vibration Analysis
Propulsion II
Flight Mechanics II
Supersonic & Hypersonic Aerodynamics
Aircraft Structures II
Communication Workshop 3.0
PRACTICAL
Aircraft Structures Lab
Propulsion Lab
Industrial Visit
Comprehensive Viva I
Minor Project II

SEMESTER VII
Subject
Industrial Management
Rocket Propulsion
Composite Materials & Structures
Flight Dynamics & Control
Elective I(Choose any one)
Helicopter Engineering
Orbital Mechanics
PRACTICAL
Flight Lab
Comprehensive Viva II
Major Project I
Seminar
Industrial Training

SEMESTER VIII
Subject
Design of Aerospace Vehicles
Spacecraft Dynamics &Altitude Control
Elective II(Choose any one)
Introduction to Aero elasticity
Space Science & Space Envt.
Elective III(Choose any one)
Computational Fluid Dynamics
Finite Element Analysis
Control Theory
PRACTICAL
Major Project II

B.TECH (Aerospace Engineering with specialization in Avionics)

The program endeavors to train and develop professionals in the fields of aerospace and avionics. This inter-disciplinary program combines concepts and techniques like aeronautics, electronics and instrumentation.

Career Options

- Avionics Design
- Air Defense Systems Engineer
- Satellite Engineer
- Aircraft Maintenance Specialist
- Weapon/Avionics
- Radar & Microwave
- Technology Specialist
- Research and Development Associate

SEMESTER I
Subject
Physics I
Mathematics I
Basic Electronics Engineering
Basic Electrical Engineering
Communication Workshop 1.1
Engineering Graphics
Workshop Technology
PRACTICAL
Physics Lab I
Electrical & Electronics Lab
Engineering Graphics Lab I

SEMESTER II
Subject
Physics II
Chemistry
Mathematics II
Engineering Mechanics
Communication Workshop 1.2
Environmental Studies
PRACTICAL
Physics Lab II
Engineering Graphics Lab II
Chemistry Lab
Language through Literature

SEMESTER III
Subject
Mathematics III
Strength of Materials
Applied Fluid Mechanics
Thermodynamics & Heat Engines
Theory of Machine
Introduction to Aerospace & Avionics Engg
PRACTICAL
Applied Fluid Mechanics Lab
Material Testing Lab

SEMESTER IV
Subject
Digital Electronics
Aerodynamics I
Programming Language & DBMS
Propulsion I
Micro Controllers & Embedded Systems
Communication Workshop 2.0
PRACTICAL
Micro Controller & Embedded Systems Lab
Programming Language & DBMS Lab
CAD (Advanced Aero Drawing)

SEMESTER V
Subject
Flight Mechanics I
Aircraft Material & Manufacturing Techniques
Aircraft Structures I
Aerodynamics II
Applied Numerical Techniques & FEM
Analog & Digital Communications
PRACTICAL
Aerodynamics Lab
Aero Modeling & Fabrication Lab
Minor Project I

SEMESTER VI
Subject
Digital Signal Processing
Propulsion II
Flight Mechanics II
Microwave Engineering
Introduction to Automatic Flight Control
Communication Workshop 3.0
PRACTICAL
Aircraft Structures Lab
Propulsion Lab
Industrial Visit
Comprehensive Viva I
Minor Project II

SEMESTER VII
Subject
Industrial Management
Digital Avionics
Aircraft Instruments & Measurements
Radar Technology
Elective I(Choose any one)
Spacecraft Avionics
Orbital Mechanics
PRACTICAL
Avionics Lab
Flight Lab
Comprehensive Viva II
Major Project I
Seminar
Industrial Training

SEMESTER VIII
Subject
Avionics System Design
Satellite Communication
Navigation & Guidance for Aerospace vehicles
Elective II(Choose any one)
Computational Fluid Dynamics
Mathematical Modeling & Simulation
Fly By Wire Control Systems
PRACTICAL
Major Project II

B.TECH (Electronics Engineering)

Electronics is a wide field that combines various technologies like radios, televisions, mobiles, etc. Thus electronics has become one of the fastest growing sectors in India. The program extends design, analysis and manufacturing of electronic devices and components, integrated circuits, wireless devices, digital and analog working of electronics circuitry for numerous applications

Career Options

- Electronics Engineer
- DSP Design Engineer
- Communication Engineer
- VLSI Design Engineer
- Plant Engineer in Consumer Electronics
- Industrial Electronics
- Industrial Electronics Design Engineer
- Consumer Electronics Designing
- Computer Hardware Designing
- Electronic Design & Analog Engineer

SEMESTER I
Subject
Physics I
Engineering Graphics
Mathematics I
Problem Solving with C
Communication Workshop 1.1
Workshop Technology
PRACTICAL
Physics Lab I
Engineering Graphics Lab I
C Programming Lab
Engineering Workshop
Language Lab

SEMESTER II
Subject
Physics II
Chemistry
Mathematics II
Basics Electrical Engineering
Communication Workshop 1.2
Environmental Studies
PRACTICAL
Electrical Lab
Physics Lab II
Chemistry Lab
Language through Literature

SEMESTER III
Subject
Mathematics III
Algorithm and Data Structure
Signals & Systems
Electronic Devices & Circuits (EDC)-I
Network Theory
Communication Workshop 2.0
PRACTICAL
Algorithm and Data Structure Lab
Electronics & Devices Circuits Lab - I
Network Lab
Electronics Workshop

SEMESTER IV
Subject
Electromagnetic Field Theory
Instrumentation & Measurement
Digital Electronics
Electronic Devices & Circuits (EDC)-II
Applied Numerical Methods
Probability and Random Variables
PRACTICAL
Instrumentation & Measurement Lab
Electronics & Devices Circuits Lab - II
Digital Electronics Lab

SEMESTER V
Subject
Linear Integrated Circuits
Antenna & Wave Propagation
Microprocessor & Peripherals
Analog Communication
Power Electronics & Derives
Digital IC Applications
Communication Workshop 3.0
PRACTICAL
Analog Communication Lab
Microprocessor Lab
Linear Integrated Circuit Lab

SEMESTER VI
Subject
Microwave Engineering
Control System Engineering
Digital Signal Processing
Digital Communication
VLSI Technology & Processes
Advanced Microprocessor & Embedded Systems
PRACTICAL
Advanced Microprocessor Lab
Digital Communication Lab
DSP & MATLAB Lab
Microwave & Antenna Lab
Industrial Visit
Minor Project II
Comprehensive Viva I

SEMESTER VII
Subject
VLSI Design
Wireless Communications
Java Programming
Elective-I (Choose any 1)
Nano Electronics Technology
Remote Sensing
Solar Cell Technology
Optical Communications
Satellite Communication
Telecommunication Switching Systems & Networks
PRACTICAL
VLSI Lab
Java Lab
Major Project I
Seminar
Industrial Training

SEMESTER VIII
Subject
Industrial Automation
Industrial Management
Artificial Intelligence
Elective II (Choose any 1)
VHDL
Micro Electro Mechanical Systems
Biomedical Instrumentation
Radar Systems
Broadband Wireless Communication
Microcontroller & embedded system
PRACTICAL
Major Project II

B.TECH (Mechatronics Engineering)

This program, developed in direct response to industrial demand for engineers with multi-disciplinary skills, is a combination of mechanical, electronics, control, computer and systems design engineering streams. The program allows engineers to design, construct and run factory production lines and automated processes, where they use their skills in computers, micro-controllers, programmable logic controllers, programming, industrial sensors, hydraulic, pneumatic and electric drives, design of mechanical structures and mechanisms and knowledge of manufacturing processes.

Career Options

- Industrial Automation Engineer
- Automation Design Engineer
- Control Systems Engineer
- Robotics Application Engineer
- Maintenance Engineer for Automation System
- New Automation Product Developer

SEMESTER I
Subject
Physics I
Chemistry
Mathematics I
Computer Science
Communication Workshop 1.1
Workshop Technology
PRACTICAL
Physics Lab I
Chemistry Lab
Computer Lab
Engineering Workshop
Language through Literature

SEMESTER II
Subject
Physics II
Mathematics II
Basic Electrical Engineering
Basic Electronics Engineering
Engineering Graphics
Communication Workshop 1.2
Environmental Studies
PRACTICAL
Electrical& Electronics Lab
Engineering Graphics Lab I
Physics Lab II
Language Lab

SEMESTER III
Subject
Materials Technology
OOPs with C++
Thermodynamics & Heat Engines
Analog and Digital Electronics
Electrical Machines
Manufacturing Technology
PRACTICAL
OOPS Lab
Engineering Graphics Lab -II
Electrical Drives & Electronics Lab

SEMESTER IV
Subject
Fluid Mechanics
Metrology & Computer Aided Inspection
Mechanics of Solids
Control Engineering
Instrumentation & Control
Communication Workshop 2.0
PRACTICAL
Fluid Mechanics Lab
Instrumentation & Control Lab
Manufacturing science and material testing Lab

SEMESTER V
Subject
Power Electronic & Drives
Applied Numerical Techniques & FEM
Microprocessor & Microcontroller
Theory of Machines
Computer Aided Manufacturing
Signal Processing and Systems
PRACTICAL
Power Electronics & Drives Lab
Microprocessor & Microcontroller Lab
Sensor & Signal Processing Lab
CAM Lab
Minor Project I

SEMESTER VI
Subject
Design of Machine Elements
Robotics & Control
Hydraulics and Pneumatics
Programmable Logic Controller (PLC)
Sensor Systems and Artificial Intelligence
Computer Aided Design
Communication Workshop 3.0
PRACTICAL
Hydraulics & Pneumatics Lab
PLC and AI Lab
Robotics Lab
Minor Project II
Comprehensive Viva I
Industrial Visit

SEMESTER VII
Subject
Mechatronics System Design
Embedded Systems
Fluid Power System & Factory Automation
Elective-I (Any Two)
Rapid Prototyping and Tooling
Manufacturing System Analysis
Manufacturing Information System
Process Control Description
Computer Integrated Manufacturing
PRACTICAL
Mechatronics Lab
Computer Aided Design Lab
Major Project I
Seminar
Industrial Training
Comprehensive Viva II

SEMESTER VIII
Subject
Material Handling
Computational Fluid Dynamics
Elective-II (Any Two)
Robot Applications
Micro Electromechanical System
Optimization Technique
Machine Vision
PRACTICAL
CFD Lab
Major Project II

B.TECH (Power System Engineering)

The discipline is the intersection of electric power, economics and management. The program prepares you for power generation, distribution and power equipment. The students can also switchover to other specializations like energy conservation, renewable energy engineering and sustainable development.

Career Options

- Power Plant Design Engineer
- Power Plant Operations Engineer
- Power Applications Engineer
- Operations Engineer with Power Utilities
- Power Systems Integration
- Transmission Line Planning Engineer
- Power Distribution Systems Engineer

SEMESTER I
Subject
Physics I
Chemistry
Mathematics I
Engineering Mechanics
Computer Science
Communication Workshop 1.1
Environmental Studies
PRACTICAL
Physics Lab I
Chemistry Lab
Computer Lab
Language Lab

SEMESTER II
Subject
Physics II
Mathematics II
Engineering Graphics
Communication Workshop 1.2
Workshop Technology
Object Oriented Programming using C++
PRACTICAL
OOPS Using C++ Lab
Engineering Graphics Lab I
Physics Lab II
Language through Literature
Engineering Workshop Lab

SEMESTER III
Subject
Mathematics III
Thermodynamics & Heat Engines
Mechanics of Solids
Electric Circuit Theory
Analog Electronics
Communication Workshop 2.0
Electric Machine I
PRACTICAL
Engineering Thermodynamics Lab
Electric Circuit Lab
Electronics Lab
Electric Machines I Lab

SEMESTER IV
Subject
Applied Fluid Mechanics
Electric Machine II
Heat & Mass Transfer Process
Control Engineering
Introduction to Power Generation Technology
Digital Electronics
PRACTICAL
Digital Electronics Lab
Control Engineering Lab
Electric Machine II Lab
Thermal Lab
Fluid Machines Lab

SEMESTER V
Subject
Power Transmission
Steam Generator, its Aux and BOP
Steam Turbine and its Auxiliaries
Applied Numerical Methods
Measurement and Instrumentation
Microprocessor
Communication Workshop 3.0
PRACTICAL
Microprocessor Lab
Measurement and Instrumentation Lab
Power System Modeling & Simulation Lab
Minor Project I

SEMESTER VI
Subject
Power System Protection & Switchgear
Hydro Power Generation
Power Plant Operation & Performance Monitoring
Power Electronics
Power Distribution & Utilization
Nuclear Power Generation
PRACTICAL
Power System Protection & Switchgear Lab
Power Electronics Lab
Minor Project II
Comprehensive Viva I
Industrial Visit

SEMESTER VII
Subject
Automation in Power System
Power System Analysis & Stability
Project Management
Group Elective
Group - I (select any one)
Power Plant Maintenance Practices
Design of Mechanical Equipment
Group - II (Select any one)
High Voltage Engineering
Substation Design
PRACTICAL
Major Project I
Seminar
Industrial Training

SEMESTER VIII
Subject
Energy Conservation & Audit
Electric Drives
HSE for Power Industry
Group Elective
Group – III
Diesel & Gas Turbine Plant
IGCC & Clean Coal Technology
Group – IV
Load Dispatch & Electricity Regulation
Advance Power Transmission (HVDC, EHCAC, FACTS)
PRACTICAL
Major Project II
Comprehensive Viva II

B. Tech (Civil Engineering with specialization in Infrastructure Development)

Infrastructure is, in fact, one of the fastest growing fields in India today. The booming economy is a result of improved infrastructure in all spheres of industrialization.

The program has been designed to create a highly skilled construction and project management professionals who fully understand the planning, designing, estimating, execution and maintenance of structures. It even combines transportation infrastructure, that encompasses roads, airports, railways, docks and harbors, lifeline structures like bridges, dams and canals, and structures of water supply and sanitary units.

Career Options

- Project Engineer
- Quantity Estimator and Surveyor
- Building Design Engineer
- Infrastructure Maintenance Engineer
- Infrastructure Planning Engineer
- Consultant for Infrastructure Projects
- Contractor/Professional Builder
- Design Engineer for Bridges, Roads, Airports and SEZs

SEMESTER I
Subject
Physics I
Mathematics I
Chemistry
Communication Workshop 1.1
Environmental Studies
Computer Science
Building Materials and Engg, Geology
Basic Mechanical Engineering
PRACTICALS
Physics Lab I
Chemistry Lab
Computer Lab
Language Lab

SEMESTER II
Subject
Physics II
Mathematics II
Engineering Graphics
Communication Workshop 1.2
Workshop Technology
Basic Electrical Engineering
Basic Electronics Engineering
Engineering Mechanics
PRACTICALS
Physics Lab II
Engineering Graphics Lab
Engineering Workshop
Electrical & Electronics Lab
Language through Literature

SEMESTER III
Subject
Communication Workshop 2.0
Mechanics of Solids
Fluid Mechanics I
Surveying I
Building Construction
Mathematics III
PRACTICALS
Material Testing Lab
Fluid Mechanics Lab I
Surveying Practical I
Computer Aided Engg. Graphics

SEMESTER IV
Subject
Applied Numerical Methods
Structural Analysis I
Fluid Mechanics II
Building Design & Drawing
Surveying II
Concrete Technology
PRACTICALS
Computer Aided Drawing Lab
Surveying Practical II
Concrete Testing Lab
Fluid Mechanics Lab II

SEMESTER V
Subject
Environmental Engineering I
Structural Analysis II
Design of Concrete Structures
Water Resource Engineering
Soil Mechanics
Transportation Engineering I
Communication Workshop 3.0
PRACTICALS
Concrete Design Practical
Structural Analysis Lab
Soil Mechanics Lab
Transportation Engineering Lab
Minor Project I
Survey Camp

SEMESTER VI
Subject
Design of Steel Structures
Project Cost Analysis
Environmental Engineering I
Transportation Engineering II
Foundation Engineering
Irrigation Engineering
PRACTICALS
Steel Design Practical
Project Cost Analysis Practical
Environmental Engineering Lab
Industrial Visit
Comprehensive Viva I

SEMESTER VII
Subject
Construction Project Management
Advanced Design of Concrete Structures
Hydraulic Structures
Transportation Engineering III
Elective I (Choose any one)
Design & Construction of Offshore Structures
Optimization Methods and its Application in Infrastructure Engg.
Finite Element Method
Ground Improvement Techniques
Environmental Impact Assessment
PRACTICALS
Advanced Design Practical
Seminar I
Industrial Training
Major Project I

SEMESTER VIII
Subject
Constructional Professional Ethics
Pre-stressed Concrete
Elective II (Choose any one)
Infrastructure Modeling
Structural Dynamics
Advanced Design of Steel Structures
Urban Transport Planning
Hydropower Engineering
PRACTICALS
Seminar II
Comprehensive Viva II
Major Project II

B.TECH (Material Science Engineering with specialization in Nano Technology)

This program help in developing new material for industrial consumer use. The material science engineers work to create new synthetic, composite material along with improving of application properties of ferrous and non ferrous and plastic material. Nano technology is today playing a significant role in creating the next generation Nano structured material and Nano composites.

The branch extends a variety of opportunities in cutting edge Nano Technology area.

Career Options

- Material Engineer
- Nano Technologist
- Foundry Engineer
- Metallurgical Engineer
- Product Developing Engineer
- R & D Specialist in Nano Sciences
- Plastic Engineer
- Ceramic Engineer

SEMESTER I
Subject
Physics I
Chemistry
Mathematics I
Workshop Technology
Computer Science
Thermodynamics & Heat Engines
Communication Workshop 1.1
PRACTICAL
Physics Lab I
Chemistry Lab
Computer Lab
Engineering Workshop Lab
Language through Literature

SEMESTER II
Subject
Physics II
Mathematics II
Engineering Mechanics
Engineering Graphics
Communication Workshop 1.2
Environmental Studies
Basic Electrical Engineering
Basic Electronics Engineering
PRACTICAL
Engineering Graphics Lab
Physics Lab II
Electrical &Electronics Engineering Lab

SEMESTER III
Subject
Mathematics III
Metallurgical Thermodynamics & Kinetics
Strength of Materials
Material Science/Physical Metallurgy
Transport Phenomenon
Introduction to Nano Technology
PRACTICAL
Material Science Lab

SEMESTER IV
Subject
Micro and Nano Materials Characterization
Electrical, Magnetic & Electronic Materials
Principles of Metal Extraction & Refining
Fuel Furnaces & Refractories
Particulate Processing
Applied Numerical Methods
Communication Workshop 2.0
PRACTICAL
Metallurgical & Instrument Analysis Lab

SEMESTER V
Subject
Nano Material Processing
Mechanical Behavior & Properties of Materials
Polymers & Ceramics
Energy Resources and Conversion
Modeling & Simulation of Metallurgical Processes
Manufacturing Processes
PRACTICAL
Manufacturing Lab
Materials Testing Lab
Nano Materials Laboratory
Minor Project I

SEMESTER VI
Subject
Corrosion Science & Technology/Materials Degradation & its Prevention
Iron & Steel Processing
Phase Equilibria & Phase Transformation in Materials
Quality ,Reliability and Safety
Industrial Management
Communication Workshop 3.0
PRACTICAL
Corrosion Engineering Lab
Minor Project II
Comprehensive Viva I
Industrial Visit

SEMESTER VII
Subject
Nano Composite
Process Plant Design for Metallurgical Engineering Operations
Non-Ferrous Materials Technology
Elective I (choose any one)
Finite Elements Methods
Advanced Manufacturing System
PRACTICAL
Composite and Nano Composite Fabrication Lab
Seminar
Major Project I
Industrial Training
Comprehensive Viva II

SEMESTER VIII
Subject
Advanced Applications of Nano Technology
Nano Electronics & Robotics
Elective I (choose any one)
Tribology
Computational Fluid Dynamics
Advanced Materials Technology
PRACTICAL
Major Project II

B.TECH (Fire & Safety Engineering)

This unique program provides students with the prowess to create an atmosphere of safety against fire. Fire & Safety engineering explores various ways of preventing fire. It is a science of designing buildings and fire safety and property protection. Fire engineers design sectors are at the forefront of ensuring that fire safety is maintained and enhanced without exhausting natural resources or damaging the environment.

Career Options

- Fire & Safety Managers
- Fire Risk Assessors
- Fire & Safety Consultant
- Fire & Safety Advisor
- Fire Prevention Engineer
- Fire & Safety Engineer
- Research Scientist (Fire Safety)
- Fire & Safety Officer

SEMESTER I
Subject
Physics I
Chemistry I
Computer Science
Communication Workshop 1.1
Workshop Technology
Mathematics I
Environmental Studies
PRACTICAL
Physics Lab I
Chemistry Lab I
Computer Lab
Engineering Workshop
Language through Literature

SEMESTER II
Subject
Physics II
Chemistry II
Mathematics II
Manufacturing Process
Communication Workshop 1.2
Engineering Graphics
PRACTICAL
Engineering Graphics Lab
Physics Lab II
Chemistry Lab II
Language Lab

SEMESTER III
Subject
Mathematics III
Chemical Engineering I (Thermodynamics & Measuring Analytical Instruments)
Fluid Mechanics & Fluid Flow Machines
Elements of Machine Drawing
Principles of Safety Management
PRACTICAL
Fluid Mechanics & Machinery Lab

SEMESTER IV
Subject
Applied Numerical Methods
Chemical Engineering II (Unit Operations)
Strength of Materials
Fire Engineering I (Basic Concepts)
Electrical Technology & Safety in Electrical Systems
First Aid and Emergency Procedures
Communication Workshop 2.0
PRACTICAL
Material Testing Lab
Electrical Technology Lab

SEMESTER V
Subject
Chemical Engineering III (Process Technology)
Principles of Engineering Design
Fire Engineering II (Equipments)
Principles of Engineering Mgmt
Safety in Construction
PRACTICAL
Safety Engineering Lab
Chemical Engineering Lab
Minor Project I

SEMESTER VI
Subject
Legal Aspects of Safety, Health & Environment
Chemical Process Safety
Process Instrumentation and Control Engineering
Fire Engineering III (Materials & Fire Control)
Environmental Engineering & Management
Communication Workshop 3.0
Occupational Health and Hygiene Management
PRACTICAL
Environmental Engineering & Management Lab
Comprehensive Viva I
Minor Project II
Industrial Visit

SEMESTER VII
Subject
Hazard Identification & HAZOP
Safety in Rail and Road Transport
Safety in Engineering Industry
Fire Engineering IV (Risk Assessment & Planning)
Safety in Process Industry
PRACTICAL
Fire Engineering Lab
Industrial Hygiene Lab
Comprehensive Viva II
Major Project I
Industrial Training
Seminar

SEMESTER VIII
Subject
Human Factors Engineering
Disaster Management
Advanced Safety Engineering & Management
Insurance Claim Settlement
PRACTICAL
Major Project II

B.TECH (Electrical Engineering)

The course deals with the entire field related to electrical engineering. It includes Circuit analysis, Electromagnetic machines & drive system, Power System, Control system, Power electronics, Utilization etc. The course will focus on the core industrial requirement of 'Electrical engineering'. Students will be provided with fundamental knowledge of engineering to advances in electrical engineering as FACTS, Drives, DSP, Smart Grid etc

Electrical Engineering is main core branch of engineering and have strong industrial requirement. Electrical energy is most important form of energy used worldwide. As the industrial growth is increasing the requirement of electrical engineers is increasing day by day. The course mainly focuses on core electrical engineering requirement of industry.

Career Options

- All power generation, transmission, distribution companies
- Any industry in any sector may be textile, steel, cement, fertilizer, petrochemical, shipping, traction, automobile etc.
- Service sector companies like IT companies, banking, telecommunication etc.
- Consulting companies

SEMESTER I
Subject
Physics I
Engineering Graphics
Mathematics I
Problem Solving with C
Communication Workshop 1.1
Workshop Technology
PRACTICAL
Physics Lab I
Engineering Graphics Lab I
C Programming Lab
Engineering Workshop Lab
Language Lab

SEMESTER II
Subject
Physics II
Chemistry
Mathematics II
Fundamentals of Electrical Engineering
Communication Workshop 1.2
Environmental Studies
PRACTICAL
Electrical Lab
Physics Lab II
Chemistry Lab
Language through literature

SEMESTER III
Subject
Mathematics III
Network Theory
Electromagnetic Field Theory
DC Machines & Transformers
Mechanics of solid and fluids
Analog & Digital Electronics
Communication Workshop 2.0
PRACTICAL
Analog & Digital Electronics Lab
DC Machines & Transformers Lab
Networks Lab

SEMESTER IV
Subject
Power Generation Engineering
Electrical Measurement & Instrumentation
Synchronous & Asynchronous Machines
Signals & Systems
Applied Numerical Methods
Control System Engineering
PRACTICAL
Electrical Measurement & Instrumentation Lab
Synchronous & Asynchronous Machines Lab
Control System Engineering Lab

SEMESTER V
Subject
Transmission & Distribution
Electronic Communication
Microprocessor & Microcontrollers
Linear/Nonlinear Integrated Circuits
Power Electronics & Devices
Thermal & hydraulic Equipment
Communication workshop 3.0
PRACTICAL
Electronics Communication Lab
Microprocessor & Microcontroller Lab
Linear & nonlinear Integrated Circuit Lab
Power Electronics Lab
Minor Project I

SEMESTER VI
Subject
Power System Analysis & Stability
Special Purpose Machines
High Voltage Engineering
Switchgear & Protection
Industrial Electronics
Renewable Energy Technology
PRACTICAL
RET Lab
Power System Lab
Industrial Electronics lab
Minor Project II
Comprehensive Viva I
Industrial Visit

SEMESTER VII
Subject
Simulation of Electrical Systems
Power System Operation & Control
Electrical Power Utilization & Traction
Electrical Machine Design
Project Management & Contract Administration
Elective-I (Choose any 1)
Distribution Management
Power Station Practice
Advanced Control Systems
PRACTICAL
Modeling & Simulation lab
Major Project I
Seminar
Industrial Training

SEMESTER VIII
Subject
Power System Automation & Smart grid
EHV AC and DC transmission
Indian Electricity Act & Regulations
Elective II (Choose any 1)
Substation Design
Advanced Signal Processing
Advanced Protective Relaying
PRACTICAL
Major Project II

B. TECH (Instrumentation & Control Engineering)

Instrumentation and Control Engineering is a specialized stream of engineering that deals with measurement and control of process variables in a production process, and hence, it is an integral part of industrial automation.

This discipline finds its origin in both electrical and electronics engineering, and it covers subjects related to electronics, electrical, mechanical and computing streams. In short, it deals with measurement, automation and control processes. The C & I engineers find employment in power generation, manufacturing, aerospace, process industries etc.

Therefore, a four year B.Tech Instrumentation & Process Control Engineering course will prepare a student as a professional engineer specializing in Control and Instrumentation Engineering which lies at the heart of most of the modern industries from Power generation to all sorts of manufacturing & process industries.
The course offered would be one of the fascinating studies – from basic & fundamentals to design & adaptability along with understanding of linkages with the associated wider aspects of emerging engineering areas of technology & applications.

Career Options:

- Production
- Safety Engineer and quality control Engineer
- Plant Engineer
- Manufacturing Engineer or process Engineer

SEMESTER I
Subject
Physics I
Engineering Graphics
Mathematics I
Computer Science
Workshop technology
Communication Workshop 1.1
PRACTICAL
Physics Lab I
Engineering graphics lab I
Computer Lab
Engineering Workshop
Language lab

SEMESTER II
Subject
Physics II
Mathematics II
Chemistry
Communication Workshop I.2
Electrical Engineering
Environmental Studies
PRACTICAL
Electrical Lab
Chemistry lab
Physics Lab II
Language through literature

SEMESTER III
Subject
Electromagnetic Field Theory Compatibility
Electronic Devices and Circuit
Electrical Machines
Signals and Systems
Programming Language and DBMS
Communication Workshop 2.0
PRACTICAL
Electronic Workshop
Electronic devices and circuits lab
Electrical Machine Lab
Programming Language and DBMS LAB

SEMESTER IV
Subject
Digital Electronics
Measurement & Measuring Instruments
Fundamentals of Thermodynamics
Fundamentals of Fluid Mechanics
Control Theory
Numerical Methods & Applications
Introduction to Power Industry
PRACTICAL
Measurement & Measuring Instruments lab
Thermodynamics and Fluid Mechanics Lab
Control Theory & Simulation
Digital Electronics Lab

SEMESTER V
Subject
Analog and Digital Communication System
Operational Amplifiers and Applications
Control System Design
Transducers and Applications
Introduction to Process Industry
Microprocessor and Microcontroller
Communication workshop 3.0
PRACTICAL
Transducer and Application Lab
Microprocessor & Microcontroller Lab
Operational Amplifiers and Application lab
Analog and Digital Communication System Lab
Minor Project I

SEMESTER VI
Subject
Process Control
Power Electronics
Signal Conditioning & Telemetry
Computer Networks
Power System Protection and Control
Control System Components
PRACTICAL
Power Electronics and Protection Lab
Instrumentation Lab
Industrial Visit
Seminar
Comprehensive Viva
Minor Project II

SEMESTER VII
Subject
Industrial Drives
Computer Control
SCADA & Automation
ELECTIVE – 1 (Choose any one)
Biomedical Instrumentation
Introduction to Robotics
Digital Signal Processing
Analytical Instrumentation
PRACTICAL
PLC & Automation Lab
Industrial Training
Major Project I

SEMESTER VIII
Subject
Industrial Management
Fuzzy Logic & Neural Network
ELECTIVE 2 (Choose any one)
Computer Aided Instrumentation
Intelligent Instrumentation
Wireless Sensor Network
Micro Electro Mechanical Systems
Elective 3(Choose any one)
Optimal & Adaptive Control
Embedded System
VLSI technology & Processes
Digital image processing
PRACTICAL
Major Project II

B. Tech (Mechanical Engineering)

Mechanical Engineering is one of the primitive branches of Engineering have wide application in other engineering fields, and therefore, have remained always in demand and continue to be in the future. The proposed mechanical engineering program is designed to meet the needs of the 21st century industry covering design & developments, production & manufacturing, repair & maintenance, etc. As the Industrial sector has drastically risen in pace, the need for more mechanical engineers has increased exponentially. Every manufacturing and production industry needs mechanical engineers to carry out jobs efficiently and flawlessly for their operations..

The course offered would be one of the fascinating studies – from basic & fundamentals to design & adaptability along with understanding of linkages with the associated wider aspects of emerging engineering areas of technology & applications

Career Options

- Mechanical Design Engineer
- Advance Manufacturing Engineer
- Analyst
- Coding Scientist
- Design Engineer
- Development Engineer

SEMESTER I
Subject
Physics I
Chemistry
Mathematics I
Engineering Mechanics
Engineering Graphics – I
Computer Science
Communication Workshop 1.1
PRACTICAL
Language through Literature
Physics Lab I
Chemistry Lab
Engineering Graphics Lab I
Computer Lab

SEMESTER II
Subject
Physics II
Mathematics II
Material Science
Workshop Technology
Communication Workshop 1.2
Environmental Science
Basic Electrical and Electronics Engineering
PRACTICAL
Engineering Workshop Lab I
Physics Lab II
Electrical and Electronics Lab
Language lab I

SEMESTER III
Subject
Mathematics III
Thermodynamics and Heat Engines
Strength of Materials
Fluid Mechanics
Manufacturing Technology I
Communication Workshop 2.0
PRACTICAL
Engineering Graphics Lab II
Manufacturing Technology Lab I
Fluid Mechanics Lab

SEMESTER IV
Subject
Applied Numerical Techniques and FEM
Refrigeration and Air Conditioning
Programming Language and DBMS
Design of Machine Elements
Measurement, Metrology and Control
Kinematics of Machines
PRACTICAL
Machine Drawing Lab
Measurement & Metrology Lab
Material Testing Lab
Programming Language and DBMS Lab

SEMESTER V
Subject
Production and Operation Management
Advanced Machine Design
I.C Engines
Manufacturing Technology II
Heat Transfer Processes
Micro Processor Based Control System
PRACTICAL
Manufacturing Technology Lab II
Engine Testing & Emission Measurement Lab
Heat Transfer Lab
Minor Project I
RAC Lab

SEMESTER VI
Subject
Industrial Management
Fluid and Turbo Machinery
Dynamics of Machines
Automobile Engineering
Quality, Reliability and Safety
Communication Workshop 3.0
PRACTICAL
Fluid Machinery Lab
Automobile Engineering Lab
Theory of Machines Lab
Minor Project II
Comprehensive Viva I
Industrial Visit

SEMESTER VII
Subject
Operation Research
CAD/CAM
Power Plant Engineering
Elective I (Any One)
Finite Element Analysis
Energy Management
Advanced Manufacturing Technology
PRACTICAL
CAD/CAM Lab
Seminar
Major Project I
Industrial Training
Comprehensive Viva II

SEMESTER VIII
Subject
Alternate Energy Sources
Mechanical Vibrations
Entrepreneurship Development
Elective II (Any One)
Tribology
Computational Fluid Dynamics
Product Design and Development
PRACTICAL
Major Project II

B.TECH (Production & Industrial Engineering)

Industrial and Production Engineering is emerging as a specialized branch of Mechanical Engineering with an objective of enabling engineers to improve efficiency and effectiveness of both manufacturing and service sector Industries. The study of Industrial and Production Engineering constitutes topics like operations management, production and manufacturing engineering. It is concerned with the design of Man-Machine System that attempts to optimize the resources. The course curriculum is designed compatible to the existing and emerging needs of the industry. The course is supported by state-of-the-art facilities in form of laboratories and experienced faculty to impart training to the students

The objective of the undergraduate program is to prepare world class and competent quality professionals with value based technical knowledge, for taking leading positions in industry and academia so that they will be able to face the challenges of managing effectively the Manufacturing and Production sectors in the industries.

Career Options

- Production Engineer
- Safety Engineer and Quality Control Engineer
- Plant Engineer
- Manufacturing Engineer or Process Engineer

SEMESTER I
Subject
Physics I
Mathematics I
Engineering Mechanics
Chemistry
Workshop Technology
Communication workshop 1.1
PRACTICAL
Physics Lab I
Engineering Workshop Lab I
Chemistry lab
Language Lab

SEMESTER II
Subject
Physics II
Mathematics II
Basic Electrical & Electronics Engineering
Engineering Graphics – I
Computer science
Communication Workshop 1.2
Environmental Science
PRACTICAL
Engineering Graphics Lab I
Physics Lab II
Electric &Electronic Lab
Language through literature
Computer lab

SEMESTER III
Subject
Mathematics III
Strength of Materials
Theory of machines
Thermodynamics and heat engines
Material Science
Communication workshop 2.0
PRACTICAL
Engineering Thermodynamics Lab
Material testing lab
Engineering graphics II lab
Theory of Machines lab

SEMESTER IV
Subject
Materials Management
Measurements, Metrology and control
Fluid mechanics
Design of machine elements
Manufacturing Technology I
Heat Transfer Process
PRACTICAL
Mechanical Measurement and metrology lab
Material Science lab
Manufacturing Technology lab I
Fluid mechanics & heat transfer lab

SEMESTER V
Subject
Microprocessor based control systems
Manufacturing Technology II
Work study and Ergonomics
Industrial Quality Control
Industrial automation and Robotics
Communication workshop 3.0
PRACTICAL
Manufacturing Technology Lab II
Work study and Ergonomics lab
Quality Control Lab
Minor project

SEMESTER VI
Subject
App numerical methods and Finite Element Analysis
Advanced Manufacturing Technology
Production planning and control
Operations Research
Tool design, Jigs and Fixtures
PRACTICAL
Industrial automation and robotics lab
Advanced Manufacturing Technology Lab
Minor project II
Industrial visit
Comprehensive viva I

SEMESTER VII
Subject
Operations Management
CAD/CAM
Facilities planning and Material Handling
Elective I (ANY ONE)
Computer Aided Process Planning
TQM and Value Engineering
Modeling and Simulation
PRACTICAL
CAD/CAM lab
Major project I
Seminar
Industrial training
Comprehensive viva II

SEMESTER VIII
Subject
Industrial Management
Economic Life Cycle Concepts
Maintenance and Reliability Engineering
Elective II (ANY ONE)
Product Design and Development
Occupational Health and safety
Advanced Forming and Casting Process
PRACTICAL
Major Project II

B. Tech. (Mining Engineering)

The program emphasizes on interdisciplinary aspects of both Sciences and Engineering including mine-surveying, mining mechanization, role of robotics engineering in mining along emerging themes of learning and education related to mine environment and sustainable mining, mineral quality analytics, India-specific placer deposits, opencast coal/ iron/ aluminum/ potash/ fluorite/ and other industrial minerals.

Career Options

Through this programme, the department encourages the students to pursue cross traditional modules of mining engineering and seek employable opportunities with global mining enterprises, consultants, services providers, or explore opportunities as – techno-entrepreneurs, techno-economists of specific mineral mines and ore deposits, develop freelance expertise in reliability engineering and feasibility studies in robotic applications, geo statistical evaluation of complex ore deposits, innovative approaches in mine-surveying, mine planning, mine ventilation designing, mineral deposit assessment, and further gain basic techno-managerial strategies for rover fabrication for mining at both on-land off-land mineral deposits.

SEMESTER I
Subject
Physics I
Chemistry I
Mathematics I
Sciences of Mineral Deposit Formation
Computer Science
Communication Workshop 1.1
Mine Site Pollution & Environment
PRACTICAL
Physics Lab I
Chemistry Lab I
Computer Lab
Language Lab

SEMESTER II
Subject
Physics II
Chemistry II
Mathematics II
Global Mineral Deposits & Occurrences
Engineering Graphics
Communication Workshop 1.2
Mining Databases & Informatics
PRACTICAL
Engineering Workshop
Mine Planning & Graphics Lab I
Physics Lab II
Mineral Identification & Analysis I
Language through Literature
Chemistry Lab II

SEMESTER III
Subject
Mathematics III
Mineral Deposits of Complex Formations
Fluid Mechanics
Thermodynamics & Heat Engines
Mine Surveying & Planning
Basic Electrical Engineering
Basic Electronics Engineering
PRACTICAL
Mine Planning & Graphics Lab II
Mineral Identification & Analysis II
Fluid Mechanics Lab
Electrical & Electronics Lab

SEMESTER IV
Subject
Methods of Surface Mining
Mine Surveying & Planning
Geostatistics for Ore Bodies Estimation
Programming Language & Exploitation Risk
Mineral Economics & Exploitation Risk
Methods of Surface Mining
Communication Workshop 2.0
PRACTICAL
Mine Surveying Lab
Programming Language & DBMS Lab
Instrumentation & Control Lab

SEMESTER V
Subject
Methods of Sub-surface Mining
Applied Numerical Methods
Rocks Mechanics & Geotechnical Analysis
Photogrammetry, Remote Sensing, GIS and GPS
Dynamics of Mine Verification Designing
PRACTICAL
Opencast Mines & Arc GIS Lab
Mine Ventilation & Engineering Lab
Minor Project I

SEMESTER VI
Subject
Mine Plant Machinery & Robotics
Advanced Engineering Rock Mechanics
Commercial Polymetallic for Coal Mining
Methods in Mining Quality Analysis
Sustainable Mining & Geo-political Negotiations
Communication Workshop 3.0
PRACTICAL
Minor Project II
Comprehensive Viva I
Industrial Visit

SEMESTER VII
Subject
Mining Hazards & Rescuing Operations
Environmental Pollution &Control Strategies
Mine Automation and Rover-based Operations
Elective I (Choose any one)
Extra Terrestrial Mining
Radioactive Mineral Deposits & Valuation
Placer Deposits & Viable Mining
PRACTICAL
Major Project I
Seminar I
Industrial Training
Comprehensive Viva II

SEMESTER VIII
Subject
Strategic Mine Acquisition & Mergers
Legal Aspects of Mining & Cross Boundaries Evaluation
Elective II
Risk Management in Sub-sea Poly metallic nodules
Collaborative Mining & Legal Due Diligence
Contract Administration for International Mining
PRACTICAL

B. TECH (Computer Science & Engineering with specialization in Cloud Computing & Virtualization Technologies)*

This program demystifies Cloud Computing, and attempts to define the cloud phenomenon and all the technologies that go with it. Cloud Computing is very much a work in progress at this time and so while the course comprehensively covers the basic technologies involved (e.g. Virtualization), the history of the cloud and its roots in Service Oriented Architecture and Utility Computing, it has ample of scope to take in the fast changing models that are thrown out by cloud computing. Students of this program will also benefit from the several practical credits that provide hands-on capabilities on the various aspects of cloud.

Career Options

- Cloud Solution Architects
- Cloud System Administration
- Cloud Security Specialists
- Cloud Application Development/Maintenance/Testing
- Migration & Modernization Specialists
- Cloud Project Management

SEMESTER I
Subject
Physics I
Chemistry
Mathematics I
Problem Solving with C
Communication Workshop 1.1 (Focus on Social Networking & Collaborative Platform)
Environmental Studies
Introduction to Open Source Software and Open Standards
PRACTICAL
Physics Lab I
Chemistry Lab
C Programming Lab
Language through Literature

SEMESTER II
Subject
Physics II
Mathematics II
Data Structures using C
Engineering Graphics
Communication Workshop 1.2
Introduction to Mathematical Logic
Web Technologies through PHP
PRACTICAL
Data Structures using C Lab
Engineering Graphics Lab I
Physics Lab II
Language Lab
Web Technologies through PHP Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
Design & Analysis of Algorithms
Database Management Systems & data Modeling
Communication Workshop 2.0
Electronic Devices & Circuits
Dynamic paradigm in Cloud Computing 1
Introduction to IT Infrastructure Landscape
PRACTICAL
OOPS using C++ Lab
DBMS Lab

SEMESTER IV
Subject
Microprocessors and Embedded Systems
Storage Technology Foundation
Dynamic Paradigm in Cloud Computing 2
Advanced DBMS
Theory of Automata & Computation
Principles of Management
Data Communication and Networks
Introduction to Virtualization and Cloud Computing
PRACTICAL
Microprocessors and Embedded Systems Lab
Advanced DBMS Lab
Data Communication and Networks Lab
Introduction to Virtualization and Cloud Computing Lab

SEMESTER V
Subject
Software Engineering & Project Management
Cloud Computing Architecture
Java Programming
Operating Systems
Organizational behavior
Object Oriented Analysis & Design
Communication Workshop 3.0
Dynamic Paradigm in Cloud Computing 3
PRACTICAL
Java Programming Lab
Software Engineering & Project Management Lab
Minor Project I
Operating Systems Lab

SEMESTER VI
Computer Graphics
Enterprise Java
Dynamic Paradigm in Cloud Computing 4
Service Oriented Architecture
XML Programming
Cloud Deployment Model
Compiler Design
PRACTICAL
Enterprise Java Lab
Computer Graphics Lab
Minor Project II
XML Programming Lab
Industrial Visit
Compiler Design Lab
Cloud Deployment Model Lab

SEMESTER VII
Subject
Elective I (Choose any one)
Security in Cloud
Business Process Management – I
Backup & DR
Cloud Performance Tuning
Managerial Economics
Data Warehousing & Data mining
PRACTICAL
Cloud Performance Tuning Lab
Data Warehousing & Data mining Lab
Major Project I
Summer Internship

SEMESTER VIII
Subject
Network Security & Cryptography
Elective II (Choose any one)
Managing the cloud
Business Process Management - II
Entrepreneurship and product development
Professional Ethics
PRACTICAL
Major Project II

*in academic collaboration with IBM

B. Tech. (Computer Science & Engineering with specialization in Open Source & Open Standards)*

This program will address the need for vertical open standards domain knowledge and open source software skills for various industry verticals and drive to reduce the gap between industry requirement and availability of trained technology professionals for the same.

This program, is aimed at producing skilled professionals in the open source software and domain open standards by providing the student with the insights into the world of open source software, the collaborative methodology being followed, the licensing terms, expose the student to popular open source software tools, and bringing-in the right mix of theory with practical, to enable the student to understand the open domain standards, that are being used in the healthcare and retail industries.

Career Options

- Open Standards Domain Vertical Solution Architects
- Open Source Software/ Linux Administration & Security Specialists
- Software Engineer/Application Development/Maintenance/ Testing using Open Source Software Tools
- Project Management - Open Source Software Implementation

SEMESTER I
Subject
Physics I
Chemistry
Mathematics I
Problem Solving with C
Communication Workshop 1.1 (Focus on Social Networking & Collaborative Platform)
Environmental Studies
Introduction to Open Source Software & Open Standards
PRACTICAL
Physics Lab I
Chemistry Lab
C Programming Lab
Language through Literature

SEMESTER II
Subject
Physics II
Mathematics II
Data Structures using C
Engineering Graphics
Communication Workshop 1.2
Introduction to Mathematical Logic
Web Technologies through PHP
PRACTICAL
Data Structures using C Lab
Engineering Graphics Lab I
Physics Lab II
Language Lab
Web Technologies through PHP Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
IT Applications and Open Standards
Design & Analysis of Algorithms
Electronic Devices & Circuits
Dynamic Paradigm in Open Source and Open Standards 1
Database system management and Data Modeling
Operating Systems
PRACTICAL
OOPS using C++ Lab
DBMS Lab
Operating Systems Lab

SEMESTER IV
Subject
Microprocessors and Embedded Systems
OSS Development Methodology
Dynamic Paradigm in Open Source & Open Standards 2
Advanced DBMS
Theory of Automata & Computation
Graphics & Animation Tools
Principles of Management
Communication Workshop 2.0
Data Communication and Networks
PRACTICAL
Microprocessors and Embedded Systems Lab
Advanced DBMS Lab
Graphics & Animation Tools Lab
Data Communication and Networks Lab

SEMESTER V
Subject
Software Engineering & Project Management
Marketing & Services in OSS
Java Programming
Service Oriented Architecture
Organizational behavior
Object Oriented Analysis & Design
Communication Workshop 3.0
Dynamic Paradigm in Open source and open standards 3
PRACTICAL
Java Programing Lab
Software Engineering & Project Management Lab
Minor Project I

SEMESTER VI
Subject
Computer Graphics
Enterprise Java
XML programming
Dynamic Paradigm in Open Source & Open Standards 4
Storage Technology Foundation
Open Source Mobile platform
Compiler Design
PRACTICAL
Enterprise Java Lab
XML Programming Lab
Computer Graphics Lab
Mobile Platform Lab
Minor Project II
Industrial Visit
Compiler Design Lab

SEMESTER VII
Subject
Elective I (Choose any one)
Retail Applications & ARTS - I
Healthcare applications & HL7 - I
Web 2.0 Technologies
Licensing in OSS
Administering Open Source Systems
Managerial Economics
Data Warehousing &Data mining
PRACTICAL
Web 2.0 Technologies Lab
Data Warehousing &Data mining Lab
Administering Open Source Systems Lab
Major Project I

SEMESTER VIII
Subject
Network Security & Cryptography
Elective II (Choose any one)
Retail Applications & ARTS - II
Healthcare applications & HL7 – II
Entrepreneurship and Product Development
Professional Ethics
PRACTICAL
Major Project II

*in academic collaboration with IBM

B.TECH (Computer Science & Engineering with specialization in Mainframe Technology)*

This B. Tech degree program prepares the students on mainframe technologies and increases the employability of the student. This is the foundation for mainframe application development. This course starts with the history and basics of the Mainframe, Mainframe Hardware, Mainframe networking, Virtualization, z/OS, Parallel Sysplex. The course also covers the application development modules and open source technologies.

Career Options

- Mainframe Application Development/Maintenance
- Mainframe Administration & Security Specialist
- Mainframe Solution Architect
- Mainframe Project Management
- Migration & Legacy Modernization Specialists

SEMESTER I
Subject
Physics I
Chemistry
Mathematics I
Problem Solving with C
Communication Workshop 1.1 (Focus on Social Networking & Collaborative Platform)
Environmental Studies
Introduction to Open Source Software & Open Standards
PRACTICAL
Physics Lab I
Chemistry Lab
C Programming Lab
Language through Literature

SEMESTER II
Subject
Physics II
Mathematics II
Data Structures using C
Engineering Graphics
Communication Workshop 1.2
Introduction to Mathematical Logic
Web Technologies through PHP
PRACTICAL
Data Structures using C Lab
Engineering Graphics Lab I
Physics Lab II
Language Lab
Web Technologies through PHP Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
Design & Analysis of Algorithms
Database Management Systems & Data Modeling
Electronic Devices & Circuits
Operating Systems
Fundamental Mainframe System Skills
Dynamic Paradigm in Mainframe Technology 1
PRACTICAL
OOPS using C++ Lab
DBMS Lab
Operating Systems Lab

SEMESTER IV
Subject
Microprocessors and Embedded Systems
Linux on Mainframes
Communication Workshop 2.0
Dynamic Paradigm in Mainframe Technology 2
Advanced DBMS
Theory of Automata & Computation
Mainframe Operating Systems
Principles of Management
Data Communication and Networks
PRACTICAL
Microprocessors and Embedded Systems Lab
Advanced DBMS Lab
Mainframe Operating Systems Lab
Data Communication and Networks Lab

SEMESTER V
Subject
Software Engineering & Project Management
Java Programming
Mainframe DBMS
Organizational behavior
Object Oriented Analysis & Design
Communication Workshop 3.0
Mainframe Application Development using JCL
Dynamic Paradigm in Mainframe Technology 3
PRACTICAL
Mainframe Application Development using JCL Lab
Java Lab
Software Engineering & Project Management Lab
Mainframe DBMS Lab
Minor Project I

SEMESTER VI
Subject
Computer Graphics
Enterprise Java
Virtualization on Mainframes
Dynamic Paradigm in Mainframe Technology 4
Storage Technology Foundation
Mainframe Application Development using COBOL
Compiler Design
Advanced Scripting (REXX)
PRACTICAL
Enterprise Java Lab
Computer Graphics Lab
Industrial Visit
Minor Project II
Advanced Scripting (REXX) Lab
Compiler Design Lab

SEMESTER VII
Subject
Elective I (Choose any one)
Mainframe Clustering
System Management on Mainframes
Mainframe Transaction management
Managerial Economics
Data Warehousing & Data mining
Network Security & Cryptography
PRACTICAL
Data Warehousing & Data mining Lab
Major Project I
Summer Internship
Mainframe Transaction management Lab

SEMESTER VIII
Subject
Elective II (Choose any one)
Networking for Mainframes
Resource allocation on Mainframes
Entrepreneurship and Product Development
Professional Ethics
Business Intelligence
PRACTICAL
Major Project II
Business intelligence lab

B.TECH (Computer Science & Engineering with specialization in Oil & Gas Informatics)*

This program is designed to prepare professionals which cater to the needs of the Oil and Gas industry with the right skills in the Oil and Gas domain as well as Information Technology. The program introduces the students to the entire value chain of Oil and Gas including exploration, refining, petrochemicals, production engineering, reservoir engineering and supply chain along with the necessary Information technology skills like application development, database, networks, security, business intelligence and data warehousing and open standards.

Career Options

- Application Development, Maintenance & Testing
- GIS Application Development, Maintenance & Testing
- Large Size Data Administration
- Real Time Capture & Management
- Business Analyst

SEMESTER I
Subject
Physics I
Chemistry
Mathematics I
Problem Solving with C
Communication Workshop 1.1 (Focus on Social Networking & Collaborative Platform)
Environmental Studies
Introduction to Open Source Software & Open Standards
PRACTICAL
Physics Lab I
Chemistry Lab
C Programming Lab
Language through Literature

SEMESTER II
Subject
Physics II
Mathematics II
Data Structures using C
Engineering Graphics
Communication Workshop 1.2
Introduction to Mathematical Logic
Web Technologies through PHP
PRACTICAL
Data Structures using C Lab
Engineering Graphics Lab I
Physics Lab II
Web Technologies through PHP Lab
Language Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
Fundamentals of Oil & Gas Business
Design & Analysis of Algorithms
Database Management Systems and Data Modeling
Communication Workshop 2.0
Electronic Devices & Circuits
Dynamics Paradigm in Oil and Gas Informatics -1
PRACTICAL
OOPS using C++ Lab
DBMS Lab

SEMESTER IV
Subject
Microprocessors and Embedded Systems
IT Applications and Open Standards in Oil & Gas Industry
Dynamic Paradigm in O&G Informatics 2
Advanced DBMS
Theory of Automata & Computation
Basics of Petroleum Exploration
Principles of Management
Data Communication and Networks
PRACTICAL
Microprocessors and Embedded Systems Lab
Advanced DBMS Lab
Petroleum Exploration Lab
Data Communication and Networks Lab

SEMESTER V
Subject
Software Engineering & Project Management
Telemetry and SCADA systems
Java Programming
Dynamic Paradigm in Oil and Gas Informatics 3
Operating Systems
Organizational behavior
Object Oriented Analysis & Design
Communication Workshop 3.0
PRACTICAL
Java Programming Lab
Software Engineering & Project Management Lab
Minor Project I
Operating Systems Lab

SEMESTER VI
Subject
Computer Graphics
Enterprise Java
Fundamentals of Refining
Dynamic Paradigm in O&G Informatics 4
Storage Technology Foundation
Understanding Petro Chemicals
Compiler Design
PRACTICAL
Enterprise Java Lab
Minor Project II
Computer Graphics Lab
Refining Lab
Industrial Visit
Compiler Design Lab

SEMESTER VII
Subject
Health, safety and Environmental issues
Geophysical Data Acquisition: Processing & Interpretation
Production Engineering
Elective I (Choose any one)
Photogrammetry: Remote Sensing, GIS and GPS
Spatial Database System
Managerial Economics
Web 2.0 Technologies
PRACTICAL
Web 2.0 Technologies Lab
Geophysical Data Acquisition Lab
Major Project I
Summer Internship

*in academic collaboration with IBM

SEMESTER VIII
Subject
Network Security & Cryptography
Elective II (Choose any one)
Reservoir Engineering
Spatial Data Analysis & Modeling
Entrepreneurship and Product Development
Professional Ethics
PRACTICAL
Major Project II

B. Tech. (Computer Science & Engineering with specialization in Telecom Informatics)*

The program will teach students, among other subjects, the basics of networking, and telecom infrastructure, mobile communications standards and network design, IT applications used in telecom domain, mobile apps programming, and business analytics and optimization.

Career Options

- Application development and maintenance of Telecom applications such as Business Support Systems and Operations Support Systems
- Telecom Switch software specialists
- Apps designers, programmers, testers, and marketers
- Data Warehousing and Business Intelligence/Analysis specialists
- Sales and Marketing specialist
- Telecom planning and expansion specialist

SEMESTER I
Subject
Physics I
Engineering Graphics
Mathematics I
Problem Solving with C
Communication Workshop 1.1 (Focus on Social Networking & Collaborative Platform)
Environmental Studies
Introduction to Open Source Software & Open Standards
PRACTICAL
Physics Lab I
Engineering Graphics Lab I
C Programming Lab
Language through Literature

SEMESTER II
Subject
Physics II
Mathematics II
Data Structures using C
Chemistry
Communication Workshop 1.2
Introduction to Mathematical Logic
Web Technologies through PHP
PRACTICAL
Data Structures using C Lab
Chemistry Lab
Physics Lab II
Language Lab
Web Technologies through PHP Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
Fundamentals of Telecom Business
Database Management Systems and data modeling
Design & Analysis of Algorithms
Electronic Devices & Circuits
Introduction to IT Infrastructure Landscape
Dynamic Paradigm in Telecom Informatics 1
PRACTICAL
OOPS using C++ Lab
DBMS Lab

SEMESTER IV
Subject
Microprocessors and Embedded Systems
Data Communication and networks
Dynamic Paradigm in Telecom Informatics 2
Advanced DBMS
Theory of Automata & Computation
Advanced concepts in Telecom business
Communication Workshop 2.0
Principles of Management
PRACTICAL
Microprocessor & Embedded systems Lab
Advanced DBMS Lab
Data Communication & Networks Lab

SEMESTER V
Subject
Software Engineering & Project Management
Operating Systems
Java Programming
Object Oriented Analysis & Design
Global Telecom Policies & Trends
Communication Workshop 3.0
Java Programming Lab
Dynamic Paradigm in Telecom Informatics 3
PRACTICAL
Operating Systems Lab
Software Engineering & Project Management (Version Control) Lab
Minor Project I

SEMESTER VI
Subject
Computer Graphics
Enterprise Java
Dynamic Paradigm in Telecom Informatics 4
Mobile communication standards
Wireless and AD-Hoc Network
Organizational behavior
Mobile Communication Network Design
Compiler Design
PRACTICAL
Enterprise Java Lab
Minor Project II
Computer Graphics Lab
Mobile communication network design lab
Industrial Visit
Compiler Design Lab

SEMESTER VII
Subject
Real-time Operating System Internals
Mobile Apps using Android
Elective I
Operations Support System (OSS)
Business Intelligence
Managerial Economics
Machine to Machine Communication
PRACTICAL
Mobile Apps Lab
Major Project I
Summer Internship

SEMESTER VIII
Subject
Network Security & Cryptography
Elective II
Telecom Analytics
Business Support System (BSS)
Entrepreneurship and product development
Professional Ethics
PRACTICAL
Major Project II

*in academic collaboration with IBM

B.TECH (Computer Science & Engineering with specialization in E-Commerce, Retail and Automation)*

This unique program has been designed to fulfill the need for techno-managerial skills for the retail sector. Students would be equipped for careers with leading System Integrators working in the Retail sector upon completion of this program. The program focuses on IT Applications in the context of the retail sector.

Career Options

- Retail solutions architects
- Retail Project Managers
- Retail application specialists
- Analytics consultants
- Retail application developers

SEMESTER I
Subject
Physics I
Engineering Graphics
Mathematics I
Problem Solving with C
Communication Workshop 1.1 (Focus on Social Networking & Collaborative Platform)
Environmental Studies
Introduction to Open Source Software and Open Standards
PRACTICAL
Physics Lab I
Engineering Graphics Lab I
C Programming Lab
Language Lab

SEMESTER II
Subject
Physics II
Mathematics II
Data Structures using C
Chemistry
Communication Workshop 1.2
Introduction to Mathematical Logic
Web Technologies through PHP
PRACTICAL
Data Structures using C Lab
Chemistry Lab
Physics Lab II
Language through Literature
Web Technologies through PHP Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
Introduction to Retail Business
Database Management Systems & data Modeling
Design & Analysis of Algorithms
Electronic Devices & Circuits
Communication Workshop 2.0
PRACTICAL
OOPS using C++ Lab
DBMS Lab

SEMESTER IV
Subject
Microprocessors and Embedded Systems
IT Applications and Open Standards in Retail
Dynamic Paradigm in Retail 2
Advanced DBMS
Theory of Automata & Computation
Retail Marketing applications
Principles of Management
Data Communication and Networks
PRACTICAL
Microprocessors and Embedded Systems Lab
Advanced DBMS Lab
Retail Marketing lab
Data Communication and Networks Lab

SEMESTER V
Subject
Software Engineering & Project Management
Retail Location Strategies
Java Programming
Web Application server and Advanced PHP
Operating Systems
Object Oriented Analysis & Design
Communication Workshop 3.0
PRACTICAL
Java Programming Lab
Operating Systems Lab
Software Engineering & Project Management Lab
Minor Project I

SEMESTER VI
Subject
Computer Graphics
Enterprise Java
Store design and visual merchandising
Dynamic Paradigm in Retail 3
Storage Technology Foundation
Organizational behavior
Category Management
Compiler Design
PRACTICAL
Enterprise Java Lab
Minor Project II
Computer Graphics Lab
Industrial Visit
Compiler Design Lab

SEMESTER VII
Subject
Retail Buying
Web 2.0 Technologies
Retail Analytics
Entrepreneurship and Product Development
Elective I (Choose any one)
Retail Supply Chain
CRM and Loyalty
Managerial Economics
Web 2.0 Technologies Lab
PRACTICAL
Major Project I
Summer Internship

SEMESTER VIII
Subject
Network Security & Cryptography
Dynamic Paradigm in Retail 4
Elective I (Choose any one)
e-payment systems
Non Store Retail
Professional Ethics
PRACTICAL
Major Project II

*in academic collaboration with IBM

B.TECH (Computer Science & Engineering with specialization in IT Infrastructure)*

The program prepares you to meet the above challenges through specialized subjects, delivered to you through industry aligned curriculum, courseware, and mentors. On passing out, you can look forward to an exciting career either with a leading Global S.I. or ISV company, or with a large end-user organization in the country or abroad.

Career Options

- Server specialists
- Storage specialists
- IT Infrastructure Solution Designers
- Remote Infrastructure Management consultants
- IT Pre-Sales specialists
- Applications management team members and leaders
- Project management and program management professionals

SEMESTER I
Subject
Physics I
Engineering Graphics
Mathematics I
Problem Solving with C
Communication Workshop 1.1 (Focus on Social Networking & Collaborative Platform)
Environmental Studies
Introduction to Open Source Software & Open Standards
PRACTICAL
Physics Lab I
Engineering Graphics Lab I
C Programming Lab
Language through Literature

SEMESTER II
Subject
Physics II
Mathematics II
Data Structures using C
Chemistry
Communication Workshop 1.2
IT Infrastructure Landscape Overview
Introduction to Mathematical Logic
PRACTICAL
Data Structures using C Lab
Chemistry Lab
Physics Lab II
Language Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
ITIL (Information Technology Infrastructure Library)
Database Management Systems & data Modeling
Design & Analysis of Algorithms
Electronic Devices & Circuits
Communication Workshop 2.0
Dynamic Paradigm in IT Infrastructure Management 1
PRACTICAL
DBMS Lab
OOPS using C++ Lab

SEMESTER IV
Subject
Microprocessors and Embedded Systems
IT Service Management (ITSM)
Dynamic Paradigm in IT Infrastructure Management 2
Advanced DBMS
Storage Technology Foundation
Theory of Automata & Computation
Principles of Management
Web Technologies through PHP
PRACTICAL
Microprocessors and Embedded Systems Lab
Advanced DBMS Lab
Web Technologies through PHP Lab

SEMESTER V
Subject
Software Engineering & Project Management
Java Programming
IT Infrastructure Management - Service Models And Benefits
Operating Systems
Data Communication & Networks
Object Oriented Analysis & Design
Communication Workshop 3.0
Dynamic Paradigm in IT Infrastructure Management 3
PRACTICAL
Data Communication & Networks Lab
IT Infrastructure Management- Service Models & Benefits Lab
Software Engineering & Project Management Lab
Operating Systems Lab
Java Programming Lab
Minor Project I

SEMESTER VI
Subject
Computer Graphics
Enterprise Java
IT Infrastructure Management Frameworks
Dynamic Paradigm in IT Infrastructure Management 4
IT Service Delivery
IT Infrastructure Management Operations
Organizational behavior
Compiler Design
PRACTICAL
IT Service Delivery Lab
Minor Project II
Computer Graphics Lab
Enterprise Java Lab
Industrial Visit
Compiler Design Lab

SEMESTER VII
Subject
Network Security & Cryptography
Business Intelligence
Elective I (Choose any one)
IT Application discovery & dependency management
Data centre transformation I
Managerial Economics
PRACTICAL
Based on Elective (choose one)
IT Application discovery & dependency management Lab
Data centre transformation Lab
Major Project I
Summer Internship

SEMESTER VIII
Subject
Elective II (Choose any one)
Data Centre Transformation II
Technology & Tools for Infrastructure Management
Entrepreneurship and Product Development
Professional Ethics
PRACTICAL
Major Project II

*in academic collaboration with IBM

B.TECH (Computer Science & Engineering with specialization in Business Analytics and Optimization)*

This program helps prepare students for careers in "economy of tomorrow" industries. They play a vital role in their organizations' technological direction. In an IT end-user industry, BAO responsibilities can reside in various corporate functions and departments, such as operations, product development, information systems and finance. For IT consulting/services and IT products organizations (such as IBM, Accenture, CSC, Wipro, Google, TCS, Infosys, etc), the BAO consultants lead large-scale data warehousing and business intelligence projects, advising large clients the world over in reshaping their businesses.

Career Options

- Package implementation (such as Cognos, SPSS/SAS, Informatica, etc)
- Data Warehousing Specialists and System Administrators
- BI/BAO Specialist and Architects
- BI/BAO Project Managers
- BAO Infrastructure Specialists

SEMESTER I
Subject
Physics I
Engineering Graphics
Mathematics I
Problem Solving with C
Communication Workshop 1.1 (Focus on Social Networking & Collaborative Platform)
Environmental Studies
Introduction to Open Source Software & Open Standards
PRACTICAL
Physics Lab I
Engineering Graphics Lab I
C Programming Lab
Language through Literature

SEMESTER II
Subject
Physics II
Mathematics II
Data Structures using C
Chemistry
Communication Workshop1.2
Introduction to Mathematical Logic
Web Technologies through PHP
PRACTICAL
Data Structures using C Lab
Chemistry Lab
Physics Lab II
Language Lab
Web Technologies through PHP Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
Advanced Statistical Analysis
Database Management Systems & data modeling
Design & Analysis of Algorithms
Electronic Devices & Circuits
Dynamic Paradigm in Business Analytics and Optimization 1
PRACTICAL
OOPS using C++ Lab
DBMS Lab
Advanced Statistical Analysis Lab

SEMESTER IV
Subject
Microprocessors & Embedded systems
Data Warehouse & Multi-dimensional Modeling
Dynamic Paradigm in Business Analytics & Optimization 2
Advanced DBMS
Theory of Automata & Computation
Principles of Management
Data Mining and Predictive Modeling
Communication Workshop 2.0
Data Communication and Networks
PRACTICAL
Microprocessor & embedded systems Lab
Advanced DBMS Lab
Data Mining and Predictive Modeling Lab
Data Warehouse & Multi-dimensional Modeling Lab
Data Communication and Networks Lab

SEMESTER V
Subject
Software Engineering & Project Management
Business Strategy and Analytics
Java Programming
Operating Systems
Business Intelligence
Object Oriented Analysis & Design
Communication Workshop 3.0
Compiler Design
Dynamic Paradigm in Business Analytics and Optimization 3
PRACTICAL
Compiler Design Lab
Operating Systems Lab
Java Programming Lab
Software Engineering & Project Management Lab
Business Intelligence Lab
Business Strategy and Analytics Lab
Minor Project I

SEMESTER VI
Subject
Computer Graphics
Enterprise Java
Enterprise Information Architecture
Dynamic Paradigm in Business Analytics & Optimization 3
Storage Technology Foundation
Expert Systems
Operations Research & Optimization
Organizational behavior
PRACTICAL
Computer Graphics Lab
Expert Systems Lab
Operations Research & Optimization Lab
Industrial Visit
Minor Project II

SEMESTER VII
Subject
(Choose any one)
Real-time Monitoring & Analysis
BAO and Cloud
Social & Web Analytics
Mobile Analytics
Managerial Economics
Big Data Analytics
PRACTICAL
Social & Web Analytics Lab
Big Data Analytics Lab
Summer Internship
Major Project I

SEMESTER VIII
Subject
Elective 2 (Choose any one)
Content Analytics
Business Process Management (SOA)
Dynamic Paradigm in Business Analytics & Optimization 4
Network Security & Cryptography (mixed mode delivery)
Entrepreneurship and Product Development
Professional Ethics
PRACTICAL
Major Project

*in academic collaboration with IBM

B. Tech (Computer Science & Engineering with specialization in Banking, Financial Services& Insurance)*

According to study on 'IT adoption in BFSI sector in India' by Zinnov, a globalization and market expansion advisory firm - IT spend in the Banking, Financial Services and Insurance (BFSI) sector is expected to reach $3.5 billion by FY 2014, growing at a CAGR of 13%. IT budgets as a percent of revenues for BFSI is estimated at 1.5%- 2% and regulatory compliance is the driver of this growth.

India's domestic IT spends is valued at $ 30.4 billion, out of which BFSI sector contributes to 11.1% share; the sector is fast growing in terms of IT investment. Domestic firms made the maximum investment in hardware products, with 53% spend set aside for this category, followed by IT services at 32% and software at 15%,

The study highlighted the growing maturity of Indian BFSI organizations in IT adoption, as technology is seen as a driver of business value. Technology firms have great potential to explore in the BFSI sector, which contributes to 8% of India's GDP.

The Zinnov study found that while just 10 per cent of IT spend was on modern IT solutions before 2008, the share has moved up to a significant 35 per cent at present. While large firms are moving up the growth curve from core banking applications to mobility/electronic payment solutions and targeted business-focused solutions today (such as loan management and treasury solutions), regional or smaller organizations in the sector who demonstrated minimal IT adoption in 2008 are increasing investments in core banking solutions and showing increased interest in cloud computing, revealed the study.

IT vendors have played a key role in maturing the banking sector through efficient and innovative technology solutions. Foreign companies continue to dominate the domestic IT market, with a 63% share as compared to 37% share of domestic companies in terms of overall IT service offerings to BFSI sector.

The Banking sector in India has always been one of the most preferred avenues of employment. In the current decade, this has emerged as a resurgent sector in the Indian economy. India has 87 scheduled commercial banks with deposits worth Rs.71.6 trillion (US$ 1.21 trillion) as on 31 May, 2013 and is expected to reach US$ 28.5 trillion by 2025.. Increase in working population and growing disposable incomes will increase the demand for banking and related services. Housing and personal finance are expected to remain key demand drivers

Career Options

The B. Tech program in Computer Science with specialization in Banking, Financial Services & Insurance (BFSI) Informatics prepares you for an exciting career in the BFSI domain. On passing out, one can choose a career either with the Banks, Financial Services or Insurance Companies, or with the leading Global S.I. or ISV companies with huge practices serving customers globally.

Banking/Insurance/FS Application Development, Testing & Maintenance specialists

- BFSI Solutions Architect / Tech Consultant
- BFSI Business / Technical Analyst
- BFSI Application Implementation/Customization Consultant
- BFSI planning and expansion specialist.

SEMESTER I
Subject
Physics I
Chemistry
Mathematics I
Problem Solving with C
Communication Workshop 1.1 (Focus on Social Networking & Collaborative Platform)
Environmental Studies
Introduction to Open Source Software & Open Standards
PRACTICAL
Physics Lab I
Chemistry Lab
C Programming Lab
Language through Literature

SEMESTER II
Subject
Physics II
Mathematics II
Data Structures using C
Engineering Graphics
Communication Workshop 1.2
Web Technologies through PHP
Introduction to Mathematical Logic
Introduction to IT Infrastructure Landscape
PRACTICAL
Data Structures using C Lab
Engineering Graphics Lab I
Physics Lab II
Language Lab
Web Technologies through PHP Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
Introduction to Banking, Financial Services & Insurance (BFSI)
Database Management Systems & data Modeling
Design & Analysis of Algorithms
Electronic Devices & Circuits
Communication Workshop 2.0
Dynamic Paradigm in BFSI 1
PRACTICAL
DBMS Lab
OOPS using C++ Lab

SEMESTER IV
Subject
Microprocessors and Embedded Systems
BFSI Products & Processes - I
Dynamic Paradigm in BFSI 2
BFSI Products & Processes - II
Advanced DBMS
Storage Technology Foundation
Theory of Automata & Computation
Principles of Management
Data Communication & Networks
PRACTICAL
Microprocessors and Embedded Systems Lab
Data Communication & Networks Lab
Advanced DBMS Lab
BFSI Products & Processes – I Lab
BFSI Products & Processes – II Lab

SEMESTER V
Subject
Elective I (Choose any one)
Banking Technology – Applications Architecture
Insurance Technology – Applications Architecture
Wealth Management & Investment Banking – Domain & Technology Landscape
Risk Management & Compliance
Dynamic Paradigm in BFSI 3
Software Engineering & Project Management
Java Programming
Organizational behavior
Operating Systems
Object Oriented Analysis & Design
PRACTICAL
Software Engineering & Project Management Lab
Application Design Lab – Bank or Insurance Applications
Operating Systems Lab
Java Programming Lab
Minor Project I

SEMESTER VI
Subject
Elective II (Choose any one)
Banking Technology – Database & Structures
Insurance Technology – Database & Structures
Testing in BSFI
Payment Technologies
Computer Graphics
Compiler Design
Enterprise Java
Dynamic Paradigm in BFSI 4
Communication Workshop 3.0
Security Environment in BFSI Technology
PRACTICAL
Data Modeling Lab – Bank or Insurance
Minor Project II
Computer Graphics Lab
Enterprise Java Lab
Compiler Design Lab
Industrial Visit

SEMESTER VII
Subject
Managerial Economics
Elective III (Choose any one)
Mobile Technology for Banking Industry
Mobile Technology for Insurance Industry
PRACTICAL
Mobile Technology for Banking Industry Lab Or Mobile Technology for Insurance Industry Lab
Major Project I
Summer Internship

SEMESTER VIII
Subject
Elective IV (Choose any one)
Analytics in Banking Industry
Analytics in Insurance Industry
Entrepreneurship and Product Development
Professional Ethics
PRACTICAL
Analytics in Banking Industry Lab Or Analytics in Insurance Industry Lab
Major Project II

*in academic collaboration with IBM

B. Tech (Computer Science & Engineering with specialization in IT Security & Cyber Forensics)*

Cyber forensics is a branch of digital forensic science pertaining to legal evidence found in cyber space and digital storage media. In the digital age, the need for cyber experts has grown exponentially as the country is heading towards an internet explosion mostly fuelled by e-commerce, e-banking, e-governance and the social media.

The current budget allocation towards cyber security is Rs 42.2 crore ($7.76 million) for 2012-13, as against Rs 35.45 crore in 2010-11 out of the $30.4 billion value of India's IT domestic spends.

India has seen many attacks on its critical installations and the misuse of social media and internet has brought home the threat of cyber-terrorism, which cyber security experts say the country is poorly equipped to handle.

With cyber security impacting the country's security, the national security adviser, announced last month that the government is putting in place a national cyber security architecture to prevent sabotage, espionage and other forms of cyber threats.

The national cyber security policy proposed in 2011, will seek to defend national assets against cyber-attacks and seek to provide for protection of citizen’s information. It will also strengthen the Computer Emergency Response Team (CERT-In) to periodically audit, defend and spread awareness on cyber security besides encouraging open standards.

It is estimated that India will require five lakh cyber security professionals by 2015 to support its fast growing internet economy as per an estimate by the union ministry of information technology. The financial sector alone is expected to hire over 2 lakh people while telcos, utility sectors, power, oil & gas, airlines, government (law & order and e-governance) will hire the rest. The country's information security market is expected to grow by 18% to reach Rs 1,415 crore in 2013. Despite a continuing economic slowdown cyber security would continue on an upward trajectory, reaching $86 billion in 2016, up from $60 billion in 2012.

The University Grants Commission directed all university vice chancellors in the country to introduce curriculum around cyber security in their respective colleges to meet this talent demand.

NASSCOM along with DSCI currently operates 8 cyber labs in Bangalore, Chennai, Pune, Thane, Mumbai, Gurgaon, Delhi and Hyderabad and India's first Cyber Forensic Laboratory (CFL) of India was established in Tripura on 11 August 2013. All these factors point towards limitless future in the Cyber Forensics field.

CAREER OPTIONS:

The B. Tech in Computer Science & Engineering with specialization in Cyber Security & Forensic prepares you for an exciting career in the domain. On passing out, one can choose a career either between Government cyber organizations and National organizations such as DRDO, ISRO or private firms with needs of IT security.

- Cyber Forensics Solutions Architect/Tech Consultant
- Cyber Forensics planning and expansion specialist
- Cyber forensics malware analyst /examiner/engineer
- Cyber Security Architect
- Cyber security administrator
- Intelligence analyst
- Information Security Analyst
- Expert at Antivirus firms
- Computer and Information system manager
- Network security analyst

SEMESTER I
Subject
Physics I
Chemistry
Mathematics I
Problem Solving with C
Communication Workshop 1.1 (Focus on Social Networking & Collaborative Platform)
Environmental Studies
Introduction to Open Source Software & Open Standards
PRACTICAL
Physics Lab I
Chemistry Lab
C Programming Lab
Language through Literature

SEMESTER II
Subject
Physics II
Mathematics II
Data Structures using C
Engineering Graphics
Communication Workshop 1.2
Web Technologies through PHP
Introduction to Mathematical Logic
PRACTICAL
Data Structures using C Lab
Engineering Graphics Lab I
Physics Lab II
Language Lab
Web Technologies through PHP Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
Information Security fundamentals
Database Management Systems & data Modeling
Design & Analysis of Algorithms
Electronic Devices & Circuits
Communication Workshop 2.0
Dynamic Paradigm in Cyber Security & Digital Forensics 1
PRACTICAL
DBMS Lab
OOPS using C++ Lab

SEMESTER IV
Subject
Microprocessors and Embedded Systems
IT Data Security
Dynamic Paradigm in Cyber Security & Digital Forensics 2
Data Communication & Networks
Advanced DBMS
Storage Technology Foundation
Theory of Automata & Computation
Principles of Management
PRACTICAL
Microprocessors and Embedded Systems Lab
Advanced DBMS Lab
IT Data Security Lab
Data Communication & Networks Lab

SEMESTER V
Subject
Physical Security
IT application security
Software Engineering & Project Management
Java Programming
Organizational behavior
Operating Systems
Object Oriented Analysis & Design
Dynamic Paradigm in Cyber Security &Digital; Forensics 3
PRACTICAL
Software Engineering & Project Management Lab
Operating Systems Lab
Java Programming Lab
IT application and security Lab
Minor Project I

SEMESTER VI
Subject
Digital Forensics – I
Information security audit and monitoring
Computer Graphics
Enterprise Java
Dynamic Paradigm in Cyber Security &Digital; Forensics 4
IT Systems security
Compiler Design
Communication Workshop 3.0
PRACTICAL
IT Systems security Lab
Computer Graphics Lab
Enterprise Java Lab
Digital Forensics – I Lab
Information Security Audit & Monitoring Lab
Compiler Design Lab
Minor Project II
Industrial Visit

SEMESTER VII
Subject
IT Network Security
Managerial Economics
Digital Forensics –II
Elective I (Choose any one)
IT Business Continuity & Disaster Recovery Planning
Information Technology Security Evaluation Criteria (ITSEC)
PRACTICAL
Digital Forensics – II Lab
IT Network Security Lab
Major Project I
Summer Internship

SEMESTER VIII
Subject
Entrepreneurship and Product Development
Information Security Intelligence and Compliance Analytics
Professional Ethics
Elective II (Choose any one)
Information Security Management Practices
Information Security Governance
PRACTICAL
Major Project II

*in academic collaboration with IBM

B. Tech (Computer Science & Engineering with specialization in Graphics and Gaming)*

The 2014 Global Games Market Report by Newzoo shows the international games market will rocket past the $100 Billion mark in the next three years to reach $102.9 Billion by 2017. This represents a compound annual growth rate (CAGR) of +8.1%. The market for (smart) phones and tablets will rise from $17.6bn (a total market share of 23% in 2013) to an impressive $35.4bn in 2017 – ultimately dominating one third of the globaal games market.

CAREER OPTIONS:

The B. Tech program in Computer Science with specialization in Gaming & Graphics prepares students for an exciting career in IT for Gaming domain. On passing out, one can choose a career either with the Domestic & Global Gaming companies

- .Application Developer / Testing Engineer - Graphics & Gaming
- Support & Testing of Gaming Applications
- Development Engineer of Gaming in Mobile Apps

SEMESTER I
Subject
Engg. Physics I
Engg. Chemistry
Mathematics I
Problem Solving with C
Communication Workshop 1.1
Environmental Studies
Introduction to Open Source Software and Open Standards
HTML programming
PRACTICAL
Engg. Physics Lab I
Engg. Chemistry Lab
C Programming Lab
Communication Workshop 1.1 Lab

SEMESTER II
Subject
Engg. Physics II
Engg. Mathematics II
Data Structures using C
Engineering Graphics
Communication Workshop 1.2
Web Programming Thru PHP
Introduction to Mathematical Logic
PRACTICAL
Data Structures using C Lab
Engineering Graphics Lab I
Engg. Physics Lab II
Communication Workshop Lab 1.2
Web Programming Thru PHP Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
Introduction to Graphics and Animation Tools using Open Source Software
Design & Analysis of Algorithms
Database Management Systems & data modeling
Communication Workshop 2.0
Electronic Devices & Circuits
PRACTICAL
OOPS using C++ Lab
Communication Workshop 2.0 Lab
DBMS Lab

SEMESTER IV
Subject
Microprocessors and Embedded Systems
Storage Technology Foundation
Dynamic Paradigm in Graphics & Gaming I
Philosophy of Science
Advanced DBMS
Theory of Automata & Computation
Data Communication & Networks
XML Programming
Principles of Management
PRACTICAL
Microprocessors and Embedded Systems Lab
Advanced DBMS Lab
Data Communication & Networks Lab
XML Lab

SEMESTER V
Subject
Software Engineering & Project Management
Mobile Application Programming Using Android
Java Programming
Web Programming For Graphics & Gaming (HTML 5 & Web GL)
Operating Systems
Organizational behavior
Object Oriented Analysis & Design
PRACTICAL
Mobile Application Programming Using Android Lab
Java Programming Lab
Software Engineering & Project Management Lab
Minor Project I
Operating Systems Lab
Web Programming For Graphics & Gaming (HTML 5 & Web GL)

SEMESTER VI
Subject
Computer Graphics
Enterprise Java
Introduction To Game Programming
Dynamic Paradigm in Graphics & Gaming 2
Computer Animation Algorithm and Techniques
Digital Image Processing
PRACTICAL
Enterprise Java Lab
Computer Animation Algorithm and Techniques) Lab
Computer Graphics Lab
Minor Project II
Introduction To Game Programming Lab
Industrial Visit

SEMESTER VII
Subject
Advanced Computer Graphics
Advanced Game Programming
3D Complexity Techniques for Graphics Modeling and Animation
Managerial Economics
PRACTICAL
Advanced Computer Graphics Lab
Advanced Game Programming Lab
3D Complexity Techniques for Graphics Modeling and Animation
Major Project I
Summer Internship

SEMESTER VIII
Subject
Gaming & Simulation (Concepts, Methodology, Tools & Applications)
Dynamic Paradigm in Graphics & Gaming 3
Entrepreneurship and product development
Professional Ethics
PRACTICAL
Major Project II
Gaming & Simulation (Concepts, Methodology, Tools & Applications) Lab

*in academic collaboration with IBM

B. Tech (Computer Science & Engineering with specialization in Manufacturing Systems)*

IT makes a significant contribution to the productivity of the Manufacturing sector in the management of supply chains, CRM, collaborating in designs, and increasing employee output. IT helps to control access and store, transmit, and manipulate information with a higher degree of accuracy and less redundancy, thereby enhancing the performance of the sector. Manufacturing companies are increasingly adopting IT services to optimize their business processes. . Apart from spending on hardware and software programs including CRM and ERP, manufacturing companies are adopting IT solutions to meet specific or multi-level requirements. Manufacturing companies spend heavily on IT services such as consulting, outsourcing, and system integration to make strategic decisions in terms of business expansion, waste management, and cost control.

Manufacturing Industry broadly categorized as Discrete & Process Industries covers following sub-industries: Aerospace and Defense, Automotive, Base materials, Chemicals, Metals, Pulp and Paper, Consumer products, High-Tech electronic components, high-tech equipment industries etc.

According to Research Analyst IDC, The Global IT spend for Manufacturing in 2014 is $ 305 billion & expected to grow $ 347 Billion by 2017. Research Analyst Tech Navio's forecast the Global Manufacturing IT Spending market to grow at a CAGR of 5.54 percent over the period 2013-2018.

CAREER OPTIONS:

The B. Tech program in Computer Science with specialization in Manufacturing Informatics prepares students for an exciting career in IT for manufacturing domain. On passing out, one can choose a career either with the Global Systems Integrators (TCS, Wipro, IBM, Accenture etc.) or Manufacturing focussed Application Development companies like SAP, Infor, Oracle etc. students can also join in IT consulting &package implementation companies & lastly they could opt for core Manufacturing companies (IT division) like Telco, Maruti, TISCO etc.

- Software Engineer - Application development of Manufacturing applications such as ERP (SAP), CRM, PLM, SCM etc
- Support & Maintenance of Business applications in Business Applications
- Manufacturing - IT Consultants / Solutions Architect / Package Implementation

SEMESTER I
Subject
Engg. Physics I
Engg. Chemistry
Mathematics I
Problem Solving with C
Communication Workshop 1.1
Environmental Studies
Introduction to Open Source Software and Open Standards
HTML programming
PRACTICAL
Engg. Physics Lab I
Engg. Chemistry Lab
C Programming Lab
Communication Workshop 1.1 Lab

SEMESTER II
Subject
Engg. Physics II
Engg. Mathematics II
Data Structures using C
Engineering Graphics
Communication Workshop 1.2
Web Programming Thru PHP
Introduction to Mathematical Logic
Introduction to Manufacturing Informatics
PRACTICAL
Data Structures using C Lab
Engineering Graphics Lab I
Engg. Physics Lab II
Communication Workshop Lab 1.2
Web Programming Thru PHP Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
Manufacturing Processes & Systems (Discrete & Process Industry)
Design & Analysis of Algorithms
Database Management Systems & data modeling
Communication Workshop 2.0
Electronic Devices & Circuits
PRACTICAL
OOPS using C++ Lab
Communication Workshop 2.0 Lab
DBMS Lab
Manufacturing Processes & Systems (Discrete & Process Industry)

SEMESTER IV
Subject
Microprocessors and Embedded Systems
Storage Technology Foundation
Dynamic Paradigm in Manufacturing Informatics I
Philosophy of Science
Advanced DBMS
Theory of Automata & Computation
Data Communication & Networks
IT Adoption for Manufacturing - Enterprise Resource Planning (ERP)
Principles of Management
PRACTICAL
Microprocessors and Embedded Systems Lab
Advanced DBMS Lab
Data Communication & Networks Lab
IT Adoption for Manufacturing - Enterprise Resource Planning (ERP) Lab

SEMESTER V
Subject
Software Engineering & Project Management
Customer Relationship Management (CRM)
Java Programming
Supply Chain Management (SCM)
Operating Systems
Organizational behavior
Object Oriented Analysis & Design
PRACTICAL
Java Programming Lab
Software Engineering & Project Management Lab
Minor Project I
Operating Systems Lab

SEMESTER VI
Subject
Computer Graphics
Enterprise Java
Product Lifecycle Management (PLM)
Dynamic Paradigm in Manufacturing Informatics 2
Business Analytics for Manufacturing
PRACTICAL
Product Lifecycle Management (PLM) Lab
Enterprise Java Lab
Business Analytics for Manufacturing Lab
Computer Graphics Lab
Minor Project II
Industrial Visit

SEMESTER VII
Subject
Emerging Technology - Mobility Solutions for Manufacturing
Emerging Technology - Cloud Solutions for Manufacturing
Managerial Economics
PRACTICAL
Emerging Technology - Mobility Solutions for Manufacturing Lab
Emerging Technology - Cloud Solutions for Manufacturing
Major Project I
Summer Internship

SEMESTER VIII
Subject
Computer Aided Manufacturing (CAM) - Robotics Engg
Dynamic Paradigm in Manufacturing Informatics 3
Entrepreneurship and product development
Professional Ethics
Computer Aided Manufacturing (CAM) - Robotics Engg
PRACTICAL
Major Project II

*in academic collaboration with IBM

B. Tech (Computer Science & Engineering with specialization in Healthcare Informatics)*

Health informatics is defined as the knowledge, skills, and tools that enable the information to be collected, managed, used and shared for supporting the delivery of healthcare services and promoting health. Health informatics is one of the fastest growing segments of information technology and computer science. It is an application of information technology and computing disciplines for solving the problems in the field of healthcare. The need to reduce cost and increase efficiency within healthcare sectors is leading to the development of new healthcare concepts like managed care.

Global healthcare and life sciences market is forecast to grow to $10.8 trillion by 2020 with e-health and preventative healthcare the highest growth areas. Worldwide Healthcare Industry IT opportunity in 2014 is $46.7B; By 2020, medical information will double every 73 days. .USA is the largest healthcare market by size of spending, but ~80% of future growth will be driven by emerging regions. Healthcare industry has outpaced all others in both inefficiency and improvement potential; there is room for healthcare efficiency improvements in both the developed and developing markets. Most countries, developing and developed, are facing a shortage of skilled healthcare workers limiting access to care.

CAREER OPTIONS:

The B. Tech program in Computer Science with specialization in Healthcare Informatics prepares students for an exciting career in the Healthcare domain. On passing out, one can choose a career either with the Global Systems Integrators (TCS, Wipro, Accenture etc.) or Healthcare focused Application Development / ISVs companies. students can also join large core Healthcare provider organization in the IT organizations.

- Software Engineer - Application development of Healthcare applications such as HIMS, EMR, PACS etc.
- Support Engineer - Maintenance & Support of Healthcare Business applications
- Healthcare - IT Consultants / Solutions Architect / Package Implementation
- Healthcare - Apps designers, programmers, testers, and marketers

SEMESTER I
Subject
Engg. Physics I
Engg. Chemistry
Mathematics I
Problem Solving with C
Communication Workshop 1.1
Environmental Studies
Introduction to Open Source Software and Open Standards
HTML programming
PRACTICAL
Engg. Physics Lab I
Engg. Chemistry Lab
C Programming Lab
Communication Workshop 1.1 Lab

SEMESTER II
Subject
Engg. Physics II
Engg. Mathematics II
Data Structures using C
Engineering Graphics
Communication Workshop 1.2
Web Programming Thru PHP
Introduction to Mathematical Logic
Fundamentals of Healthcare Informatics
PRACTICAL
Data Structures using C Lab
Engineering Graphics Lab I
Engg. Physics Lab II
Communication Workshop Lab 1.2
Web Programming Thru PHP Lab

SEMESTER III
Subject
Mathematics III
OOPS using C++
Computer Systems Architecture
Healthcare Delivery Models & Processes
Design & Analysis of Algorithms
Database Management Systems & data modeling
Communication Workshop 2.0
Electronic Devices & Circuits
PRACTICAL
OOPS using C++ Lab
Communication Workshop 2.0 Lab
DBMS Lab
Healthcare Delivery Models & Processes

SEMESTER IV
Subject
Microprocessors and Embedded Systems
Storage Technology Foundation
Dynamic Paradigm in Healthcare Informatics I
Philosophy of Science
Advanced DBMS
Theory of Automata & Computation
Data Communication & Networks
IT Adoption for Healthcare Operations & Processes
Principles of Management
PRACTICAL
Microprocessors and Embedded Systems Lab
Advanced DBMS Lab
Data Communication & Networks Lab
IT Adoption for Healthcare Operations & Processes Lab

SEMESTER V
Subject
Software Engineering & Project Management
Healthcare Data & Life cycle Governance
Java Programming
Healthcare Standards & Quality Assurance
Operating Systems
Organizational behavior
Object Oriented Analysis & Design
PRACTICAL
Healthcare Data & Life cycle Governance Lab
Java Programming Lab
Software Engineering & Project Management Lab
Minor Project I
Operating Systems Lab

SEMESTER VI
Subject
Computer Graphics
Enterprise Java
Emerging Tech - Healthcare Mobility & security (MOBILE APPS)
Dynamic Paradigm in Healthcare Informatics 2
Healthcare Analytics
PRACTICAL
Enterprise Java Lab
Emerging Tech - Healthcare Mobility & security (MOBILE APPS) Lab
Computer Graphics Lab
Minor Project II
Healthcare Analytics Lab
Industrial Visit

SEMESTER VII
Subject
Tele-Health Principles & Practices
Advanced Healthcare Analytics
Medico Ethics & Legal Issues in Healthcare
Managerial Economics
PRACTICAL
Advanced Healthcare Analytics Lab
Major Project I
Summer Internship

SEMESTER VIII
Subject
Emerging Tech - Healthcare on Cloud & Security
Dynamic Paradigm in Healthcare Informatics 3
Entrepreneurship and product development
Professional Ethics
PRACTICAL
Major Project II
Emerging Tech - Healthcare on Cloud & Security

*in academic collaboration with IBM

M. Tech Programs
M.TECH (Health, Safety & Environment)

This program provides an innovative, high-quality learning opportunity in health, safety & environmental engineering and management. This is a professional degree that will enable you to manage the safety needs of the organizations in a variety of occupational environments with special focus on process industry, infrastructure industry and power industry.

This M. Tech program provides you an opportunity to specialize in HSC areas applicable to Oil & Gas, Power, Infrastructure, Fire & Safety. The batch will be subdivided into the specialization based on prior academic credentials after the completion of first semester.

Career Options

- HSE Engineer
- Pollution Control (Air, Water & Soil) Officers
- Environmental Protection Engineer
- Consultant in HSE
- HSE Audit Officer/Engineer
- Researchers in Environ Protection Technologies
- Safety Auditor

SEMESTER I
Subject
Environmental Engineering & Management
Statutory Rules & Regulation
Occupational Health & Safety Management
Health, Safety &Environment Lab
Behavioral Based Safety Management

SEMESTER II
Subject
Safety in Industrial Operations & Design
Project Mgmt. & Contract Administration
Electrical Safety
Seminar on Assigned Topics
Fundamentals of Sustainable Development
Risk Analysis and Management
Specializations
Process Industry
Elective I
Petroleum Exploration & Petro Refinery
Elective II
HAZOP & HAZAN Techniques
Infrastructure Industry
Elective I
Basics of Infrastructure Engg
Elective II
Safety in Construction
Power Industry
Elective I
Introduction to Power Systems
Elective II
Safety in Electrical Design
Fire Safety
Elective I
Fire Fighting Appliances and Operations
Elective II
Concepts of Fire Safety in buildings, structures & Installations

SEMESTER III
Subject
Green Fuels & Their Env. Impact
Fire Risk and Control
TPM and TQM
Specialization
Process Industry
Elective III
Hazards Safety measures in Process Industry
Infrastructure Industry
Elective III
Environmental Management in Infrastructure Industry
Power Industry
Elective III
Environmental Management in Power Industry
Elective III
Fire Safety Engineering Lab
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Project II

M. Tech (Petroleum Exploration)

This program trains students in petroleum engineering and focuses primarily on exploration and production of Oil & Gas. You will gain a thorough knowledge of all major technical aspects in relation to the entire hydrocarbon value-chain and the strategic techno-commercial issues relevant to the domain

Career Options

- Exploration Engineer
- Seismic Data Acquisition Engineer
- Reservoir Engineer
- Processing Platform Engineer
- Field Development
- Rig Engineer

SEMESTER I
Subject
Petroleum Geology
Methods in Petroleum Exploration I
Basin Analysis
Methods in Structural Analysis
Remote Sensing, GIS & GPS
Computer Programming & Applied Numerical Methods in Science & Engineering

SEMESTER II
Subject
Methods in Petroleum Exploration II
Geophysical Data Acquisition & Processing
Drilling Technology & Well Completion
Introduction to Production Engineering
Introduction to Petroleum Reservoir Engineering
Formation Evaluation & Well Logging

SEMESTER III
Subject
Geophysical Data Interpretation
Economics & Risk Management in Exploration
HSE challenges in Petroleum Operations
Petroleum Law & Contract Administration
Electives (Any Two)
Well Seismic Methods
Statistical Methods in Geosciences
Applied Micropaleontology
Sedimentology
Subsurface Geological Methods
Electronics & Geo Physical Instrumentation
Modern Analytical Methods in Geo Sciences
Oil/Gas Field Development
Spatial Data Analysis & Modeling
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Project Work

M. Tech. (Energy Systems)

The course is designed in order to cater to the huge demand of energy professionals in India as well as abroad and to promote the development of renewable energy sources. The program promises you a prosperous career in future as it will enable you to meet the commitment to combat the issues of climate change and environmental sustainability. The program also offers specialization in energy auditing and renewable energy.

Career Options

- Energy Audit Engineer
- CDM Expert
- Energy Management Engineer
- Energy Optimization & Conservation Engineer
- Energy Analyst
- Design of Energy Efficient Devices
- Renewable Energy Engineer

SEMESTER I
Subject
Energy Scenario & Energy Forms
Fuels & Combustion
Thermal Utilities I
Electrical Utilities
Thermodynamics & Heat Transfer Systems
Renewable Energy Technologies- I

SEMESTER II
Subject
Power System
Smart and Micro Grid
Waste Heat Recovery & Cogeneration
Thermal Utilities II
Performance Analysis of Electrical Equipments
Renewable Energy Technologies - II
Energy Lab
Seminar on Assigned topic

SEMESTER III
Subject
Green Buildings
Energy Management & Audit
Project & Financial Management in Energy Sector
Performance Analysis of Thermal Equipment
Instrumentation, control and Automation
Process Optimization
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Project Work

M. Tech (Pipeline Engineering)

The students of this program learn the principles behind designing of pipelines, optimization of Modest/Crude/Gas pipeline design, material selection and use international standards like API, ANSI, ASTM and ASME. The program inputs are relevant in engineering activities like construction and maintenance of cross country pipelines, pipeline operations, pipeline integrity system, and investigation of pipeline defects, repairs and maintenance.

Career Options

- Pipeline Engineer
- City Gas Distribution Grid Design Engineer
- Pipeline Network Design Engineer
- Pipeline Risk Assessment Engineer
- Pipeline Maintenance
- SCADA Engineer Monitoring & Control Engineer

SEMESTER I
Subject
Pumps, Compressors, Selection, Sizing, Speed
Basics of Petro Refining & Petrochem.
Transport Phenomena
Numerical Methods in Engineering
Petroleum Transport Sys. & Operations 1
Route Surveying & Planning
GIS Image Processing for Petroleum Industry

SEMESTER II
Subject
Petroleum Transport Sys. & Operations II
Defect Assess./ Maintenance in Pipelines I
Systems Analysis and Optimization
Project Mgmt. & Contract Administration
Structural Engineering & Vibration in Pipeline
Software Engineering
Seminar on Assigned Topics

SEMESTER III
Subject
Defect Asses./ Maintenance in Pipelines II
Data Base Management Systems
Telemetry & SCADA System
Pipeline Network Analysis
ESM & its Application in Petro Sector
Equipment & Machinery Maintenance
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Project II

M. Tech. (Chemical Engineering with specialization in Process Design)

The program develops professionals who have the domain knowledge of various processing steps involved in the Chemical/Petroleum /Petrochemical industries and methods to transform raw materials into finished products in an optimal way. The students are equipped with skills to select an appropriate plant/process design, determining the economic viability, safety, product quality and environmental impact through a rigorous, industry oriented theoretical and practical curriculum.

Career Options

- Process Development Engineer in Chemical/Steel Plant/Petrochemical/Fertilizer
- Design Engineer for Liquefaction & Gasification
- Process Design Engineer
- Plant Modification Engineer
- Process Plant & Equipment Design Engineer
- R&D Engineer

SEMESTER I
Subject
Transport Phenomena
Chemical Engineering Computing
Advanced Thermodynamics
Chemical Reactor Engineering and Design
Fluid Flow and Heat Transfer Equipment Design
Petroleum Refining, Petrochemicals and Polymers
Transport Phenomena
PRACTICAL
Chemical Engineering Computing Lab
SUMMER
Plant Simulation

SEMESTER II
Subject
Process Design and Flow Sheeting
Process Modeling and Simulation
Mass Transfer Equipment Design and Separation Processes
Principles of Chemical Process Safety
Elective 1 from among a basket of available courses given below
Elective 2 from among a basket of available courses given below
(ELECTIVES) Available basket
Systems Analysis and Optimization
Project Management and Contract Administration
Advanced Process Control
+
Advanced Process Control Lab
Biochemical Engineering
Gasification Technology
Polymer Engineering
Plant Utility Equipment and Systems
Catalysis and Catalytic Materials
PRACTICAL
Elective Lab (if applicable)

SEMESTER III
Subject
M. Tech. Dissertation I
(including two seminars)

SEMESTER IV
Subject
M. Tech. Dissertation II
(including two seminars)

M. Tech (Robotics Engineering)

This program provides greater intelligence and higher versatility for robotic tasks under ever-changing constraints of the environment. Students are provided in-depth knowledge in the areas of electro mechanics, robotics sensors and instrumentation, robotics fabrication, artificial intelligence and robotic vision. This builds a super specialization on fundamental background of core engineering.

Career Options

- Robot Design Engineer
- Flexible Manufacturing Engineer.
- Automated Product Design Engineer
- Environmental Analysis Engineer
- Artificial Intelligence – Thinking Machines and Systems
- Medical Instrumentation Engineer
- Ocean Diving Engineer
- Space survey & Analysis Engineer
- Agricultural Instrumentation Engineer
- System Design & Analysis Engineer
- Mineral Extraction Engineer

SEMESTER I
Subject
Applied Numerical Methods
Control Systems
Introduction to Robotics
Instrumentation & Sensors
Analog & Digital Electronics
Advanced Solid Mechanics
PRACTICAL
Instrumentation & Sensor Lab

SEMESTER II
Subject
Manufacturing System
Electrical Actuators & Drives
Image Processing & Machine Vision
Robotics - based Industrial Automation
Micro Processor & Micro Controller Programming
PRACTICAL
Robotic Lab I
Micro Processor Lab

SEMESTER III
Subject
Artificial Intelligence & Neutral Network
Embedded System
PLC & Data Acquisition system
CAD/CAM
Wireless Sensor Networks
PRACTICAL
Robotics Lab II
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Project II

M. Tech. (Artificial Intelligence & Artificial Neural Networks)

A.I. is a broad discipline that promises to simulate numerous innate human skills such as automatic programming, case-based reasoning, neural networks, decision-making, expert systems, natural language processing, pattern recognition and speech recognition etc. A.I. technologies bring more complex data-analysis features to existing applications. The applications range from the military for autonomous control and target identification, to the entertainment industry for computer games and robotic pets, to the big establishments dealing with huge amounts of information such as hospitals, banks and insurances, prediction of customer behavior, detect trends, cross-selling, customer relationship management analytics, demand prediction, failure prediction, and non-linear control.

Application areas include system identification and control (vehicle control, process control), game-playing and decision making (backgammon, chess, racing), pattern recognition (radar systems, face identification, object recognition and more), sequence recognition (gesture, speech, handwritten text recognition), medical diagnosis, financial applications (automated trading systems), data mining (or knowledge discovery in databases, "KDD"), visualization and e-mail spam filtering. The proven success of Artificial Neural Networks (ANN) and expert systems has helped A.I. gain widespread adoption in enterprise business applications.

Career Options

- Artificial Intelligence Software Developer
- Adaptive Technology Development
- Expert System Developer
- Research & Development
- Game Designers
- Robotics and Automation Application Development
- Heuristic Programmer

SEMESTER I
Subject
Operational Research & Applied Statistical Techniques
Knowledge Engineering & Expert Systems
Design & Analysis of Advance Algorithms
AI & AI based Programming tools
Signal Processing
Design & Analysis of Advance Algorithms Lab
Knowledge Engineering & Expert Systems Lab
AI & AI based Programming Tools Lab

SEMESTER II
Subject
Image Processing & Pattern Recognition
Fuzzy Logic & its Applications
Data Mining & Business Intelligence
Artificial Neural Network & its Applications
Seminar on Assigned Topics
Image Processing & Pattern Recognition Lab
Data Mining & Business Intelligence Lab
Artificial Neural Network Lab

SEMESTER III
Subject
Natural Language Processing
Modeling & Simulation of Digital Systems
Game Theory
Evolutionary Computational Techniques
Human Computer interaction
Modeling & Simulation of Digital Systems Lab
Summer Internship
Summer Internship Seminar
Project - I

SEMESTER IV
Subject
Project II

M. Tech. (Computational Fluid Dynamics)

CFD has become one of the most fundamental applications in almost all branches of engineering. Especially in the last decade, CFD has become a practical cornerstone of most fluid dynamics applications. In essence, CFD or Computational Fluid Dynamics is the concept of creating a computational, virtual environment of any physical system that has fluids and heat transfer in it. Due to this, many scientists and engineers study CFD in order to create simulations of real life fluid and heat interactions. It is helpful to engineers all around the world, since it cuts down the cost of engineering analysis. Moreover, CFD analysis saves a great deal of time in engineering calculations as compared to classical methods.

CFD Application Areas

CFD is a multi-disciplinary field that can allow an engineer with a proficiency to work in many different fields

Career Options

- Aerospace Engineering
- Thermal Power Engineering
- Automotive Design Engineering
- Combustion Engineering
- Mechanical Engineering
- Biomedical Engineering
- Nautical Engineering
- Petroleum Exploration Engineering

SEMESTER I
Subject
Introduction to CFD
Introduction to Fluid Dynamics
Advanced Heat and Mass Transfer
Compressible Flows
Finite Differences and Finite Volumes Method Analysis
Finite Elements and Boundary Elements Analysis
CFD Lab

SEMESTER II
Subject
Geometric Modeling & Grid Generation Techniques
Laminar & Turbulent Flows
Reaction Fronts and Combustion Analysis
Introduction to Multiphase Flow
Visualization of Advanced Fluid Flow and Flow Diagnostics
Advanced Computational Techniques
Lab – Computational Technique with MATLAB Programming
Seminar on Assigned Topics

SEMESTER III
Subject
Software Engineering and Project Management
Usage of CFD in Multidisciplinary Applications
Commercial CFD Software Applications
High Performance and Parallel Computing Applications for CFD
LAB- Commercial CFD Software Applications
CFD Industrial Application Project
Summer Internship
Summer Internship Seminar
Project - I

SEMESTER IV
Subject
Project - II

M. Tech. (Disaster Management)

Natural disasters & industrial disasters cause crippling economic losses and human tragedy and hamper development, particularly in developing countries, where many people reside in buildings and areas that are vulnerable to natural disasters. To reduce the effects of natural disasters, and human losses in particular, proactive disaster risk management should be promoted in multi-disciplinary ways. To meet this need, disaster management experts must be cultivated through professional education and training so that they may develop and then apply suitable disaster management policies and techniques in line with local conditions.

Career Options

- Emergency Management Specialist
- Disaster Monitoring & Analysis Officer
- Emergency Management Training Program Coordinator
- Natural Hazard Program Specialist
- Technological Hazard Program Specialist

SEMESTER I
Subject
Global Disaster Scenario
Safety Engineering Technology
Environmental Hazards and Control
Industrial Hazards and Control
Lab (Health, Safety, Fire & Environment)

SEMESTER II
Subject
Types of Natural Disaster
Shelter and Settlement in Disaster (Disaster Response Management)
Human Factors Engineering
Water Supply and Sanitation in Emergencies
Seminar on Assigned topic

SEMESTER III
Subject
Fire Engineering Technology
Risk Analysis and Management
Health in Emergency and Refugee Health
Geo-Information in Disaster Situation
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Project II

M. Tech. (Nuclear Science & Technology)

M. Tech in Nuclear Science and Technology is a program that is specifically designed for the study of all aspects of Nuclear Power such as Nuclear Engineering, Nuclear Plant Design, Reactor Operations, Nuclear Waste Management and the Radiological Applications of Nuclear Science. The curriculum is sufficiently focused on the development of practical knowledge to make the students immediately productive in several laboratories under the Department of Atomic Energy. It also provides the theoretical fundamentals to prepare the students to undertake research programs.

Career Options

- Careers in laboratories functioning under the Department of Atomic Energy (DAE)
- Nuclear Reactor Operations/ Design Expert in Nuclear Power Plant
- Industries using non-destructive techniques for mechanical analysis of materials
- Nuclear Radiation Safety and Environmental Management
- Medical Sciences, Nuclear Medicine
- Consultancy

SEMESTER I
Subject
Nuclear Physics
Quantum Mechanics & Electrodynamics.
Nuclear Radiation & Measurement
Numerical Methods for Nuclear Engineering
Computer Programming and Simulations
Computer Programming and Simulations Lab

SEMESTER II
Subject
Nuclear Reactor Theory-I
Plasma Physics and Nuclear Fusion Reactor-I
Nuclear Engineering Materials
Fluid Dynamics and Heat Transfer
Interaction of Radiation with Matter
Nuclear Measurement Lab-I
Seminar on Assigned Topic

SEMESTER III
Subject
Nuclear Reactor Theory-II
Fast Breeder Reactor
Radiation Shielding and Protection & Nuclear Waste Management
Neutron Transport Theory
Nuclear Power Engineering-I
Nuclear Measurement Lab-II
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Nuclear Power Engineering-II
Nuclear Fusion Reactor
Project II

M. Tech. (Renewable Energy Engineering)

The program will offer students wide spread knowledge in the field of solar, wind energy, bio gas & bio mass etc. Also students will be provided with introductory knowledge of other alternate form of energy as OTEC, Tidal energy etc. It also provide wide spread knowledge on waste heat recovery. Along with all these topics the program also touches upon the recent topics as Green building & Smart grid.

The course focuses on the power generation thorough a nonconventional route. As the reservoirs of conventional form of energy like coal & oil are at dying edge the major portion of global energy requirement is need to be met through alternate form of energy like solar or wind etc. The alternate form of energy usage not only meets the major energy requirement but also addresses global emission concern. The program is 2 in 1 solution for the energy crisis as well as environmental concern.

Through the course students will find their career with companies working the field on Renewable energy. As government is rolling out various renewable energy policies and benefits there will huge need of specialized engineers in the field of renewable energy in particularly solar & wind energy.

Career Options

- Consulting Companies
- Manufacturing Companies
- EPC Companies

SEMESTER I
Subject
Energy Scenario & Energy Forms
Fuels & Combustion
Energy conversion – Thermal systems
Biomass conversion Technology
Solar power generation through PV route
Alternate Energy Technologies
Energy Lab – I

SEMESTER II
Subject
Solar Thermal Technologies
Wind Energy Technology
Instrumentation, Control and Automation
Small Hydropower system
Waste to Energy
Waste heat recovery and cogeneration
Energy Lab - II
Seminar on Assigned topic

SEMESTER III
Subject
Green Buildings
Renewable Energy Policies
Smart and micro grid
Project & Financial Management in Energy Sector
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Project II

M. Tech (Power System & Industrial Drives)

The program will offer a wide spread knowledge and in depth understanding of Power Electronics devices and circuits. The program will cover analysis and simulation of various power electronics circuits as converters, choppers, Cyclo-converters etc. The course also lays emphasis on power quality and problem associated with harmonics. . The power electronics devices are making it practically possible to control the speed of most popular drive Induction motor like DC Motors called as VFD. VFDs have becoming most popular drives in the industries. With growing demand of VFDs, UPS the specialists in the field of VFDs, UPS is an immediate requirement.

Career Options

- VFD Manufacturing Industries,
- Energy Conservation Solution Provider
- Consulting Engineers

SEMESTER I
Subject
Machine Modeling & Analysis
Analysis of Power Electronic converters
HVDC Transmission
Power Electronic Control of DC Drives.
Advanced Semiconductor, Devices and sensors.
Instrumentation, Control & Automation

SEMESTER II
Subject
Power Electronic control of AC Drives
Micro controllers Applications in power electronics.
Switched Mode Power Supplies.
Flexible AC Transmission Systems
Power Converters & Micro grids
Advanced Digital Signal Processing
PRACTICAL
Simulation of Electrical Systems Lab
Seminar on Assigned Topic

SEMESTER III
Subject
Digital control systems
Power Quality
Neural & Fuzzy systems
Special purpose machines and control.
PRACTICAL
Industrial Drives Lab
Technical Seminar
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Project II

M. Tech (Power Distribution with specialization in Smart Grids)

The course offers wide spread knowledge in the field of Distribution automation with focus on Smart grid. The course covers all the areas related to smart grid as Communication, Automation, Information Technology, Cyber Security, Energy storage, System Integration, Micro grid etc. The program has been designed with distribution as focal point and keeping in view of trend of smart grid in western countries

Dr. Sam Pitroda who brought revolutionary changes in telecom sector, is leading the Smart grid concept in India. Indian government has floored 9 pilot projects at the various parts of India. In the Indian context the smart grid has been popularized to reduce distribution losses (Technical & Commercial) and fast revenue recovery. As distribution franchises are coming up and they will like to have a smart system to curb the losses, in near future Smart grids will be an excellent career option.

Career Options

- Transmission & Distribution Companies to IT
- Communication Companies

SEMESTER I
Subject
Power Transmission & Distribution
Instrumentation & Control
Information & Communication Technology
Energy Scenario & Energy Forms
SCADA & Telemetry
Project & Financial Management in Energy Sector Projects
Automation & Telemetry Laboratory

SEMESTER II
Subject
Power System Protection & analysis
Wide area Sensor Networks (WSN)
Distribution Automation
Demand Side Management & Smart Metering
Sub-Station Engineering
Smart Micro Grids
ETAP Workshop
Seminar on Assigned Topic

SEMESTER III
Subject
Stability & Reliability of Smart Grid
Grid Integration of Renewable Energy Sources
Building Energy Systems & Optimization
Cyber Security of Smart Grids
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Stability & Reliability of Grid interactive smart grid
Project II

M. Tech (Rotating Equipment)

M. Tech Rotating equipment includes design, installation , operation and maintenance of rotating equipment like pumps, compressor, gas turbine, hydraulic turbines, bearings, gears, electrical machine, etc. Objective of the program is to empower the students with knowledge of design, analysis of difficulty occurs in the industrial equipment. This course is to combine excellence and research with service to society. This will provide students with a balance of intellectual and practical experiences. This M. Tech. program caters the need of various industries particularly aerospace, defense and scientific refinery, steel plants, power plants industries. Students trained under this program will be capable enough to take over the challenges related to the design and manufacturing of the sophisticated components required in aerospace, auto industry , refinery, steel plants, power plants etc.

Career Options

- Designing, commissioning and operation and maintenance of various rotating equipment. Wide opportunities in technical development and implementation of rotary equipment associated with oil and gas projects.
- The rotating equipment Engineer has got scope in all aspects of the mechanical and aero-mechanical design and testing of starter products used on a variety of diesel and gas turbine engines in the oil and gas, marine, power generation and aircraft industries.
- Job opportunities in maintaining, troubleshooting, and repairing, overhauling of rotating equipment including pumps, compressors, blowers, turbines, etc.
- Consultancy.

SEMESTER I
Subject
Pumps, Compressors, Selection and Design
Gas and Hydraulic Turbine and their Application
Advanced Internal Combustion Engines
Experimental Techniques in Rotating Equipments
Fatigue, Fracture and Stress Analysis of Machine Component
Gear and Bearing Design
Data Base Management System

SEMESTER II
Electric Motors and Variable Frequency Drives
Advanced Heat Transfer
Instrumentation and Control of Turbo- Machinery
Computational fluid Dynamics.
Safety and Environment Issues in Industry.
Flexible coupling design, installation and Operation
Seminar on Assign Topic

SEMESTER III
Subject
Rotating Equipment Maintenance
Telemetry and SCADA System
ESM& its Application in Rotating system
Rotor Dynamics
Quality and Reliability Engineering
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Project II

M. Tech (Embedded Systems with specialization in Wearable Technology)

The course offers strong knowledge in the embedded systems by covering thrust areas such as Advanced Embedded Microcontrollers, Real Time Embedded Systems, Advanced Embedded System Design, UML Modeling and System on Chip. Students also have an access to industry collaborative laboratories set up by Bosch. In the present times, embedded software has found numerous applications in telecommunications, defense, instruments, software development, metropolitan networks, consumer electronics, electronic payments, intelligent systems, microcontrollers, automobiles and smart cards industry. Embedded systems created ripples in the technology world with its innovation of autonomous robots, humanoid that could be deployed for personal use. In India there are ample amount of opportunity in the embedded domain as the Indian IT industry is making a big leap from 'services' to 'product' development.

Career Options

Students are having ample number of opportunities in Core Electronics, Software Design and Development, ASIC Design & FPGA Prototyping, MNCs, Government sectors specially in Metro Rails, Robotics & Automation etc. Students can make their bright future towards Embedded Product Development, R & D Sector and further enhance their carrier towards doctoral program. Also this program will deal with the concept of SDR which has revolutionized the computing and communication methods and there has been a paradigm shift in these fields of study.

SEMESTER I
Subject
Advanced Digital System Design
Embedded System Design
Advanced Digital Signal Processing
Real Time Operating System
VLSI Methodologies & Design
Data Communication & Embedded Networking
PRACTICAL
Embedded Systems Design Lab
RTOS Lab

SEMESTER II
Subject
Image Processing & Machine Vision
Wireless Sensor Networks
UML Modeling and System Design
Advanced Microcontrollers
FPGA & System on Chip Design
Modern Control System Engineering
PRACTICAL
Image Processing & Machine Vision Lab
FPGA & SOC Design Lab
Advanced Microcontrollers Lab
Seminar on assigned Topic

SEMESTER III
Core Course
Reliability Engineering
Ubiquitous Computing
Choose any one
Pattern Recognition
High Speed Board Design
Wearable Technology
Choose any one
Automotive Electronics
Nano Electronic Devices
PRACTICAL
Summer Internship
Summer Internship Seminar
Project I

SEMESTER IV
Subject
Project II

M. Tech (Aerospace Engineering with specialization in Unmanned Aerial Vehicles)

Unmanned Aerial Vehicles (UAVs) have found potential in Aerial Photography, Search and Rescue, Traffic control, Environmental and Wild life Monitoring, Surveillance and Reconnaissance, Precision Agriculture, Air Sampling, Firefighting, Power line inspection, Postal delivery and many more applications.
Objective: To develop e Aerospace Engineers having strong interdisciplinary background of Aerospace, Avionics and Aero-modeling. Students will be aware of current and evolving engineering practices for unmanned and autonomous systems.

Career Options

- UAV Pilot
- UAV Designer
- UAV Systems Engineer
- UAV Flight Test Engineer
- UAV Autopilot Programmer
- UAV Ground control software developer
  UAV Analyst in Structure, Propulsion, Aerodynamics, Avionics, Controls

SEMESTER I
Subject
Introduction to UAV
Introduction to Flight
Fundamental of Aerodynamics
Introduction to Avionics
Airplane Performance and Design
Micro-controller & Embedded Systems
PRACTICAL
Aerodynamics Lab
Aero-modeling & Design

SEMESTER II
Subject
Mathematical Modeling & Simulation
Flight Instrumentation & Data Acquisition System
Automatic Flight Control
Flight Stability & Control
Path planning and Obstacle Avoidance for Unmanned Vehicles
Actuators and Sensors for UAV
Industrial Visit
Seminar -I
Mathematical Modeling & Simulation
PRACTICAL
Flight Control Lab

SEMESTER III
Subject
UAV System Design
System Identification Methods
UAV Guidance & Navigation for Aerospace Vehicles
Remote Sensing and Surveillance
Digital image processing
Summer Internship
Major Project-I
Seminar -II

SEMESTER IV
Subject
Major Project -II

M. Tech (Structural Engineering with specialization in offshore structures)

Structural engineers are specialists in design, construction, repair, conversion and conservation. They are concerned with all aspects of a structure and its stability. But M. Tech Structural Engineering with specialization in offshore structures deals with offshore design, construction, procurement, transportation, installation of the structures subjected to marine environments.
Objective: To develop Structural Engineers having strong expertise in both onshore and offshore infrastructures.

Career Options

- Structural Engineer
- Design Engineer
- Bridge Engineer
- Offshore Design Engineer
- Offshore Construction Engineer
- Structural Consultant
- Forensic Engineer
- Construction Engineer
- Engineer in Public Sector, Govt. Sector and Private Sector

SEMESTER I
Subject
Theory of Elasticity and Plasticity
Matrix Methods of Structural Analysis
Structural Dynamics
Analysis of Offshore Structures
Advanced Steel Structures
Seminar I
PRACTICAL
Advance Concrete Lab

SEMESTER II
Subject
Finite Element Method
Theory of Plates and Shells
Seismic Design of Structures
Design of Offshore Structures
Installation of Offshore Structures
Industrial Visit
PRACTICAL
Advanced Structural Design Lab

SEMESTER III
Subject
Design of Floating Offshore Structures
Stability of Structures
Advanced Marine Structures
Project I
Seminar II

SEMESTER IV
Subject
Project II

UNIVERSITY OF PETROLEUM & ENERGY STUDIES

SCHOOL OF DESIGN STUDIES

Bachelor of Design (B. Des)

Bachelor of Design (B. Des.) program at UPES, gives the students the flexibility to work in multi – disciplinary environments. The emphasis is on the fundamentals of the wide variety of domains, viz. industrial design, transportation design, communication design and interior design. The course will teach you to address contemporary issues in an independent and creative way, in order to participate in a most stimulating and gratifying career.

Studying Design at UPES –School of Design Studies will facilitate to hone your distinctive viewpoint as well as the perception of societal values thus shaping the design of the comprehensive surroundings.

As a UPES student your practical hands-on studies will be supplemented by leading research and explorative practices and methodologies. The course provides a launching pad that would propel your thoughts in the lines of creativity, unique and lucid concepts.

Career options

- Transportation Design Studios
- Design Consultancy
- Accessory Design Studios
- Furniture Design
- Retail Design
- Architectural Design
- Electronics Companies

SEMESTER I
Subject
Sketching & Drawing- 1
Elements of Design
Colour
Geometry I
Engineering Graphics
Material exploration I

SEMESTER II
Subject
Sketching & Drawing- II
Principles of design
Geometry II
Material exploration II
Visual composition
Introduction to Photography
Computer applications I

SEMESTER III
Subject
Elective Group I - Product Design
Product drawing I
Product presentation
Form analysis and generation I
Material and processes
Computer applications II (CAD)
Design methodology
Elective Group 2 – Transportation Design
Vehicle Packaging & Architecture
Basics of Automotive Engineering
Automotive Illustration
Advanced Engineering Graphics
Transportation Design Project 1

SEMESTER IV
Subject
Elective Group I - Product Design
Product drawing II
Model making Techniques
Form analysis and generation II
Ergonomics I
Basic mechanics and electricity
Project: simple product design
Elective Group 2 – Transportation Design
Materials & Processes
Design Research
Aerodynamics and Form Study
History of Automobile and Design
Digital Sketching and Rendering.
Transportation Design Project 2

SEMESTER V
Subject
Elective Group I - Product Design
Joining and Fastening Devices
Product Styling
Product Photography
Research Methodology
Ergonomics II
Computer Applications II
Crafts Workshop I
Project- Display and Control
Elective Group 2 – Transportation Design
Digital Sculpting 1
Elements of Ergonomics
Vehicle Interiors 1
Vehicle Exteriors 1
Clay Modeling 1
Graphic Design 1
Transportation Design Project 3

SEMESTER VI
Subject
Elective Group I - Product Design
Design Research
Open Elective I
Material Colour and Finish
Independent Studies
Professional Documentation
Project : System Design
Crafts workshop II
Industrial Visit
Elective Group 2 – Transportation Design
Digital Sculpting 2 and 3D Rendering
Advanced Ergonomics
Vehicle Interiors 2
Vehicle Exteriors 2
Clay Modeling 2
Graphic Design 2
Transportation Design Project 4
Industrial Visit

SEMESTER VII
Subject
Elective Group I - Product Design
Design Management
Interface and user experience design
Portfolio Design
Project: Technically complex product
History of design
Introduction to Semiotics
Rapid prototyping
Summer Internship
Elective Group 2 – Transportation Design
Digital Sculpting 3
Portfolio Creation & Presentation Skills
Clay Modeling 3
Biomimicry in Transportation Design
Product & Brand Management
Transportation Design Project 5
Industrial Training

SEMESTER VIII
Subject
Elective Group I - Product Design
Design Project
Elective Group 2 – Transportation Design
Graduation Project

Bachelor of Fine Arts with spec. in Digital Arts

The Bachelors of Fine Arts (Design Arts) program focuses on design studies: critical thinking, project development, community engagement and collaboration. Students will learn to translate concepts into individual expression by using drawing, color, form, space, structure, and composition and by developing a solid understanding of tools and media. Above all, they will learn cultivate the intellectual, conceptual, and critical skills required to successfully launch their careers in today's highly demanding graphic and communication design industry and emerging new media based interactive design setups, apart from advertising and brand management agencies.

Career Options

- Illustrator
- Visualizer
- Ideator
- Conceptualist
- Storyboard Artist
- Concept Artist
- Art Director/Supervisor
- Creative Director/Supervisor
- Brand Planner
- Brand Identity Designer
- Digital Strategist
- Digital Designer
- Interactive Media Designer
- User Experience (UX) Designer

SEMESTER I
Subject
Sketching & Drawing- I
Elements of Design
Colour
Geometry I
Engineering Graphics
Material exploration I

SEMESTER II
Subject
Sketching & Drawing- II
Principles of design
Geometry II
Material exploration II
Visual composition
Introduction to Photography
Computer applications I

SEMESTER III
Subject
Digital Media in Social Content
Narrative Skills I
Introduction to imaging tool & techniques
Introduction to game design I
Introduction to typography
2D Animation I
Desktop Publishing

SEMESTER IV
Subject
Digital Imaging
Narrative Skills II
Introduction to 3D Computer Animation
Introduction to digital video tools & techniques
Introduction to game design II
2D Animation II
Brand Communication

SEMESTER V
Subject
3D Modelling &Animation I
Visual Effects & Motion graphics
MEL Scripting for artists
Level design in games
Digital sound design I
Website design I
Elements of video production

SEMESTER VI
Subject
3D Modelling &Animation II
Digital sound design II
Type in motion
Game production and prototyping
Portfolio design
Elements of video production II
Environment design

SEMESTER VII
Subject
3D Modelling, UV Mapping & Texturing
Open elective
Self-Study
Web design II
Digital graphic art
Game design
Project (Elective)

SEMESTER VIII
Subject
Degree Project

M. Des (Transportation Design)

The program endeavors to provide interdisciplinary and progressive knowledge of Vehicle Design. The objective of this program is to impart learning that will produce graduates, competent in terms of skill and knowledge to work with designers for the auto industry in India. Studies include the understanding and identification of the transportation and mobility sectors and finding creative solutions.

The program strives to inculcate critical, analytical, speculative and reflective problem-solving skills in an integrated manner. Also the issue of focus is to provide thorough understanding of technical and design fundamentals, this will be well supported with a strong exposure to the real life situations so as to enable as to how the intellectual, creative and other skills acquired could be adopted to benefit the user, society and industry. Students are also groomed with the help of exercises and projects.

Career Options

- Automotive OEMs
- Automotive Design Studios
- Transportation Design Consultancy
- Heavy Vehicle Manufacturers
- Entrepreneurship

SEMESTER I
Subject
Aesthetics-Shapes & Forms
Product Analysis
Elements of Ergonomics
History of Automobiles & Design
Sketching & Rendering - I
Engineering Graphics

SEMESTER II
Subject
Materials & Processes
Vehicle Packaging
Vehicle Ergonomics
Design Project – I
Sketching & Rendering - II
Visual Communications

SEMESTER III
Core Course
Digital Sculpting
Advanced Design Tools
Design Project – II
Design Management & Professional Practice
Value Engineering
Portfolio Creation & Presentation Skills

SEMESTER IV
Subject
Design & Research Project

M. Des (Industrial Design)

Industrial Design as a profession empowers the professional to design consumer centric products and systems related to industry, medical, computer, electronics, environment, and so on.

The professional is not only an artist with great aesthetic knowledge, but also has the engineering point of perspective to enable a better production technology for the product.

Industrial Design imparts the learner with artistic bent, technological approach and marketing knowledge. He/she can be a designer at a manufacturer, a design consultancy or even an entrepreneur.

The learning process is based upon multi-disciplinary teaching having primary focus on arts (visual arts, liberal arts etc.), technology (engineering, materials, sciences etc.) and management (research tools, marketing, branding etc.).

The course is well built to create a critical mind that has basic design, communication and engineering skills. Students learn through free hand sketches, computer aided design (using Adobe Photoshop, Autodesk Alias Design, Sketchbook Designer, RHINO 3D etc.) various studio workshops (Metal, Plastic, Automotive Clay, Wood, Paint etc.), visiting lectures, practical hands-on working with the materials (understanding various Colors, Materials, Finish etc.). It encourages students to learn not only from the course material but also from the various disciplines related to the same, including the environment and the nature.

Learners learn in a not-so-formal environment, which allows free thinking and stresses mainly on the creative and innovative learning. An overall development and understanding is the key. Masters in Industrial Design is a Post graduate program that enables the learners to primarily focus on the design of various products.

Career Options

- Product Designer
- Design Consultant
- Accessory Designer
- Furniture Designer
- Electronics Equipment Designer
- Animation Artist

SEMESTER I
Subject
Aesthetics-Shapes& Forms
Product Analysis
Elements of Ergonomics
Art Design & Society
Sketching &Rendering -I
Engineering Graphics

SEMESTER II
Subject
Materials & Processes
Product Detailing
Advanced Ergonomics
Design Project - I
Sketching & Rendering – II
Visual Communication

SEMESTER III
Subject
Digital Sculpting
Advanced Design Tools
Design Project – II
Design Management & Professional Practice
Value Engineering
Portfolio Creation & Presentation Skills

SEMESTER IV
Subject
Design & Research Project

M. Des (Product Design)

Product design, at its most diversified definition, is an inculcation of creativity, sustainability, innovation and management of all the products we see around us. Product design deals with complete development of a product. It is a larger umbrella under which almost all of the organizations work, depending upon their area of expertise and their philosophy of existence.

Product Design aims in improving the overall performance of an object, from all the perspectives, catering the need of lifestyle products, accessory design, jeweler design, and apparel design and so on.

Masters in Product Design aims in providing the students an array of fields related to design. With proper knowledge and skill sets, a Product Design Professional aims in bringing a positive change in the society. M. Des in Product Design at UPES aims just that.

At UPES, this course introduces the students with not only aesthetics of design, but also the deep knowledge of engineering, feasibility, management, branding, development and production to name a few.

The students learn from various design skills, both physical and virtual. The 360 degree development of a student to be a market ready professional is the principal aim of this course.

Career Options

- Product Designer
- Design Consultant
- Accessory Designer
- Furniture Designer
- Equipment Designer
- Electronics Equipment Designer
- Animation Artist

SEMESTER I
Subject
Aesthetics-Shapes& Forms
Product Analysis
Elements of Ergonomics
Art Design & Society
Sketching &Rendering- I
Engineering Graphics

SEMESTER II
Subject
Materials & Processes
Product Detailing
Advanced Ergonomics
Design Project - I
Sketching & Rendering – II
Visual Communication

SEMESTER III
Subject
Digital Sculpting
Advanced Design Tools
Design Project – II
Design Management & Professional Practice
Value Engineering
Portfolio Creation & Presentation Skills

SEMESTER IV
Subject
Design &Research Project

M. Des (Interaction Design)

Interaction design is the beauty of intangible experiences through the potential of digital technology and sensitivity. It focuses on creating interfaces with well thought out behaviors. Understanding how users and technology communicate with each other is fundamental to this field. Therefore it includes traditional design disciplines with technological media. With this understanding, one can anticipate how someone might interact with the system, fix problems early, as well as invent new ways of doing things. Human centric research and user testing play a vital role throughout the ideation and concept generation process. Furthermore Interaction Designers should understand business strategy, as well as commercial, social and environmental concerns. As the discipline touches on all aspects of everyday life and therefore has substantial impact on society and industry.

Career Options

- Interaction Designer
- User Experience Designer
- User Interface Designer
- Interface and information researcher
- Creative Director
- Strategist and Design Director

SEMESTER I
Subject
Aesthetics, Shapes and Forms
Human Factors - Interaction Design
Art, Design & Society
History of Automobiles, Design & Architecture
Graphic Design
Sketching and Storyboarding
Web Design

SEMESTER II
Subject
User Centered Research and Analysis
Interaction Design
Design Semantics
Data Visualization
Media Communication Methods
Design Project I

SEMESTER III
Subject
Usability Engineering
Tangible Interface Design
Design Management & Professional Practice
Design for Immersive Experience
Portfolio Creation & Presentation Skills
Design Project II

SEMESTER IV
Subject
Design & Research Project

UNIVERSITY OF PETROLEUM & ENERGY STUDIES

SCHOOL OF PLANNING AND ARCHITECTURE

Bachelor of Planning (B. Plan)

Professional planner plays a very critical role in shaping our environment – economically, environmentally, socially & culturally having significant impact on the factors that influence our lives.

Bachelor of Planning program has been designed to provide knowledge and skills required for planning in an increasingly complex and diverse world. Planners help decide the design and appearance of cities and towns as well as their services, facilities and communities.

Career Options

- Town & Urban Planners in Public & Private Sector
- Government Institutions
- Architectural Conservation Organizations
- Architectural Firms
- Private Practice
- Real Estate Organizations
- NGOs

SEMESTER I
Subject
Fundamentals of Urban and Regional Planning
Fundamentals of Building Structures
Materials and Principles of Construction
Statistical and Quantitative Methods in Planning – I
Technical Report Writing and Research Methodology
Basic Architectural Design
PRACTICAL
Planning and Design Lab – I (Graphics and Presentation Techniques)

SEMESTER II
Subject
Elements of Economics
Specifications, Estimation and Valuation
Surveying and Photogrammetry
Statistical and Quantitative Methods in Planning – II
Evolution of Aesthetics, Culture and Technology
Techniques of Planning – I
Applied Geology and Hydrology
PRACTICAL
Planning and Design Lab – II (Graphics and Presentation Techniques)

SEMESTER III
Subject
Planning Theory - I
Settlement Geography
Techniques of Planning – II
Computer Aided Design (CAD) in Planning
Demography and Urbanization
Traffic and Transportation Planning – I
PRACTICAL
Planning and Design Lab – III (Neighborhoods and Site Planning)

SEMESTER IV
Subject
Planning Theory – II
Planning Practice - I
Traffic and Transportation Planning – II
Ecology, Environment and Resource Development and Management
Housing and Community Planning
Settlement Sociology
PRACTICAL
Planning and Design Lab – IV (Transportation Planning)

SEMESTER V
Subject
Real Estate Planning and Management
Planning and Management of Utilities and Services
Planning Legislation
Landscape Planning and Design
Geo-Informatics for Planning
Sustainable Urban Development
PRACTICAL
Planning and Design Lab – V (Area Planning)
Training Seminar - I

SEMESTER VI
Subject
Urban Management - I
Urban Renewal and Conservation
Project Formulation, Appraisal and Management
Introduction to Urban Design
Planning and Management of Informal Sector
Financing of Urban Projects
PRACTICAL
Planning and Design Lab – VI (Urban Development Plan)

SEMESTER VII
Subject
Introduction to Regional Planning
Urban Governance
Disaster Risk Mitigation & Management
Metropolitan Planning, Development and Management
Elective (Choose any one)
Infrastructure Planning, Development and Management
Rural Development and Management

SEMESTER VIII
Subject
Urban Management – II
Planning Practice – II
Human Values in Planning
Planning Thesis
Elective (Choose any one)
Environmental Impact Assessment
PPP in Urban Environmental Services

(M. Plan – Environmental Planning)

Environmental Planning is gaining utmost popularity. Environmental Planners ensure regulatory compliances for projected land use regarding its impact on the environment.

This course is designed to equip the students with necessary knowledge and skills to meet the demand of environmental planners. The course endeavors to provide knowledge to the students on various aspects of environmental planning and management viz. Economics, Bio-Diversity, Climate Change, Environmental Impact Assessment, etc.

Career Options

- City and State Government Organizations
- Consulting Firms
- NGOs
- Real Estate Organizations

SEMESTER I
Subject
Theory of Environmental Planning
Theory of Environmental Design
Environmental Impact Assessment
Environmental Monitoring and Assessment
Environmental Protection and Management
Environmental Economics and Environmental Auditing
Environmental Legislation Policies and Practices

SEMESTER II
Subject
Theory of Environmental Planning
Environmental Design
Environmental Monitoring and Assessment (theory)
Environmental Monitoring Laboratory
Environmental Impact Assessment
Planning and Design Studio Assignments:
Planning and Design Studio
GIS Laboratory Training

SEMESTER III
Subject
Environmental Economics and Environmental Auditing
Environmental Protection and Management
Environmental Legislation
Advanced EIA Technologies
Planning Legislation
Planning and Design Studio Assignments:
Development Plan (Management / Conservation) for a Settlement / Region
GIS Laboratory Applications

SEMESTER IV
Subject
Formulation, financing and Management of Environmental Projects
Seminar on emerging Environmental Concepts
Planning and Design Studio Assignments:
Thesis

(M. Plan – Urban Design)

Towns and cities are constantly changing, and in ways that are unpredictable. How will we be living, working, shopping or enjoying ourselves in 10, 20 or 30 years' time? Planning for Urban design is a collaborative and multi-disciplinary process of shaping the physical setting for life in cities, towns and villages; the art of making places. Urban design involves the master planning of urban structures such as commercial building, residential building, spaces and landscapes, public spaces, transport systems, services, and amenities and the establishment of frameworks that orders the elements into a network of streets, squares, and blocks. Urban design blends architecture, landscape architecture, and city planning together to make urban areas functional and attractive.

Career Options

- City and State Government Organizations
- Consulting Firms
- NGOs
- Real Estate Organizations

SEMESTER I
Subject
History of Urban Space
Design Studio - I
Urban Design Methodologies
Site Planning
Specializations / Electives:
Computer Aided Urban Design OR
Course from other Departments

SEMESTER II
Subject
Reading the City - I
Design Studio - II
Planning Tools for Urban Design
Transport Planning for Urban Design
Specializations / Electives:
Administrative & Legal framework for Urban Design OR
Course from other Departments

SEMESTER III
Subject
Reading the City - II
Design Studio - III
Techniques of Sustainable Development & EIA
Urban Renewal & Conservation
Specializations / Electives:
Real Estate Development OR
Course from other Departments

SEMESTER IV
Subject
City Futures
Design Thesis OR
Research Thesis
Project Planning & Finance for Urban Design
Specializations / Electives:
Housing OR
Course from other Departments

(M. Tech in Building Engineering and Management)

This program provides a broad curriculum including all important aspects throughout the entire building cycle from planning, development, renovation and demolition. The focus is on technical and structural functions of building. After completion of the program, the students will develop critical thinking and integrated problem solving capabilities.

Career Options

- Consulting Industry
- Government & Service Sectors
- Urban & Town Planning Institutions
- Regulatory Institutions
- Architectural Firms

SEMESTER I
Subject
Construction Technology
Functional Performance of Buildings
Building Services
IT in Construction
Project Management - I
Quantitative Techniques
Research Methodology

SEMESTER II
Subject
New Building Materials & Specifications
Systems Analysis & Operations Research
Building & Infrastructure Services
Project Seminar- I
IT in Construction- II
Project Management- II
Structure System & Design Process

SEMESTER III
Subject
Project Finance Management
Laws & Regulations in Construction Industry
Human Resource Management
Project Seminar- II
Real Estate Management
Project Management- III

SEMESTER IV
Subject
Thesis
Practical Training

UNIVERSITY OF PETROLEUM & ENERGY STUDIES

SCHOOL OF INTERNATIONAL LAW AND DIPLOMACY

(MA – International Affairs)

The objective of the program is to develop highly skilled international trade and economic policy professionals to work productively in the rapidly changing global marketplace. The program also makes the student competent enough to qualify Indian Foreign Services Examination. As a student in this program you will gain a deep understanding of policy analysis and trade negotiations as well as the opportunity to focus on one of three tracks in the trade and economic diplomacy program: business, government, or civil society. You will also be trained to work with businesses, government and non-government organizations (NGOs) on the world's most pressing international trade and diplomacy matters.

Career Options

After completion of the course you will be able make a career in solving global policy challenges every day: resolving conflicts, addressing human rights abuses, and promoting global development. You will also be best suited to join Indian Foreign Services, join national government offices, socially responsible business units, international organizations, think tanks, academic institutions and volunteer organizations. Equally, the programme will equip students for further study and doctoral research.

SEMESTER I
Subject
Psychology
Sociology
Geography
Political Science
History
English

SEMESTER II
Subject
Political Geography
International Business
International Law & Trade
International Organizations
Economics for International & Public Affairs - I
Political Geography

SEMESTER III
Subject
Economics for International & Public Affairs - II
Introduction to Diplomacy
Theory of International Relations
International Security
Globalization of Human Rights

SEMESTER IV
Subject
Introduction to Peace & Conflict Resolution
World Trade Organization
International Commercial Transactions & Finance
Comparative Foreign Policy

(MA – Criminal Law & Justice)

This postgraduate degree in criminal law and criminal justice offers exciting, challenging and distinctive opportunities. The main focus of the programme is the inter linkages between criminal justice and criminal law. It offers a theoretically informed and multidisciplinary course of study. In addition to studying the now established critical and theoretical perspectives relevant to criminal law and criminal justice, the programme also has a focus to prepare the students for qualifying UPSC Exam - Indian Police Services. Students who complete the master's degree in Criminal Justice will be able to demonstrate advanced knowledge and ability to evaluate criminological and criminal justice theories and their implications for public policy and practice.

Career Options

The Master of Criminal Justice (MCJ) program is for those who wish to enter or advance a criminal justice career, especially those considering advanced studies or administration and research in the area of criminal justice. The Master of Criminal Justice also prepares students to enter areas of management, government, and specialized units in law enforcement. Through courses on the history, philosophy, politics, and social consequences of the Indian criminal justice system, students gain an interdisciplinary understanding of crime problems and criminal justice policy and administration. The students after completing the course will be best suited to Join Indian Police Services, Judge, Advocate General, Dept. of Indian Military, Public Prosecution Department, CBI, Intelligence Bureau, Indian Judiciary to name a few. Equally, the programme will equip students for further study and doctoral research.

SEMESTER I
Subject
Psychology
History
Sociology
Political Science
Geography
Economics

SEMESTER II
Subject
Psychology of Law & Crimes
Legal Reasoning
Criminal Law Procedure
Law of Evidence
Drafting Pleading & Conveyance

SEMESTER III
Subject
Cyber Crimes
International Criminal Law
Juvenile Law
Prisoners & Law
Forensic Behavior Analysis

SEMESTER IV
Subject
Terrorism & law
Human Rights & Criminal Justice
Socio-economic offences
Criminal Justice Administration

UNIVERSITY OF PETROLEUM & ENERGY STUDIES

SCHOOL OF PUBLIC POLICY AND GOVERNANCE

BA (Public Policy and Administration)

In the era of Minimum Government and Maximum Governance and introduction of wide range of public services such as NRHM, RTF, RTI, NRLM, RTE etc. along with enabling environment, has created demand for trained professionals in the government agencies as well as with the other stakeholders. UPES has taken a lead by introducing graduate program that is designed to provide an interdisciplinary environment, specializing in public policy field as well as public management. This program provides knowledge of economics, public finance, research methods, public policy, leadership, strategy. The program equips the students with knowledge and skills covering broad range disciplines and topic of public sector.

Career Options

- Government agencies,
- International agencies
- Urban and Regional Planning
- City Management
- Financial Planning
- Private firms,
- Non-government organizations

SEMESTER I
Subject
Macro Economics I
Sociology
History of Politics
Political Science I

SEMESTER II
Subject
Political Science II
Psychology
Macro-Economic II
Political Geography

SEMESTER III
Subject
Introduction to Computer Application
Organizational Communication
India Political System
Introduction to Public Policy

SEMESTER IV
Subject
Management Information System
Developmental Theory
The State and the People
Quantitative Techniques & Research Methodology

SEMESTER V
Subject
State and Urban Policies
Welfare State & Social Policies
Judiciary and our Constitution
Financial Governance
Summer Internship

SEMESTER VI
Subject
India Foreign Policy
Comparative Policies
Leadership, Strategy and Performance
Seminar
Dissertation

(MA – Public Policy)

With introduction of new public policy mantra and expansion of public services has created the demand for new thoughts, new approaches and revitalized ethics. UPES has introduced a platform where the students will understand context of interrelatedness of socio-cultural and politico-economic realities. The purpose of this program is to provide future policy makers and policy analyst with conceptual framework and practical skill necessary to succeed in making better policies. This course is multi-disciplinary, covering subjects like political sociology, political theory, economics, human rights, data analysis, foreign policy and issues in world politics etc.

Career Options

- International organizations
- Civil services, corporate social initiative groups,
- Human Rights Commission
- Think-tanks
- Independent consultants for government and
- Non-governmental organizations;
- Start-up organizations.
- Academic development practitioners, researchers or journalists

SEMESTER I
Subject
Introduction to Political & Social Theory
Policies, Law & Institution
Dynamics of Public Policy
Economics of Public Policy (Micro)
Quantitative Analysis

SEMESTER II
Subject
Economics of Public Policy (Macro)
Research Methodology
Development, Law & Policy
Political Philosophy & Justice
Current Indian Political & Economic Problems

SEMESTER III
Subject
Public Economics
Bureaucracy & Civil Society
Comparative Public Policy
Human Rights
State, Market & Regulations

SEMESTER IV
Subject
Theory of International Relations
Public Finance & Budgeting
Project & Program Evaluations
Research Paper

UNIVERSITY OF PETROLEUM & ENERGY STUDIES

COLLEGE OF LEGAL STUDIES

College of Legal studies, University of Petroleum and Energy studies (UPES) aims to further teaching, learning and scholarship in law. As a professional law college that offers courses both at the undergraduate and postgraduate levels, prepare its graduates for rewarding career in various roles and responsibilities in legal services organizations. Graduates of College of Legal Studies, UPES are highly sought after by law firms as well as other business since graduates from the College possess strong subject-matter expertise in law and legal institutions, justice and governance, demonstrable skills of legal counsel and professional argumentation as well as domain specific expertise knowledge . Courses, both at the undergraduate and postgraduate levels, offered by the College of Law, UPES delivered by highly accomplished full-time faculty, each an expert in a respective field, and learning is embellished by renowned law professionals. The teaching at the College is exceptional and the carefully crafted curriculum includes pedagogical features such as simulation and in live client-based teaching.

CoLS Highlights

- 9 Unique program – 2 specialized integrated program with UPES College of Engineering Studies
- Over 900 Students
- 23 dedicated faculty
- Moot Court
- Manupatra & West Law Electronic Databases
- Interactive Sessions with Jurists, Judges and legal luminaries

UNDER GRADUATE PROGRAMS

- Integrated BA LL.B. (Hons.) with emphasis on Energy Laws (5 years)*
- Integrated BBA LL.B (Hons.) with emphasis on Corporate Laws (5 years)*
- Integrated B.Com LL.B (Hons.) with emphasis on Taxation Laws (5 years)*
- Integrated B. Tech Energy Technology + LL.B (Hons.) with specialization in Intellectual Property Rights(IPR) (6 years)*
- Integrated B. Tech Computer Science & Engineering + LL.B (Hons.) with specialization in Cyber Laws (6 years)*

  *Approved by the Bar Council of India (BCI)

POST GRADUATE PROGRAMS

- LLM With specialization in Energy Laws

BA LL.B. with Emphasis on Energy Laws (5 Years)*

The program has been prepared with an intention to create dedicated professionals who are well trained in legal framework and contractual requirements for energy sector companies. Students are exposed to the latest laws and judgments pertinent to the core sectors of India, apart from studying the regular legal subjects.

Career options for Practicing Advocate in

- State Bar Councils
- Indian and Foreign Law Firms
- Multi-National Companies
- Legal Cells of Private and Public Sector Companies
- Legal Department of Foreign Companies
- Global Audit and Compliance Firms
- Consulting Firms

SEMESTER I
General English
Political Science I
Computer Fundamentals & its Applications
History-I
Law of Contracts I
Legal Method & Legal Reasoning
Fundamentals of Moot Court
Language Lab

SEMESTER II
Legal Language & Legal Writing
Political Science II
Business Economics - I (Micro)
History II (History of Court, Legislation & Legal Profession in India)
Law of Contracts II
Constitutional Law I

SEMESTER III
Family Law I
Torts & Consumer Protection Law
Constitutional Law II
Economics of Oil & Gas Sector
Political Science III
Psychology
History – III (World History)

SEMESTER IV
Family Law II
Philosophy
Civil Procedure Code & Law of Limitation
Business Economics - II (Macro)
Jurisprudence
Foreign Language

SEMESTER V
Company Law-I
Law of Evidence
Economics of Surface & Maritime Transportation
Property law including Transfer of Property Act & Easement Act
Law of Crimes (IPC)
Sociology

SEMESTER VI
Company Law-II
Administrative Law
Human Rights & International Law
Criminal Procedure Code, Juvenile Justice Act & Probation of Offenders Act
Law relating to Mining
Economics of Power Sector
Industrial Visit

SEMESTER VII
Interpretation of Statutes
Private International Law
Labour Law I
Air & Space Law
Aviation Law
Environmental Law
Oil & Gas Law & Policy (Upstream)
Mediation Workshop

SEMESTER VIII
Labour Law II
Banking & Insurance Law
Intellectual Property Law
Taxation Law
Oil & Gas Law & Policy (Downstream)
Maritime Law
Airport Economics & Law
Arbitration and Conciliation & Alternative Dispute Resolution(ADR) Mechanism

SEMESTER IX
Professional Ethics, Accountancy for Lawyers & Bar Bench Relation
International Economic Law
Competition Law
Drafting, Pleading & Conveyance
Regulatory Framework of Power Energy Sector
Right to Information
Dissertation I
Information Technology Law

SEMESTER X
Energy Economics & Law
Health, Safety and Environmental Challenges in Energy Sector
Moot Court & Internship
Dissertation II
Seminar Course -1
Seminar Course -2

*Approved by the Bar Council of India (BCI)

BBA LL.B. with Emphasis on Corporate Laws (5 Years)*

This program aims to create a brand new race of Corporate Lawyers who would not only understand the intricacies of business but be equally well-versed in the nuances of Corporate Laws and Regulatory Affairs. You will gain valuable insights in both the business functions like finance, human resource management, marketing, international business and corporate laws in the fields of Banking, Corporate Governance, Investment, Competition, Insurance and Mergers and Acquisitions.

Career options for Practicing Advocate in

- State Bar Councils
- Indian and Foreign Law Firms
- Multi-National Companies
- Legal Cells of Private and Public Sector Companies
- Legal Department of Foreign Companies
- Global Audit and Compliance Firms
- Consulting Firms

SEMESTER I
General English
Law of Contracts I
Legal Method & Legal Reasoning
Computer Fundamentals & its Applications
Business Mathematics
Business Organization
Fundamentals of Moot Court
Language Lab

SEMESTER II
Legal Language & Legal Writing
History II (History of Courts, Legislature & Legal Profession of India)
Law of Contracts II
Business Economics I (Micro)
Constitutional Law I
Quantitative Techniques for Decision Making

SEMESTER III
Family Law I
Torts & Consumer protection Act
Constitutional Law II
Business Economics II (Macro)
Business Accounting
Organizational Behavior

SEMESTER IV
Jurisprudence
Family Law II
Civil Procedure Code & Law of Limitation
Human Resource Mgmt.
Marketing Management
Financial Management
Foreign Language

SEMESTER V
Law of Crimes (IPC)
Company Law I
Administrative Law
Property Law including Transfer of Property Act & Easement Act
Consumer Behavior & Market Research
Commercial Transaction

SEMESTER VI
Law of Evidence
Mergers & Acquisition
Human Rights & International Law
Criminal Procedure Court, JJ Act & Prohibition of Offenders Act
Operations & Materials Management
Foreign Language
Company Law-II
Industrial Visit

SEMESTER VII
Interpretation of Statutes
Labour Law I
Environmental Law
Corporate Governance
International Finance & Risk Management
Mediation Workshop
Private International Law

SEMESTER VIII
Intellectual Property Right
Labour Law II
Business Policy & Strategy
Corporate Finance & Investment Regulations
Banking & Insurance Law
Taxation Law
Arbitration, Conciliation & ADR Mechanisms

SEMESTER IX
Professional Ethics, Accountancy for lawyers & Bar Bench Relation
Right to Information
Competition Law
Pleading, Drafting and Conveyance
International Trade Law
Dissertation I
Information Technology Law

SEMESTER X
Project Finance
International Arbitration
Moot Court & Internship
Dissertation II
Seminar course-1
Seminar course-2

*Approved by the Bar Council of India (BCI)

B. COM. LLB. with Emphasis on Taxation Laws (5 Years)*

To bridge the gap between legal theory and practice, an understanding of the trade and commerce is essential. Law is a profession that works in economic context, and therefore for a legal practitioner, training in the economic science is a prerequisite. The program combines the knowledge of the economic sciences with special training in taxation law. The trade, finance and commerce component of the B. com. LL.B. (Hons.) course includes subjects such as accounts, finance, economics, language and, which are supplemented by a range of law courses, and together they provide a broad-based multidisciplinary foundation to the curriculum.

Career Options

- State Bar Councils
- Indian and Foreign Law Firms
- Multi-National Companies
- Legal Cells of Private and Public Sector Companies
- Legal Department of Foreign Companies
- Global Audit and Compliance Firms
- Consulting Firms

SEMESTER I
General English
Law of Contracts I
Legal Method & Legal Reasoning
Computer Fundamentals & its Applications
Business Mathematics
Business Organization
Fundamentals of Moot Court
Language Lab

SEMESTER II
Legal Language & Legal Writing
History II (History of Courts, Legislature & Legal Profession of India)
Law of Contracts II
Business Economics I (Micro)
Constitutional Law I
Quantitative Techniques for Decision Making

SEMESTER III
Family Law I
Torts & Consumer protection Act
Constitutional Law II
Business Economics II (Macro)
Business Accounting
Organizational Behavior

SEMESTER IV
Jurisprudence
Family Law II
Civil Procedure Code & Law of Limitation
Corporate Accounting
Fundamentals of Investment
Marketing Management

SEMESTER V
Law of Crimes (IPC)
Company Law I
Administrative Law
Property Law including Transfer of Property Act & Easement Act
Principles of Taxation Law
Principles of Auditing

SEMESTER VI
Law of Evidence
Company Law-2
Human Rights & International Law
Criminal Procedure Court, JJ Act & Prohibition of Offenders Act
Cost Accounting
Foreign Language
Taxation Law
Industrial Visit

SEMESTER VII
Interpretation of Statutes
Labour Law I
Environmental Law
Income Tax Law and Practice
Central Excise Law
Mediation Workshop
Private International Law

SEMESTER VIII
Intellectual Property Right
Labour Law II
Customs and Services Tax Law
Wealth Tax and Direct Tax Planning
Banking & Insurance Law
Arbitration, Conciliation & ADR Mechanisms

SEMESTER IX
Professional Ethics, Accountancy for lawyers & Bar Bench Relation
Right to Information
Competition Law
Pleading, Drafting and Conveyance
VAT/Sales Tax Law and GST
Corporate Tax Planning and DTC
Information Technology Law
Dissertation I

SEMESTER X
International Trade Law
International Taxation Law (Hons. VII)
Adjudication of Tax Related Disputes (Hons. VIII)
Moot Court & Internship
Dissertation II
Seminar course-1
Seminar course-2

*Approved by the Bar Council of India (BCI)

B.TECH (Energy Technology + LL.B (Hons.) with specialization in Intellectual Property Rights (IPR) (6 Years)*

The program provides a comprehensive understanding of the dynamically evolving techno-legal issues in the science and technology sectors. With companies dedicating large resources to research and development, the demand for protecting intellectual property rights has risen dramatically and is believed to increase further. The program equips the students to handle complex techno-legal issues in the energy and allied domains.

Career Options

- Lawyer specializing in Technology Transfer
- Lawyer specializing in IPR Protection
- Techno Lawyers working with Energy Sector Companies
- Patent Attorneys
- Specialist in Technology Based Arbitration

SEMESTER I
Physics I
Chemistry I
Mathematics I
Computer Science
Engineering Graphics
Communication Workshop 1.1
Environmental Studies
PRACTICAL
Physics Lab I
Chemistry Lab I
Computer Lab
Engineering Graphics Lab I
Language through Literature

SEMESTER II
Physics II
Chemistry II
Mathematics II
Workshop Technology
Basics Electrical Engineering
Communication Workshop 1.2
Energy Scenario & Energy Forms
Fundamentals of Moot Court
PRACTICAL
Physics Lab II
Chemistry Lab II
Workshop Lab
Electrical Engg Lab
Language Lab

SEMESTER III
Thermodynamics & Heat Engines
Material & Energy Flow Computation
Data Base Mgmt Systems & Data Modeling
Introduction to Numerical Analysis
Basics Electronics Engineering
Legal History of Courts
Legal Method & Legal Reasoning
PRACTICAL
Electronic Lab
DBMS Lab

SEMESTER IV
Fluid Mechanics
Material Science
Power System
Thermal Power Generation
Heat & Mass Transfer Process
Law of Contracts I
Torts & Consumer Protection Law
Communication Workshop 2.0
PRACTICAL
Fluid Machines Lab
Heat Transfer Lab
Mass Transfer Lab

SEMESTER V
Combustion Energy & Technology
Solar Energy Technology
Alternate Energy Technologies
Fundamentals of Bio Energy
Law of Contracts II
Constitutional Law I
Family Law I
Foreign Language
PRACTICAL
Minor Project I

SEMESTER VI
Energy Management & Audit
Nuclear Power Generation
Performance Analysis of Electrical Equipment's
Fundamentals of Nano Technology
Family Law II
Constitutional Law II
Law of Crimes I
Communication Workshop 3.0
PRACTICAL
Minor Project II
Comprehensive Viva-I
Industrial Visit

SEMESTER VII
Wind Energy Technology
Waste Heat Recovery & cogeneration
Thermal Utilities
Company Law I
Law of Crime II
Law of Copyrights Specifications & Claims
PRACTICAL
Major Project I
Seminar I
Industrial Training

SEMESTER VIII
Project management & Financial Management in Energy Sector
Hydro Power Generation
Carbon Trading
Civil Procedure Code & Law of Limitation
Law of Trademark & Drafting
Company Law II
PRACTICAL
Major Project II
Seminar II
Comprehensive Viva II

SEMESTER IX
Administrative Law
Labour Law I
Law of Evidence
Environmental Law
Public International Law
Right to Information
Law of Patents
Property law including Transfer of Property Act & Easement Act
PRACTICAL
Mediation Workshop

SEMESTER X
Arbitration and Conciliation & Alternative Dispute Resolution Mechanism
Taxation Law
Private International Law
Competition Law
Patent Drafting & Specification Writing-
Jurisprudence
Labour Law II

SEMESTER XI
Pleading, Drafting & Conveyance
Information Technology Law
Law of Industrial & ICL Designing
Trade Secret & Technology Transfer
IP Litigation
IP Valuation
Dissertation I

*Approved by the Bar Council of India (BCI)

SEMESTER XII
Professional Ethics, Accountancy for lawyers & Bar Bench Relation
International Trade Law
IP Management
Moot Court & Internship
Dissertation II

B. TECH (Computer Science & Engineering + LL.B (Hons.) with specialization in Cyber Laws (6 Years)*

With global digitization and spreading of information network far and wide, the cyber world has seen a propensity of new-age contracts and a slow but sure pervasion of cybercrimes. The program provides a unique amalgam of Computer Science knowledge and Laws pertaining to the Cyber world.

Career Options

- Lawyer Specializing in Cyber Crime Practice
- Techno-legal Professional in Computer Security
- Lawyers working with IT Companies
- Security Computer Auditors
- Specialist in Cyber/IT Based Arbitration

SEMESTER I
Physics I
Chemistry
Basic Electronics Engg.
Mathematics I
Problem Solving with C
Environmental Studies
PRACTICAL
Physics Lab I
Chemistry Lab
C Programming Lab
Electronics Lab
Language through Literature

SEMESTER II
Physics II
Mathematics II
Data Structures using C
Engineering Graphics
Electronic Devices & Circuits
Fundamental of Moot Court
Communication Workshop 1.2
PRACTICAL
Data Structures using C Lab
Engineering Graphics Lab I
Physics Lab II
Language Lab

SEMESTER III
Mathematics III
OOPs using C++ and UML
Computer Systems Architecture
Data Communication & Networks
Legal History of Courts
Legal Method & Legal Reasoning
PRACTICAL
OOPS using C++ and UML Lab
Networking Lab
EDC LAB

SEMESTER IV
Microprocessor
Operating Systems
Database Management System
Theory of Automata & Computation
Industrial Management
Communication Workshop 2.0
Law of Contracts I
Torts & Consumer Protection Law
PRACTICAL
Microprocessor Lab
Operating System Lab
DBMS Lab

SEMESTER V
Software Engineering
Design & Analysis of Algorithms
Artificial Intelligence
OOPS Through Java
Law of Contracts II
Constitutional Law I
Family Law I
Foreign Language*
PRACTICAL
Design & Analysis of Algo Lab
Java Lab
AI Lab
Minor Project I

SEMESTER VI
Compiler Design
Web Technologies Using .NET
Storage Technology Foundations
Network Security & Cryptography
Family Law II
Constitutional Law I
Law of Crimes I
Communication Workshop 3.0
PRACTICAL
Web Technologies Using .NET Lab
Minor Project II
Comprehensive Viva-I
Industrial Visit

SEMESTER VII
Mobile Computing
Elective 1 (choose any one)
Data Warehousing & Data Mining
Artificial Neural Networks
Natural Language Processing
Elective II (Choose any one)
Embedded Systems
Real Time Systems
Human Computer Interaction
Company Law I
Law of Crime II
Information Technology Law
PRACTICAL
Elective One Lab
Elective Two Lab
Major Project I
Seminar I
Industrial Training

SEMESTER VIII
IT For Forensic Science
Elective III (Choose one from remaining two of Elective One)
Elective IV (Choose one from remaining two of Elective Two)
Civil Procedure Code & Law of Limitation
Property Law
Company Law II
E-commerce & M-Commerce law
PRACTICAL
Elective Three Lab
Elective Four Lab
Major Project II
Seminar II
Comprehensive Viva II

SEMESTER IX
Administrative Law
Labour Law I
Law of Evidence
Environmental Law
Public International Law
Right to Information
Digital Crime & Computer Law
PRACTICAL
Mediation Workshop

SEMESTER X
Arbitration and Conciliation & Alternative Dispute Resolution Mechanism
Taxation Law
Private International Law
Intellectual Property Law
Digital Copyright & Data Protection Law
Information Security Intelligence & Compliance analytics
Jurisprudence
Labour Law II

SEMESTER XI
Pleading, Drafting & Conveyance
Competition Law
IT Forensic and Electronic Evidence
Law of Technology Transfer-
Internet Regulation & Jurisdiction
Law of Telecommunication convergence
Information Security Governance
Dissertation I

SEMESTER XII
Professional Ethics, Accountancy for lawyers & Bar Bench Relation
International Trade Law
Information Security Audit & Monitoring
Moot Court & Internship
Dissertation II

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LLM with specialization in Energy Laws (1 Year)

The primary objective of the Program is to create legal experts in the field of energy law and equip practicing lawyers with the knowledge on national and international regulatory frame work of energy business. On completion of the course the practicing lawyer will be in a position to deal with the key legal issues that may arise in the energy sector

TRIMESTER I
Research Methods and Legal Writings (compulsory 3 credits) UGC
Comparative Public Law (Compulsory 3 credits) UGC
Understanding Energy Business and Investment Law (2 credits)

TRIMESTER II
Law and Justice in Globalized World (compulsory 3 credits) UGC
Energy Law and Policy (Upstream)
Energy Law and Policy (Power)

TRIMESTER III
Energy Law and Policy (Downstream)
Environmental Regulations in Energy Sector
Law and Energy Transaction

TRIMESTER IV
Energy Litigation
Dissertation

LLM with specialization in International Law

International law is an important and fast growing field of study, practice and research. Never before has international law taken such a central position in complex public debates. The programme reflects the breadth of contemporary international law, addressing issues as diverse as world trade disputes, United Nations peacekeeping, international human rights litigation, State responsibility and criminal trials before international courts, The regulation of financial markets, environmental protection, Law and Development, Commercial and Philanthropic Financing and IFIs, World, Regional and Bilateral Trade and Investment Law, International Climate, Environmental and Energy Law are all areas in which international law plays a major role.

Career options:
The LLM in International Law will enable entry into a range of careers where specialist expertise knowledge is needed. There is a high demand for law professionals with expertise in international law. Governments, international institutions, UN Bodies, NGOs, business houses, MNCs and law firms are increasingly looking for individuals capable of dealing with complex issues of transnational law and international governance. The programme will also equip students for further study and doctoral research.

TRIMESTER I
Research Methods and Legal Writings
Comparative Public Law
International Trade

TRIMESTER II
Law & Justice in Globalized World
United Nations and International Organizations Law
Human Rights and International Criminal Law
International Climate, Environmental and Energy Law

TRIMESTER III
Law and Institutions of War and Post-Conflict Reconstruction
Law and Development, Commercial and Philanthropic Financing and IFIs
World, Regional and Bilateral Trade and Investment Law
Law and Institutions of War and Post-Conflict Reconstruction

TRIMESTER IV
International/Transnational Litigation and Arbitration
Dissertation

DISCLAIMER

- Every effort is made to ensure that information contained in this Information Bulletin is accurate and up-to-date. However, the contents of individual courses and the programs for any given degree are under constant academic review in light of current circumstances and requirement of industry and may change from time to time; with some programs and courses being modified, discontinued or replaced.

- The University reserves the right at any time to change or amend the course nomenclature, module content, commencement dates, time, location, fees and the Terms and Conditions.

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