Edition #1

Career information booklet 2019-20

A guide to the career options after engineering





DISCLAIMER

This compendium of Career information, is an earnest effort to facilitate students while scouting for right career choices. The information written in the booklet is only a guideline to the students to help them with their career choices ahead. The list of job profiles and information is in no way exhaustive. These lists are only illustrative and are expected to generate enough curiosity in you so that you want to inquire/explore further on the scope, possibilities, avenues, etc. for each of them looking for other options/areas that go beyond these profiles.



PREFACE

Dear Students,

This information booklet has been especially made for you!

This booklet will provide comprehensive information about the plethora of career options, myriad choices ahead of you. It will help you to explore your career options and see where your degree can take you.

Through this booklet we aim to simplify your first step in the professional world after IIT experience and thereby facilitating wise and informed career decisions. This booklet will tell you about the various job profiles you can opt for, the responsibilities and the skill-set required for the same. It also mentions other common examinations leading to future opportunities.

Lastly, we have put our best efforts in compiling the booklet and presenting the information to you. However some inadvertent errors might have crept in, we would be glad to be informed regarding the same.

We are open to suggestions and ideas from your side to improve the booklet.

We wish you a very bright future and a successful career!

Best Wishes,

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TABLE OF CONTENTS

1. AEROSPACE ENGINEERING	09
2. CIVIL ENGINEERING	20
3. CHEMISTRY	29
4. CHEMICAL ENGINEERING	38
5. COMPUTER SCIENCE	51
6. ECONOMICS	61
7. ELECTRICAL ENGINEERING	70
8. ENERGY SCIENCE & ENGINEERING	84
9. ENGINEERING PHYSICS	92
10. MATHEMATICS	102
11. METALLURGICAL ENGINEERING	111
12. MECHANICAL ENGINEERING	123
13. FINANCE	133
14. CONSULT	153

15. ANALYTICS	165
16. FMCG	175
17. EXAMINATIONS	186
#1 GRE	187
#2 CFA	190
#3 GMAT	194
#4 UPSC	196
18. REFERENCES	198

1





Whether you enjoy solving technical challenges or being creative and innovative, aerospace engineering opens up opportunities in a range of industries, from automotive to finance and IT.

There are five specialisations in Aerospace Engineering. Every graduate, while having a basic knowledge of all five divisions, specialises in one of these fields. In general, the following focus areas constitute Aerospace Engineering.

- Aerodynamics
- Propulsion
- Structures
- Dynamics and Control
- Design and Systems Engineering

Listed below are the jobs encompassing the main areas of Aerospace Engineering :

JOB PROFILES

MATERIALS ENGINEER

As a materials engineer you'll be responsible for working with various materials to improve their performance, or creating new materials to help advance technologies or products. An understanding of the properties and behaviours of different substances, from raw materials to finished products is required.

Responsibilities

• testing materials to assess how resistant they are to heat, corrosion or chemical attack

- analysing data using computer modelling software
- considering the costs implications of materials used and alternatives, in terms of both time and money
- working to solve problems arising during the manufacturing process or with the finished product, such as those caused by daily wear and tear or a change of environment

Skills

- good communication skills for presenting technical data, both in writing and orally, to colleagues from your discipline and other professionals
- the ability to apply scientific reasoning to industrial situations

Career Prospects

Career prospects are generally good within this branch of engineering. Due to the range of specialist areas and such rapid technological change in the field, demand for materials engineers is consistent. You're likely to play a significant role in finding more energy-efficient, and less polluting and waste-generating, products and processes. This particular aspect of the role may further increase promotion prospects within many organisations.

AERODYNAMICS ENGINEER

As an aerospace engineer you'll research, design, develop, maintain and test the performance of civil and military aircraft, missiles, satellites and space vehicles. You'll be concerned with improving flight safety, fuel efficiency, speed and weight, as well as reducing system costs and using advancing technologies to meet customer needs. The role is increasingly addressing the environmental impact of air travel.

Responsibilities

- apply the principles of science and technology to create aircraft, components and support equipment
- research and develop design specifications and use computer-aided design (CAD) software to create plans

- supervise the assembly of airframes and the installation of engines, instruments and other equipment
- take part in flight-test programmes to measure take-off distances, rate of climb, stall speeds, manoeuvrability and landing capacities

Skills

- strong technical knowledge of aerospace systems and manufacturing
- the ability to think creatively and be innovative, particularly when developing designs
- problem-solving and analytical skills for dealing with repairs
- meticulous attention to detail and a methodical approach to work
- a level of commercial awareness and knowledge of the aerospace industry

Career Prospects

Eventually, aerodynamics engineers may advance to become technical specialists or to supervise a team of engineers and technicians. Some may even become engineering managers or move into executive positions, such as program managers.

CONTROL AND INSTRUMENTATION ENGINEER

Control and instrumentation (C&I) engineers are responsible for designing, developing, installing, managing and maintaining equipment which is used to monitor and control engineering systems, machinery and processes. Your job is to make sure that these systems and processes operate effectively, efficiently and safely.

Responsibilities

You'll need to develop skills in specific control disciplines, such as:

- advanced process control (APC)
- distributed control systems (DCS)

- programmable logic controllers (PLC)
- supervisory control and data acquisition (SCADA).

The use of these disciplines will depend on the exact nature of your individual job. In general however, tasks and responsibilities can include:

- designing and developing new control systems
- testing, maintaining and modifying existing systems
- analysing data and presenting findings in written reports
- managing operations

Skills

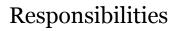
- creative problem-solving and troubleshooting skills
- excellent critical thinking skills and a high level of numeracy
- an understanding of, and ability to work with, high-level computer technology.

Career Prospects

As a C&I engineer you will progress through your career typically acquiring specialist knowledge of a particular industry sector and/or area of C&I knowledge. Working towards professional registration, such as incorporated engineer (IEng) or chartered engineer (CEng) can aid career progression, depending on your level of qualification.

DESIGN ENGINEER

As a design engineer you're involved in the initial concept, design, development and management of projects in a range of sectors such as construction and the built environment, materials, software, components, machinery and vehicles. To succeed you'll need strong technical knowledge, as well as problem solving, communication, leadership and project management skills. Depending on their specialist area, design engineers may also be known as CAD engineers, consulting engineers and product design engineers.



- investigate and undertake analysis on how to improve existing projects or components
- summarise scientific and engineering principles in an easy to understand manner
- design the aesthetics, materials and functionality of components
- use CAD, CAN and CAM systems to design and visualise projects
- undertake model making, prototyping and product testing

Skills

- subject specific technical knowledge and expertise
- commercial awareness of your specialist area of engineering
- an eye for detail and a methodical work process
- IT and CAD knowledge
- analytical and numeracy skills
- creative problem solving ability

Career Prospects

Many graduates enter the design engineering professions via a structured graduate training programme. This will provide experience working in a range of areas that will support working towards becoming fully chartered. There's no fixed career path for design engineers, and the time it takes to work towards chartership is down to the individual.

PROPULSION ENGINEER

Propulsion usually refers to the engine technology which supplies the energy needed to get an aircraft from the end of a runway into the air and keep it there – and people usually think of the jet engine or a single or twin propeller engines seen on large and small passenger planes.

Responsibilities

- apply the principles of science and technology to create aircraft, components and support equipment
- research and develop design specifications and use computer-aided design (CAD) software to create plans
- supervise the assembly of airframes and the installation of engines, instruments and other equipment
- take part in flight-test programmes to measure take-off distances, rate of climb, stall speeds, manoeuvrability and landing capacities
- resolve issues that arise during the design, development and testing processes
- measure and improve the performance of aircraft, components and systems
- collate information, interpret data and publish the results of specific projects in technical report form
- communicate technical and regulatory advice to clients, teams, suppliers and other professionals within the aerospace industry.

Skills

- strong technical knowledge of aerospace systems and manufacturing
- the ability to think creatively and be innovative, particularly when developing designs
- problem-solving and analytical skills for dealing with repairs
- meticulous attention to detail and a methodical approach to work
- a level of commercial awareness and knowledge of the aerospace industry
- the ability to cope with new demands and new problems

Career Prospects

There are many opportunities for career development in the aerospace propulsion industry. For example, you may move into a senior engineering position, where you oversee the work within your department or undertake a project management role.



As an academic researcher you'll apply your expertise and skills developed through study and research. You'll aim to publish papers on your work in peer-reviewed, well-respected journals and will write reports, books or chapters of books on your specialist area of knowledge.

Responsibilities

- carry out original, high-level individual and collaborative research with other team members
- organise your own time and budget effectively, including for off-site and overseas visits
- analyse large sets of data and information, drawing relevant conclusions
- work to deadlines as required by fund or grant holder
- prepare and deliver presentations at national and international conferences to large audiences
- undertake thorough and comprehensive literature reviews
- teach undergraduate and postgraduate students

Skills

- a high level of intellectual ability, to plan and carry out research
- technical aptitude, to learn how to use new equipment and emerging technology
- interpersonal skills, to develop strong working relationships and trust with a broad range of people to foster productive collaborations and future partnerships
- concise and meaningful high level written communication skills for publishing work, conference proceedings and funding bids
- strong IT skills including the use of Microsoft Office, and for some areas excellent data analysis and statistical knowledge
- excellent verbal communication skills, to present ideas and conclusions in lectures and presentations
- flexibility and resilience, to keep going when research doesn't generate results in the expected timescale.

Career Prospects

Delivering positive outcomes in early roles in this career area will give the person the best chance of long-term success. This requires strong performance while he/she:

- writes and publish research papers in high-quality, peer-reviewed journals in line with departmental targets
- presents at conferences, lectures and other teaching responsibilities
- contributes to writing bids and applications for research funding
- develops collaborative relationships with staff at other institutions.

Taking on additional responsibility, along with being a supportive and enthusiastic colleague, will also help. As you progress you'll gain more leadership and strategic responsibilities, so taking any opportunities that allow you to demonstrate and develop these skills is advisable.

MANUFACTURING SYSTEMS ENGINEER

As a manufacturing systems engineer, you'll work as part of a team to design, install, monitor and develop manufacturing equipment and assembly lines in factories. Manufacturing systems engineers work to integrate the entire manufacturing process. This ranges from production and supply right through to sales.

Responsibilities

- designing the layout of the plant using computer-aided design/manufacturing (CAD/CAM) software to build 3D models
- designing, developing and installing plant control systems
- testing systems are working correctly and identifying, investigating and repairing any system faults

Skills

• a practical and logical approach to problem-solving

- interpersonal, presentation and communication skills
- a flexible and adaptable approach to work
- organisation and time management skills

Career Prospects

Progressing in this career largely depends on the size, type and activity of your employer. For example, the company may wish to expand, increase its productivity or change/increase the range of products it manufactures. There are also opportunities to get involved in training, supervising and assessing the work of trainee systems engineers and engineering technicians. You're likely to take part in training courses designed to improve your people and team-building skills.

EXIT OPPORTUNITIES

Since the students of Aerospace Engineering are known to have a strong background in Mathematics they have various exit opportunities. They can join a finance company as an analyst. They can also join insurance companies. Students can also go for big data and data Analytics. Also, depending on the computational skills they have mastered they can go for those jobs where these skills are required. After gaining a lot of knowledge of this field the students can join consultancy firms too.

COMPANIES & SALARY PACKAGE

- Hindustan Aeronautics Limited (HAL)
- Defense Research and Development Laboratories (DRDO)
- Indian Space Research Organization (ISRO)
- Civil Aviation Department
- Air India
- Tata Advanced Systems
- Mahindra Aerospace
- Taneja Aerospace
- L&T
- Samtel Avionics
- Pawan Hans Helicopters
- Aeronautical Development Agency (ADA)



- Aeronautical Development Establishment (ADE)
- National Aerospace Laboratories (NAL)



COMPANY	PACKAGE OFFERED
Airbus	10-15 lpa*
Boeing	10-15 lpa*

*According to the IIT Bombay Placement Statistics 19-20



CIVIL Engineering



Civil engineering has a vast scope of applications in addition to the core construction field. Any industry that is involved in the creation of sustainable infrastructure like oil and energy, chemicals, transportation, power, environmental and marine, need the help of civil engineers to create safe build environments.

JOB PROFILES

CONSULTING CIVIL ENGINEER

Responsibilities

As a consulting civil engineer, you'll need to:

- undertake technical and feasibility studies and site investigations
- develop detailed designs
- assess the potential risks of specific projects, as well as undertake risk management in specialist roles
- supervise tendering procedures and put together proposals
- manage, supervise and visit contractors on site and advise on civil engineering issues
- oversee the work of junior staff, or mentor civil engineers throughout the chartership process
- communicate and liaise effectively with colleagues and architects, subcontractors, contracting civil engineers, consultants, co-workers and clients
- think both creatively and logically to resolve design and development problems
- manage budgets and other project resources
- use computer-aided design (CAD) packages for designing projects

What To Expect

• While the job involves a lot of office-based activities, it also requires frequent visits to sites, particularly for new graduates. Some roles demand more attendance on site than others. The site can be based at long distances from the office and conditions can be cold, messy and unpleasant.

- It may be possible to set up your own consultancy firm after many years of proven professional experience.
- Overnight and weekend stays may be required for site inspections.

Career Prospects

Generally, you'll begin your career at graduate engineer level and progress to senior engineer level, once chartership has been achieved. After which, with further experience, you may advance to the position of principal engineer. You may find that your career prospects are negatively affected if you do not gain chartered status.

Some employers offer the flexibility to choose a specialist area of work. To progress at a fast pace, geographical mobility is useful. If you work for a large, multinational company you can usually find opportunities to work overseas.

CONTRACTING CIVIL ENGINEER

Responsibilities

As a contracting civil engineer, you'll need to:

- liaise and work jointly with the design team (consulting engineers) to implement refinements
- negotiate modifications with architects and consulting engineers
- deal skillfully with a diverse range of people including clients, architects, other engineering professionals, sub-contractors and members of the public
- take responsibility for health and safety on site
- supervise construction and ensure quality of workmanship
- provide appropriate plans for construction and monitor the provision of materials
- liaise with and direct the sub-contractors employed on the project
- find solutions to overcome unforeseen construction difficulties
- schedule and adjust each stage of the project to meet time and budget targets

What To Expect

- As a contracting civil engineer you should expect to work outdoors in all weather conditions.
- Hard hats and other safety equipment must be worn while on site, and there is a very strong health and safety culture.
- The work is challenging, demanding and pressured, but with considerable variety and job satisfaction.
- Travel within a working day and absence from home overnight is frequent and extended periods away from home may sometimes be necessary.

Career Prospects

Large contractors prefer graduates to have overall experience of the whole contract process, in conjunction with institution training schemes.

As you progress towards incorporated or chartered status, you'll take on more responsibility and have the opportunity to move into site manager positions. Site careers can lead to responsibility for major projects (£25million+). Progression is then to contracts manager or company director. Office-based career prospects also exist.

A more usual pattern in the civil engineering profession is to gain at least three years' experience. Following this, engineers can go on to specialise in specific fields while still being regarded as civil engineers. Areas include:

- coastal and marine
- environmental or water engineering
- geotechnics
- highways and transportation
- soil mechanics

DESIGN ENGINEER

As a design engineer you're involved in the initial concept, design, development and management of projects in a range of sectors such as construction and the built environment, materials, software, components, machinery and vehicles.

Responsibilities

As a design engineer, you'll be required to:

- liaise with clients to identify their requirements
- investigate and undertake analysis on how to improve existing projects or components
- summarise scientific and engineering principles in an easy to understand manner
- write technical reports to summarise findings
- cover the concept, specification, tender and development of new projects or components
- design the aesthetics, materials and functionality of components
- use CAD, CAN and CAM systems to design and visualise projects
- identify new systems and processes to drive quality, efficiency and save costs
- undertake complex calculations

What To Expect

- Design work is typically office based, however you'll go on visits to meet clients. Site and plant visits will also be required (depending on your engineering specialism).
- Dress code is professional when based in the office and meeting with clients. If visiting a construction site or production plant, a hard hat, overalls and other personal protective equipment will need to be worn.
- Design and consulting work is to client deadlines, so at times you'll be required to work extra hours to meet these.
- Work opportunities are available worldwide. If working for international organisations, there may be opportunities to travel.

Career Prospects

Many graduates enter the design engineering professions via a structured graduate training programme. This will provide experience working in a range of areas that will support working towards becoming fully chartered. There's no fixed career path for design engineers, and the time it takes to work towards chartership is down to the individual.

During your undergraduate degree (or other training), you may have already chosen a specialist area of engineering in which you would like your career to develop. Undertaking further qualifications and CPD in specialist areas can help improve job prospects.

With experience you may become a senior design engineer. Later in your career you may progress into team leadership, project management, consulting and management roles.

SITE ENGINEER

As a site engineer, your input to construction projects will be technical, organisational and supervisory. You'll set out and determine the location for infrastructural installations, both above and below ground, and will apply designs and plans to mark out the site.

Responsibilities

As a site engineer, you'll need to:

- act as the main technical adviser on a construction site for subcontractors, craftspeople and operatives
- set out, level and survey the site
- check plans, drawings and quantities for accuracy of calculations
- ensure that all materials used and work performed are in accordance with the specifications
- manage, monitor and interpret the contract design documents supplied by the client or architect
- communicate with clients and their representatives (architects, engineers and surveyors), including attending regular meetings to keep them informed of progress

- carry out day-to-day management of the site, including supervising and monitoring the site labour force and the work of any subcontractors this is site-specific and may not be the case on all projects
- plan the work and efficiently organise the plant and site facilities in order to meet agreed deadlines

What To Expect

- You'll be both on site and office based. Site visits and inspections are conducted outside in all weathers and office facilities may be located in temporary buildings or converted premises.
- Self-employment or freelance work is possible, especially once you gain experience and chartership.
- There are opportunities to work overseas for experienced engineers.
- A reasonable level of fitness and mobility is required, as the work can be physically demanding. Site inspections may involve climbing ladders or visiting areas of sites where access is difficult. Appropriate safety equipment, such as protective boots and headgear must be worn on site.

Career Prospects

If you begin your career on a graduate training scheme, this will usually last two years. Following this, you may move on to manage your own projects or work as assistant site engineer. You may find relocation necessary in order to progress and this may also involve a change of employer. Complex projects may involve posts for assistant site engineers as well as site engineers.

The general route of advancement is:

- site engineer
- senior engineer
- site manager
- project manager
- contracts manager.

With experience, there may be opportunities abroad, as the big civil and structural engineering construction companies operate throughout the world. The developing world has provided

opportunities due to population growth and tourism. New-build projects include housing, commercial building and transport infrastructure.

SKILLS REQUIRED

Decent CPI with thorough knowledge on courses relevant to the applied profile will fetch the job easily. Students are expected to be sound in fundamentals of structural analysis, basics of steel design and RCC design, concrete technology and geotechnical engineering. A lot of emphasis is laid on the work done during the Industrial training and you are expected to answer every question relating to your B.Tech/Dual Degree Project. The skill sets largely depend on the profile being offered by the company.

Employers place great importance on experience, and it'll give you an insight into the working practices of an engineering firm.

If your course doesn't include an industrial placement, look for relevant summer internships and placements. Any kind of role in a construction or civil engineering setting will allow you to build your understanding of issues related to the planning and execution of projects. Use this experience to expand your knowledge and to develop contacts and network.

Casual, hands-on construction work and administrative jobs may be available, but many employers offer structured work experience opportunities.

GROWTH OPPORTUNITIES

On an average, takes 3 years for each level of promotion. The salary hike would be good with experience. There are many alumni who are in very respectable positions currently, working as heads in reputed firms. Experience is all that matters in Civil Engineering profiles.

EXIT OPPORTUNITIES

Few companies don't ask for a bond and employees are free to leave (Ex: Deloitte). One can have wide opportunities like IES, GRE for higher studies, opening own firms etc. Since the department has many subdivisions, the exit opportunities are quite open into diversified fields. Transportation and Hydraulic engineering students can get into programming profiles later. Construction Managers can



enter into finance profiles. There is scope for entrepreneurship in almost all the fields. Students even prepare for IAS, IES etc. Higher studies is always an open option as well.

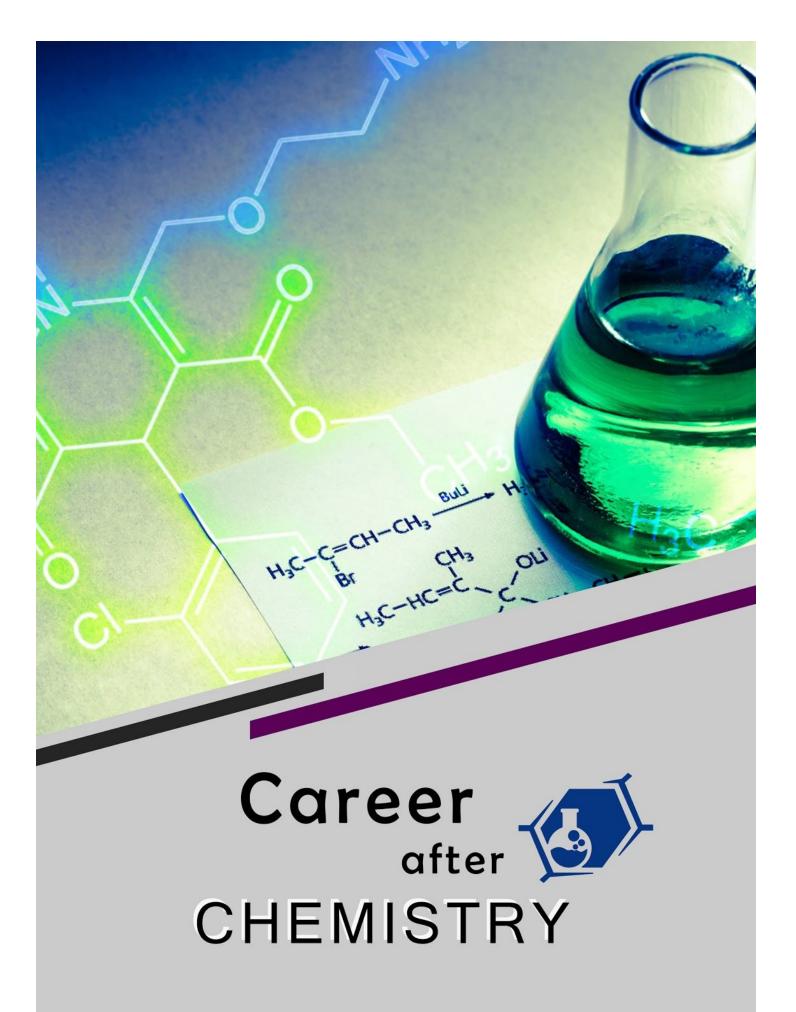
COMPANIES & SALARY PACKAGE





COMPANY	PACKAGE OFFERED
ТАТА	15-20 lpa*
Ramboll	6-10 lpa*
Larsen & Toubro	6-10 lpa*

*According to the IIT Bombay Placement Statistics 19-20



CHEMISTRY

Studying chemistry opens doors to a range of sectors and opportunities, meaning your future career isn't restricted to the lab. Chemistry is oftentimes considered the "central science" because it is often used to link physical sciences (chemistry being one) and the life sciences.

JOB PROFILES

ACADEMIC RESEARCHER

Job Description

As an academic researcher you'll apply your expertise and skills developed through study and research. You'll aim to publish papers on your work in peer-reviewed, well-respected journals and will write reports, books or chapters of books on your specialist area of knowledge.

Responsibilities

As an academic researcher, you'll need to:

- carry out original, high-level individual and collaborative research with other team members
- organise your own time and budget effectively, including for off-site and overseas visits
- analyse large sets of data and information, drawing relevant conclusions
- work to deadlines as required by fund or grant holder
- prepare and deliver presentations at national and international conferences to large audiences
- prepare and write high quality papers for submission to peer-reviewed journals and conference proceedings
- participate in group meetings with other researchers and support staff
- apply for sources of external funding in addition to that provided by your employer
- undertake thorough and comprehensive literature reviews
- teach undergraduate and postgraduate students

What To Expect

- High-quality research output is a key factor in the assessment of higher education institutions, in terms of attracting and being awarded future funding. This role is almost unique in that it allows you to develop your knowledge in an area that you're genuinely interested in and passionate about, while progressing public understanding and benefit. However, you'll be under intense pressure to publish, to demonstrate your worth to the department and contribute to its ongoing success. When applying for new roles or promotions your research output will be scrutinised carefully.
- Working environment will vary depending on your specialist area, especially while completing fieldwork. It could involve working in noisy, dirty and potentially dangerous environments, and will involve some travel around the UK and potentially overseas.

Career Prospects

Delivering positive outcomes in early roles in this career area will give you the best chance of long-term success. This requires strong performance while you:

- write and publish research papers in high-quality, peer-reviewed journals in line with departmental targets
- present at conferences, lectures and other teaching responsibilities
- contribute to writing bids and applications for research funding
- develop collaborative relationships with staff at other institutions.

Taking on additional responsibility, along with being a supportive and enthusiastic colleague, will also help. As you progress you'll gain more leadership and strategic responsibilities, so take any opportunities that allow you to demonstrate and develop these skills.



Job Description

You'll need a strong science-based degree along with goand an eye for detail to become an analytical chemist

Responsibilities

As an analytical chemist your tasks can vary, but you'll typically need to:

- analyse samples from various sources to provide information on compounds or quantities of compounds present
- use analytical techniques and instrumentation, such as gas and high performance liquid chromatography (HPLC), ion chromatography, electrochromatography and spectroscopy (infrared and ultraviolet, amongst others)
- interpret data and meet strict guidelines on documentation when recording data
- report scientific results
- develop techniques for the analysis of drug products and chemicals
- work collaboratively in cross-functional teams

What To Expect

- Working in multidisciplinary teams is common, as is communicating with scientists and customers from both within and outside the company.
- At the start of your career, it's likely you'll be predominantly lab-based but as you reach more senior levels you'll work more in an office.
- Jobs are widely available throughout the country and tend to be in large, localised centres. Research and development (R&D) work can be more commonly found in south England.
- You May Find The Work Occasionally Stressful Due To Tight Deadlines And Pressure To Solve Problems As Quickly As Possible. Routine Analysis Can Involve Doing The Same Job For Long Periods Of Time, Although This Is Less Likely At More Senior Levels.

Career Prospects

Progression to more senior grades depends on your ability and experience and involves taking on increasing responsibility. Getting a higher qualification, such as a PhD, is a common route into senior roles.

It can be beneficial to become a member of the RSC as its careers service offers support throughout your career, providing information, advice and guidance on all aspects of career planning and the job-seeking process. This includes developing or changing careers.

BIOTECHNOLOGIST

Job Description

As a biotechnologist you'll study the genetic, chemical and physical attributes of cells, tissues and organisms in order to develop new technologies, processes and products that will improve the quality of human life.

The role involves manipulating living organisms or their components to design or enhance vaccines, medicines, energy efficiency or food productivity and safety.

Responsibilities

The amount of responsibility you'll have will depend on your level of seniority within your specific discipline and the type of company you work for.

However, you'll typically need to:

- create, conduct and monitor experiments using live organisms or biomolecular processes in a laboratory setting to solve problems, improve processes and develop new products
- use scientific knowledge to follow different methodologies to achieve results
- perform data analysis on your experiments and interpret findings to support scientific investigations
- record and disseminate results accurately in reports and via presentations

What To Expect

- Work is often carried out in modern laboratories at hospitals, industrial lab units, factories or universities. You'll typically be working in sterile conditions and will need to wear protective clothing, such as a lab coat and safety glasses.
- You'll usually conduct experiments individually but will sometimes work collaboratively to achieve a common goal. Sharing information with your supervisor and colleagues is typical, and you may also need to attend conference calls or international conferences and produce research papers.
- You may need to travel to enhance your knowledge and understanding of a specific technique or procedure.

Career Prospects

It's possible with experience to progress to a senior scientist position or into a supervisory or consultancy position. Opportunities for career progression vary depending on the type and size of company you work for, your area of specialism and your qualifications and skills.

There may be opportunities to move into another area of an organisation, for example in business development, production, information and data technology, or into a regulatory role. Alternatively, some biotechnologists move into related careers such as scientific writing and journalism, or into quality assurance management, sales and marketing.

NANOTECHNOLOGIST

Job Description

Nanotechnologists manipulate matter on the nanoscale (one billionth of a metre), developing new materials and equipment as well as drugs and diagnostic tools. Nanotechnology encompasses science, physics, chemistry, biology, engineering and computer science.

Responsibilities

Work is usually laboratory based, but its exact nature can depend on whether you work in industry or academia. The responsibilities in both lines of work are often the same and you'll need to:

- plan and conduct experiments to investigate and analyse nano-scale systems
- operate, or design and construct, complex instrumentation
- extrapolate data to develop theories to explain experimental results
- arrange the testing of products or materials
- develop new products and ways of applying new methodology
- collaborate with other scientists, often including those from other disciplines
- disseminate new findings at departmental, institutional or national meetings and conferences, including presenting to a variety of audiences

What To Expect

- As a nanotechnologist you'll be mostly based in the lab, but may need to work in other settings depending on the nature of your current project.
- Some research can involve working with dangerous or toxic materials under strict safety protocols.
- Jobs are widely available across the UK, but posts related to specialist research may be limited to fewer institutions. There may be opportunities to work abroad in particular specialisms, so a willingness to work abroad, at least for limited periods, may increase your prospects.

Career Prospects

Career structures vary with each employer, but career paths tend to be well-defined in all sectors and are dependent on achieving research goals.

In academic research, a PhD is usually followed by one or more short-term postdoctoral research contracts of up to three years in length. Academic promotion depends on research achievement, which is measured by the quality and quantity of original papers published.

Progress is then to a lectureship and ultimately to a professor post with management responsibilities. However, this is only possible if you're successful in securing funding for your own research project and group.

CLINICAL SCIENTIST, BIOCHEMISTRY

Job Description

As a clinical scientist working in biochemistry you'll analyse samples taken from patients' blood, urine or other bodily fluids to help with the diagnosis, management and treatment of diseases.

Responsibilities

As a clinical scientist working in biochemistry you'll need to:

- plan and organise work in clinical biochemistry laboratories, much of which is automated and computer assisted
- carry out analyses on specimens of body fluids and tissues
- identify and resolve any poor analytical performance problems
- develop new and existing tests, which can involve significant manual expertise
- liaise with clinical and healthcare staff, and have some contact with patients
- apply your clinical biochemistry skills to prevent disease and keep patients healthy.

What To Expect

- Work usually takes place in a hospital laboratory, although you may also be based at the point of care, for example in clinics and operating theatres.
- You'll work as part of a team with other healthcare professionals such as pathologists, biomedical scientists and other clinicians, including GPs.
- Jobs are available in most areas of the UK, particularly in large and medium-sized hospitals. During training, there's an opportunity to experience work in a variety of different hospital laboratories.
- As more laboratories merge, you may have to travel between hospitals, but you won't usually need to stay away overnight.

Career Prospects

Once qualified, you can progress through the grades by gaining experience and completing further study and research. Promotion is based on merit and you may need to move to other hospitals to make the most of available opportunities.

As your career progresses you can specialise in a particular area such as endocrinology, toxicology, immunology or molecular biology or move into management, research or teaching. With experience, you're likely to take on a more supervisory role with responsibility for the work of the laboratory.

Progression to consultant and then deputy head or head of department involves further training and will carry responsibility for managing the whole laboratory and for advising the health authority on policy issues.

COMPANIES & SALARY PACKAGE



COMPANY	PACKAGE OFFERED
Dr. Reddy's	10-15 lpa*
Sekisui	Greater than 20 lpa*

*According to the IIT Bombay Placement Statistics 19-20



Career after CHEMICAL Engineering



CHEMICAL ENGINEERING

Chemical engineers use their analytical skills and aptitude for chemistry when working with ground-breaking technologies to enhance people's lives.

Chemical engineering is all about changing raw materials into useful products such as clothes, food and drink, and energy. Chemical engineers focus on processes and products – they develop and design processes to create products; either focussing on improving existing processes or creating new ones. This means that they are also concerned with managing resources, protecting the environment and health and safety. Chemical engineers are sometimes called 'universal engineers' because it is such a broad discipline - they are essentially concerned with transforming one thing into another.

Enlisting below the job profiles encompassing Chemical Engineering:

JOB PROFILES

CHEMICAL ENGINEER

As a chemical engineer, you'll be involved in the design and development of a diverse range of products. Your work will focus on changing the chemical, biochemical and physical state of a substance to turn it into something else, such as making plastic from oil. You'll need to understand how to alter raw materials into required products, while taking into consideration health and safety and cost issues.

Responsibilities

Your daily activities will be extremely diverse and largely depend on the role and the sector in which you work. However, you'll generally need to:

• work closely with process chemists and control engineers to ensure the process plant is set up to provide maximum output levels and efficient running of the production facility

- design plant and equipment configuration so that they can be readily adapted to suit the product range and the process technologies involved, taking environmental and economic aspects into account
- set up scale-up and scale-down processes, including making appropriate changes, to equipment design and configuration
- research new products from trial through to commercialisation and improve product lines
- ensure that potential safety issues related to the project operator, the environment, the process and the product are considered at all stages.

Skills

You'll need to have:

- project management skills
- resource management skills
- oral and written communication skills
- analytical and problem-solving ability

Career Prospects

Initially, you'll gain experience from a variety of projects, either within the same company or, after gaining chartership, by changing companies. After training in the early years, there are various possible career routes available. For example, you can:

- continue working on projects in order to become a project manager
- develop expertise in a new technique or process in demand within the industry and move into research and development
- move into specialist roles, such as safety and risk management or environmental management
- move into commercial areas, such as technical sales, marketing, supply chain management, personnel, finance and IT.

PRODUCT/PROCESS DEVELOPMENT SCIENTIST:

Manufacturing companies need development scientists to understand and control the processes used to make a diverse range of products, including food, medicine, cosmetics and paint.

Development science is divided into two roles - process and product development.

Working as a scientist in process development, you'll aim to optimise the performance of manufacturing systems. You'll do this by identifying and developing new processes for product manufacture, and implementing process controls to ensure the products are of a high quality and produced in a way that can be accurately replicated.

Responsibilities

- plan, carry out and supervise process trials in laboratories, pilot plants or factories
- scale up the production process via plant trials, making changes to raw materials or components, and process parameters to ensure quality is maintained during large-scale production
- improve yields by reducing costs, e.g. investigating alternative materials or new machinery to improve efficiency and quality in bottleneck areas
- devise test methods to assess the production process
- formulate and establish product design and performance objectives, normally in consultation with other functions, including research, marketing and production, as well as contractors, suppliers and customers

Skills

- excellent organisational skills and the ability to work on several tasks or projects concurrently
- commercial acumen and an awareness of the business value of work undertaken
- presentation skills for presenting ideas and findings to colleagues and customers

Career Prospects

Undertaking training and other development activities will help you gain knowledge and keep up to date with best practice and technological advances. You may develop a specific technical specialism or become a specialist in a particular industrial sector. There are opportunities to move into other production or research and development roles.

ACADEMIC RESEARCHER

As an academic researcher you'll apply your expertise and skills developed through study and research. You'll aim to publish papers on your work in peer-reviewed, well-respected journals and will write reports, books or chapters of books on your specialist area of knowledge.

Responsibilities

- carry out original, high-level individual and collaborative research with other team members
- organise your own time and budget effectively, including for off-site and overseas visits
- analyse large sets of data and information, drawing relevant conclusions
- work to deadlines as required by fund or grant holder
- prepare and deliver presentations at national and international conferences to large audiences
- undertake thorough and comprehensive literature reviews
- teach undergraduate and postgraduate students

Skills

- a high level of intellectual ability, to plan and carry out research
- technical aptitude, to learn how to use new equipment and emerging technology
- interpersonal skills, to develop strong working relationships and trust with a broad range of people to foster productive collaborations and future partnerships
- concise and meaningful high level written communication skills for publishing work, conference proceedings and funding bids
- strong IT skills including the use of Microsoft Office, and for some areas excellent data analysis and statistical knowledge

- excellent verbal communication skills, to present ideas and conclusions in lectures and presentations
- flexibility and resilience, to keep going when research doesn't generate results in the expected timescale.

Career Prospects

Delivering positive outcomes in early roles in this career area will give you the best chance of long-term success. This requires strong performance while you:

- write and publish research papers in high-quality, peer-reviewed journals in line with departmental targets
- present at conferences, lectures and other teaching responsibilities
- contribute to writing bids and applications for research funding
- develop collaborative relationships with staff at other institutions.

Taking on additional responsibility, along with being a supportive and enthusiastic colleague, will also help. As you progress you'll gain more leadership and strategic responsibilities, so taking any opportunities that allow you to demonstrate and develop these skills is advisable.

PLANT MANAGER

The roles and responsibilities of a Plant Manager include overseeing projects and the daily operations of the company's manufacturing or processing plants. The plant manager is also in charge of managing employees for productivity and safety. Some employers will assign one Plant Manager to one location; other companies assign their Plant Managers to certain departments such as Production or Processing Units.

Responsibilities

- Expect to be assigned work related to employees scheduling work and assigning the right workers to certain tasks.
- Recruiting new workers and training them.

- Ensure the safety of the entire operation and the employees involved.
- It is also the duty of the Plant Manager to do the final check-up of products before they are shipped to buyers.
- The plant manager has to provide a report to superiors.

Skills

- A Plant Manager has to have leadership skills and attention to detail to make every operation a success.
- Interpersonal skills are needed as well because a Plant Manager has to communicate with other people like employees and managers from other departments.
- Must also be able to solve problems with or without pressure.
- Problem-solving requires other skills like quick decision making and being able to confront if needed.
- Other than soft skills, a plant manager also needs to qualify academically.

Career Prospects

Plant managers usually get where they are through seniority and a good work ethic. Some managers start off managing one specific department, and gradually take on the responsibility of more and more departments before they are promoted as the main supervisor in charge of the plant or factory as a whole. As long as factories and plants are running, there will be a need for plant managers and supervisors. However, factory and manufacturing jobs have been slowly declining over the past several years, so the opportunity for management positions to open up has been decreasing. The industry for which a factory works affects whether or not the industry will die, stay steady or increase. Some plants provide job security to their employees through Union benefits and allowing them to become a Union worker.

RESEARCH & DEVELOPMENT

Chemical engineers in research and development (R&D) are responsible for researching, developing, and applying necessary chemical processes to create a wide range of items for both commercial and industrial uses. Most jobs in this field focus on researching and developing chemicals, as well as methods for producing and testing them, and using industry-specific software tools to judge the quality of methods and results of chemical development.

Responsibilities

- Oversee the production environment, and track metrics like temperature, flow rate, and electricity usage.
- Propose, design, and oversee solutions for chemical process issues.
- Optimize day-to-day processes while considering environmental and supply variables.
- Maintain engineering documentation, with emphasis on compliance with engineering codes and standards.

Skills

- the intellectual ability to understand and analyse complex problems
- tenacity and patience for developing research projects
- excellent oral and written communication skills
- great attention to detail
- independent thinking
- commercial awareness
- the ability to make quick decisions
- flexibility in order to adapt quickly to changing market needs or develop original solutions.

Career Prospects

As they gain experience, chemical engineers may advance into management or other roles in which they take on more responsibilities, including employee development, maintaining legal safety and health requirements, and following standards in place for environmental protection. While many, if not most, entering the field receive some level of training from their employers, a bachelor's degree in chemistry or chemical/process engineering may be required for this position, and some employers may prefer those who have a master's degree.

OTHER PROFILES

Operations Manager

An Operations Manager directs the organization in its production – whether it is services or products. His job may vary from one employer to another on a specific level. But on a general level, an Operations Manager acts as the coordinator between his department to other departments as well as between his employees and superiors, such as C-level Executives and Shareholders.

Other roles that an Operations Manager will be tasked to do include, but not limited to; creating plans in case of changes, controlling organizational changes as much as possible, taking charge of quality assurance flow and structure, doing research on alternative and efficient production methods, including new technologies, budgeting and accounting, and managing inventory, the design of the facility, and the production of goods.

In some companies, the Operations Manager is required to work full time during business hours. Some companies would require overtime, while others don't.

Quality Manager

Quality Managers ensure that all company products and services meet quality standards before they go to market. Their primary responsibilities include understanding customer expectations and needs, outlining quality standards and developing quality control processes.

Production Manager

The main role of a Production Manager is to oversee the manufacturing process within a company and to ensure that production lines run without any problems and minimum downtime. Working together with supervisors and top management, they also ensure that products are manufactured to a certain quality standard and adheres to other safety/industry-related regulations.

Mining Engineer

Mining engineers plan mining operations and design underground and surface mines. They also design mining equipment and supervise technicians and workers who use it. Most mining engineers work for firms in the coal and metal industries. Some specialize in just one of these industries. Engineers can work for companies that make mining equipment. Others work for government agencies that regulate the mining industry.

Materials Engineer

Materials engineers design and create new materials and the processing technology to produce those materials. Job duties include analyzing materials and data, conducting tests, troubleshooting, monitoring performance, ensuring quality control and creating documentation.

Manufacturing Engineer

Evaluates manufacturing processes by designing and conducting research programs; applying knowledge of product design, fabrication, assembly, tooling, and materials; conferring with equipment vendors; soliciting observations from operators.

Environmental Engineer

Design projects leading to environmental protection, such as water reclamation facilities, air pollution control systems, and operations that convert waste to energy. Obtain, update, and maintain plans, permits, and standard operating procedures.

Energy Manager

An Energy Manager monitors and manages the energy efficiency of a facility or organization. They implement conservation measures, monitor energy consumption, assess business decisions for sustainability and seek out opportunities for increasing energy efficiency.

Analytical Chemist

Analytical chemists typically work in laboratories, where they operate and maintain instruments such as spectrometry and chromatography. They perform tests and other procedures on compounds to discern their nature. They design the procedures they employ and create reports on their results.

Petroleum Engineer

Petroleum engineers typically do the following: Design equipment to extract oil and gas in the most profitable way. Develop ways to inject water, chemicals, gases, or steam into an oil reserve to force out more of the oil. Develop plans to drill in oil and gas fields, and then to recover the oil and gas.

Nuclear Engineer

Nuclear engineers typically do the following: Design or develop nuclear equipment, such as reactor cores, radiation shielding, and associated instrumentation. Direct operating or maintenance activities of operational nuclear power plants to ensure that they meet safety standards.



EXIT OPPORTUNITIES

Chemical engineering being a versatile branch has a lot of exit opportunities, both in core and non-core sectors. Chemical Engineers get absorbed in a wide range of industries and find several exit options. Core opportunities in industries like Oil & Gas, Petrochemical, FMCG (Fast Moving Consumer Goods), Pharmaceuticals, Cement, etc.

Non-core sector jobs like analytics, consulting and coding are a good exit option apart from management. Over the years a lot of students have also been recruited by non-core sector companies like Boston Consulting Group, McKinsey & Company, American Express, Deutsche Bank, Credit Suisse etc.

COMPANIES & SALARY PACKAGE

Hiring industries can be classified based on what they focus on-

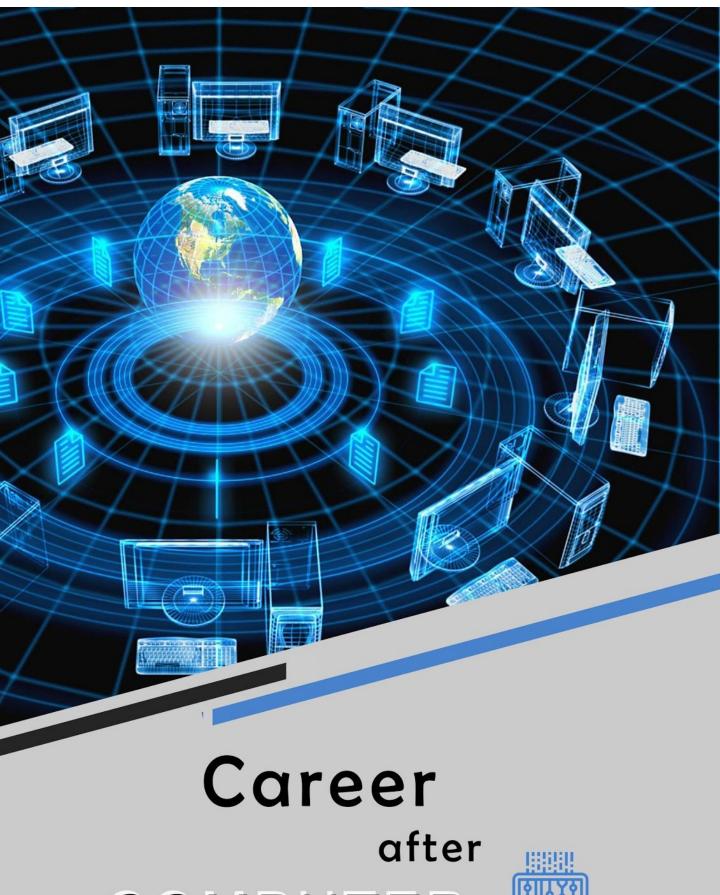
- 1) Petrochemicals
- 2) Base Chemicals
- 3) Intermediate Chemicals
- 4) Fine and Speciality Chemicals

Reliance, Shell, ONGC, IOCL, HPCL, BPCL, Alkyl Amines, Atul, DRL, Piramal, SunPharma, Alkem, Atul, UPL, GNFC, Nirma, GIPCL, Deepak Nitrite, Deepak Phenolics, JB are some of the leading hiring brands in India.



COMPANY	PACKAGE OFFERED	
Piramal	15-20 lpa*	
ITC	Greater than 20 lpa*	
HUL	Greater than 20 lpa*	

*According to the IIT Bombay Placement Statistics 19-20



COMPUTER Science



Computer science underpins our Facebook pages, controls air traffic around the world, and ensures that we will not be too surprised when it snows. It has been applied in algebra, car manufacturing, laser surgery, banking, gastronomy, astronomy and astrology. Indeed, it is hard to find an area of life that has not been fundamentally changed and enhanced by its application. As a student of the CSE discipline you get to choose from a wide range of areas to specialize in and by no means are you confined to the norms associated with your area as it has been proven again and again you are limited only by your imagination.

From games developer to manager of IT and communications services, you'll have a range of opportunities open to you as a computer science graduate

JOB PROFILES

SOFTWARE ENGINEER:

Job Description

As a software engineer, you'll work in a constantly evolving environment, due to technological advances and the strategic direction of the organization you work for. You'll create, maintain, audit and improve systems to meet particular needs, often as advised by a systems analyst or architect, testing both hard and software systems to diagnose and resolve system faults.

The role also covers writing diagnostic programs and designing and writing code for operating systems and software to ensure efficiency. Software engineers also manage the support systems required to effectively run an organization, the role can also require you to communicate effectively and translate the needs of different teams into systems developments.

Responsibilities:

As a software engineer, you'll need to:

• write and test code, refining and rewriting it as necessary and communicate with any programmers involved in the project

- consult clients and colleagues concerning the maintenance and performance of software systems, with a view to writing or modifying current operating systems
- write systems to control the scheduling of jobs or to control the access allowed to users or remote systems
- develop existing programs by analyzing and identifying areas for modification

Career Prospects

An entry-level post typically involves working under supervision, formulating the scope of, and objectives, for systems and designing code. After around three years, you may progress to preparing detailed specifications from which programs may be written and be competent to work at the highest technical level.

Progression is mainly into management via team leadership and project management roles, or to designer/consultant via technical specialization.

WEB DEVELOPER

Job Description

Your primary task as a web developer will be to create reliable and high-performing applications and services, which can be accessed over the internet. Focusing solely on the underlying software and databases (known as the 'back end') is most common, however, some web developers work on the interface and visual design (the 'front end'), while others combine both ('full-stack development').

Responsibilities

As a web developer, you'll need to:

- Write code in one or more programming or scripting languages, such as PHP or JavaScript
- test sites and applications in different browsers and environments
- build and test Application Program Interfaces for applications to exchange data
- design information architecture within an application or website

Career Prospects

- Having usually started your agency or tech organization career as a junior or entry-level developer, you'll generally progress to a senior or mid-level developer role after around five years. As a senior developer, you'll usually work on more significant projects, manage one or two junior developers.
- After ten or more years, the next step is to lead the developer, technical lead or head of development. At this level you'll usually do less coding work and will manage a team of web developers and contribute to the organization's technical strategy and goals.
- After this, you could move into a senior or even board-level position, for example chief technical officer (CTO) or technology vice president.
- Some organizations hire very experienced and reputable web developers known as 'evangelists'. Acting as an ambassador, they promote and train people in the use of a new technology or systems developed by the organization.

APPLICATIONS DEVELOPER

Job Description

As an applications developer you'll translate software requirements into workable programming code and maintain and develop programs for use in business.

You'll usually work within a specific development field, such as mobile phone applications, accounting software, office suites or graphics software, and will have in-depth knowledge of at least one computer language.

Responsibilities

As an application developer, you'll need to:

- establish a detailed program specification through discussion with clients
- write the program to do this you'll break down program specification into its simplest elements and translate this logic into a programming language

• write detailed documentation for the operation of the program by users and computer operators

Career Prospects

- As a graduate it's common to start with programming work, as it enables you to gain experience in systems analysis or systems design.
- In large organizations, you may be promoted to a senior application developer and be given supervisory responsibilities. With more business experience, you may move into systems analysis, or be promoted to an applications manager position.
- It's possible to move into project management, replacing your detailed perspective with an overview, and take on responsibility for supervising teams of programmers and for the overall design and specification of a project.

IT CONSULTANT

Job Description

Your role as an IT consultant will be to work in partnership with clients, advising them, how to use information technology in order to meet their business objectives or overcome problems. You'll work to improve the structure and efficiency of IT systems in various organizations.

You'll provide strategic guidance to clients with regard to technology and IT infrastructures and will enable major business processes through enhancements to IT. You may also be called upon to provide guidance and technical expertise during other processes as well, such as selection and procurement and user training and feedback.

Responsibilities

As an IT Consultant, you'll need to:

- clarify a client's system specifications, understand their work practices and the nature of their business
- analyze IT requirements within companies and give independent and objective advice on the use of IT

• be involved in sales and support, and where appropriate, maintain contact with client organizations.

Career Prospects

Most large consultancies have an established career structure for their staff, with frequent appraisals and an emphasis on individuals managing their own careers. Typically you might move to a more strategic role with team leadership and responsibility.

Once you gain generalist experience, you may want to specialize in a sector or a program such as SAP or Oracle.

Other ways to progress include developing specific technical expertise, possibly contributing at national and international technical conferences or moving into a more strategic business direction, either for a company or a management consultancy firm.

DATA ANALYST

Job Description

Data analysts are in high demand across all sectors, such as finance, consulting, manufacturing, pharmaceuticals, government and education.

The ability to pay attention to detail, communicate well and be highly organized are essential skills for data analysts. They not only need to understand the data but be able to provide insight and analysis through clear visual, written and verbal communication.

Responsibilities:

As a data analyst, you'll need to:

- develop records management processes and policies
- identify, evaluate and implement external services and tools to support data validation and cleansing
- prepare reports for internal and external audiences using business analytics reporting tools

• mine and analyze large datasets, draw valid inferences and present them successfully to management using a reporting tool.

Career Prospects:

- With experience, you could progress into a management role in a short space of time. Skilled analysts can also find roles in academic research or government advisory bodies.
- This demand for experienced analysts is only likely to grow in years to come, in international corporations. This is coupled with the fact that data specialists are required across multiple industries and domain types, including healthcare, manufacturing, education, media, retail and even real estate. Because of this, advancing in the role should be a fairly quick process.

MACHINE LEARNING ENGINEER

Job Description

As a machine learning engineer, working in this branch of artificial intelligence, you'll be responsible for creating programs and algorithms that enable machines to take actions without being directed.

A key feature of this work is that you're providing computers with the ability to learn automatically and improve from experience, without being programmed.

Responsibilities:

As a machine learning engineer, you'll need to:

- understand and use computer science fundamentals, including data structures, algorithms, computability and complexity, and computer architecture
- use data modeling and evaluation strategy to find patterns and predict unseen instances
- liaise with stakeholders to analyze business problems, clarify requirements and define the scope of the resolution needed
- analyze large, complex datasets to extract insights and decide on the appropriate technique

Career Prospects:

If you've studied this discipline, your skills will be in high demand across a variety of sectors.

There are opportunities for recent graduates in the field. Progressing to a senior level often involves managing a team. Large multinational technology companies may offer the best prospects for career progression and the highest salaries.

Ensuring your machine learning engineering skills are excellent is the best way to stand out and succeed in this career.

CYBER SECURITY ANALYST

Job Description

Cybersecurity analysts help to protect an organization by employing a range of technologies and processes to prevent, detect and manage cyber threats. This can include the protection of computers, data, networks, and programs.

Broadly, you can work in one of the following areas:

- consulting, offering advisory services to clients
- working to protect the security of the organization you work for.

Responsibilities:

As a cybersecurity analyst, you'll need to:

- identify potential weaknesses and implement measures, such as firewalls and encryption
- monitor identity and access management, including monitoring for abuse of permissions by authorized system users
- maintain an information security risk register and assist with internal and external audits relating to information security
- Assist With The Creation, Maintenance, And Delivery Of Cybersecurity Awareness Training For A Colleague.

Career Prospects:

Cybersecurity is a fast-growing field and there is currently a skills shortage. Career prospects are good for people with the right combination of skills and experience.

You'll typically start in an entry-level or junior cybersecurity role. After building up several years of experience you could progress into roles such as senior cybersecurity analyst or consultant.

After significant experience in the field, you may be able to progress into higher-level leadership and managerial roles, eventually progressing to become a director or head of cybersecurity. Achieving relevant certifications is helpful for your development and progression as many employers specify these as role requirements.

EXIT OPPORTUNITIES

Exit opportunities are also many, because of the diversity of this sector. The knowledge of computers and programming could be employed in almost every field. Crossing between CS and Biotechnology is resulting in miracles, for instance. Many people with CS background are joining investment banks, which opens a whole new set of opportunities to start with. Management Skills coupled with CS background has innumerable opportunities in banking, consultancy, etc. With a CS background and a tech banking work history, one can pretty much go anywhere buy side-wise whether it be at a tech focused P/E shop, joining a VC as an associate, or working at a hedge fund covering tech. Enough experience can fetch top positions in budding startups. A good coding experience also many times leads to starting up companies. Most of the start-ups today are tech-based and hence coding knowledge can be very helpful. One could always become a tech writer, solutions engineer or a freelancer.

COMPANIES & SALARY PACKAGE











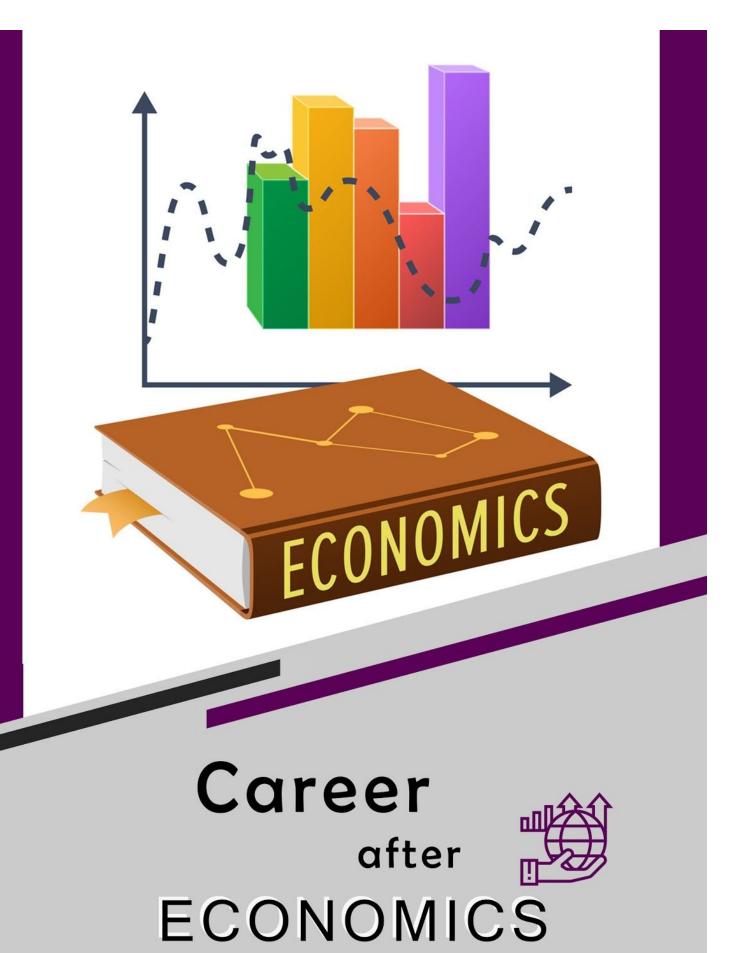




AIG	AirBNB	Alcatel-Lucent	Allianz
Amazon International	AMD	Apple	Asus
AT&T	Berkshire Hathaway	BOA	Chevron
Daimler	Delloite	Deutsche Bank	Deutsche Telecom
Dropbox	Electronic Arts	Ericsson	Ernst And Young
Facebook	Fujitsu	HDFC	HSBC
Huawei	InMobi	Mitsubishi Corp	Mitsubishi Financial
Morgan Stanley	NEC	Nestle	Nissan
Oracle Finance	Pega Systems Hyderabad	Pricewaterhousecoopers	Rakuten
Siemens	Softbank	Tower Research	Toyota Motors
Twitter	Uber	Ubisoft	UniCredit Group
United Technologies	Verizon	Volkswagen Group	Walmart
Walmart labs	Zenefits	Zomato	Zynga

COMPANY	PACKAGE OFFERED	
Google	Greater than 20 lpa*	
Apple	Greater than 20 lpa*	
Microsoft Greater than 20 lpa*		

*According to the IIT Bombay Placement Statistics 19-20





ECONOMICS

Economics is a social science that analyzes the production, distribution, and consumption of goods and services. An economics degree will boost your employability in many areas, regardless of the industry you work in. There is strong demand for highly numerate graduates throughout the global labor market, and the widely transferable analytical and problem-solving skills developed by economics students means that careers in economics are extremely wide ranging and diverse.

Below are a range of popular economics careers, with details on what to expect and the skills you'll need.

JOB PROFILES

DATA ANALYST

Job Description

Data analysts are in high demand across all sectors, such as finance, consulting, manufacturing, pharmaceuticals, government and education.

The ability to pay attention to detail, communicate well and be highly organized are essential skills for data analysts. They not only need to understand the data but be able to provide insight and analysis through clear visual, written and verbal communication.

Responsibilities:

As a data analyst, you'll need to:

- develop records management processes and policies
- identify, evaluate and implement external services and tools to support data validation and cleansing
- mine and analyze large datasets, draw valid inferences and present them successfully to management using a reporting tool.

Career Prospects

With experience, you could progress into a management role in a short space of time. Skilled analysts can also find roles in academic research or government advisory bodies.

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ACTUARIAL ANALYST

Job Description

As an actuarial analyst, you'll use statistical formulas to assess risk. In life insurance, for example, this could involve working out the average life expectancy of different demographics to determine the policy premiums each should be charged.

Analysts use specialist computational software and spreadsheets, so an interest in and aptitude for using IT is useful. You could work in various areas of the financial services industry and will often be engaged in a support role within an actuarial team.

Responsibilities:

As an actuarial analyst, you'll need to:

- understand and use complex mathematical formulas, particularly in the area of advanced statistics and modeling
- use spreadsheets or other specialist software to complete data analysis tasks
- provide technical support to a team of actuaries, producing statistical reports and analysis

Career Prospects

The skills and expertise of actuarial analysts are in demand as most of the work relates to a dynamic area of the financial services sector, notably pensions and life insurance. Those with highly developed numerical and analytical skills will find opportunities for graduate entry positions. The competition for these roles is fierce.

Undertaking the professional exams to become a fully qualified actuary provides the greatest opportunity for your development in the profession. From qualification, you'll be able to progress further into senior roles or consultancy work.

FINANCIAL RISK ANALYST

Job Description

Financial risk analysts identify and analyze the areas of potential risk threatening the assets, earning capacity or success of organizations in the industrial, commercial or public sector. As a financial risk analyst, you'll be responsible for predicting change and future trends, as well as forecasting cost to the organization

Financial institutions are required to manage market and credit risks daily. Risk analysts are therefore increasingly tasked with responsibilities touching all four key areas.

Responsibilities

The amount of responsibility you'll have will depend on your level of seniority within your specific discipline and the type of company you work for.

However, you'll typically need to:

- make recommendations to reduce or control risk, which may involve an insurance strategy
- analyze a bank's market position and running figures through complex modeling techniques to find value at risk (VAR) measurements

• use financial packages and software, including portfolio management software

Career Prospects

Risk is a growing area with good career prospects. Progression rates and routes vary according to the type and size of the employer you work for. There may be a more structured career route in large organizations with opportunities, for example, to move into a management role.

Corporate governance initiatives and a more restrictive and expensive insurance market have given risk analysts a higher profile within organizations. The importance of the role of risk professionals is increasingly being recognized, with risk managers gaining places at senior management level and as board members.

ECONOMIST

Job Description

As an economist, you'll carry out research and collect large amounts of information that can cover any aspect of economic and social policy, ranging from interest rates, taxation and employment levels to energy, health, transport, and international development.

You'll Analyze The Information Using Specialist Software And Advanced Methods In Statistical Analysis In Order To Produce Forecasts Of Economic Trends And Make Recommendations Of Ways To Improve Efficiency.

Responsibilities

As an economist, you'll need to:

- design methods and procedures for obtaining data
- create, as well as use, econometric and other financial modeling techniques to develop forecasts

• analyze and interpret the collected data to test the effectiveness of current policies, products or services and advise on the suitability of alternative courses of action and the allocation of scarce resources

Career Prospects

Career development for economists varies between organizations. Within the GES, for example, entry-level assistant economists on the fast stream program can expect to move between government departments to widen their experience. Promotion to the role of the economic adviser is based upon merit and generally occurs after gaining experience, usually three to four years after joining.

Major organizations offering graduate development programs, such as the Bank of England, encourage graduates to enhance their career development by moving between areas and roles to develop their skills and knowledge.

If you're joining the private sector, you may enter as an economic research officer or analyst before progressing to become an economic consultant or senior economist.

FORENSIC ACCOUNTANT

Job Description

As a forensic accountant, you'll utilize your accountancy skills to investigate financial discrepancies and inaccuracies such as fraudulent activity, financial misrepresentation or misconduct, and disputes.

The role involves the integration of accounting, auditing, and investigative skills. You will carry out meticulous investigations to uncover information, identify specific irregularities in financial documents and reports, quantify the exact losses and trace and recover illegitimate funds.

Responsibilities

As a forensic accountant you'll need to:

- extracting data from financial records
- performing forensic research to trace funds and identify assets for recovery

- conducting forensic analysis of financial data
- preparing forensic accounting reports from financial findings

Career Prospects

Forensic accounting is a niche area, and once in this role you've already chosen to specialize in an exciting and fast-paced field.

Options for progression to a more senior role within a team or department are often available, and you may be able to take management or team leadership responsibilities.

INVESTMENT ANALYST

Job Description

An investment analyst provides research and information to help traders, fund managers, and stockbrokers make decisions about investments. The information you provide ensures investment portfolios are well managed and that potential investment opportunities are highlighted.

Some analysts work for investment management companies, providing information to in-house fund managers; some analysts work for stockbrokers and investment banks, where their research is needed by portfolio managers or by clients who make their own investment decisions.

Responsibilities:

As an investment analyst, your tasks can vary, but you'll typically need to:

- conducting due diligence on companies and industries by researching, reading financial statements and market data
- analyzing financial information relating to specific companies, e.g. company results, profit and loss, balance sheet and cash flow statements to determine how an organization is positioned to deliver for investors
- considering how the economic implications of factors such as natural disasters, weather, and wars might affect the performance of companies and funds

- financial modeling and projection
- making recommendations to fund managers, being able to position ideas and articulate to the fund manager about the risk or payoff for each recommendation

Career Prospects:

Within the investment banking sector, new graduates tend to spend their first three years as analysts, after which the bank considers you for promotion to associate level. Progression within a company will depend upon its size. in small investment firms, sometimes known as boutiques, opportunities to develop may not always arise. An analyst may choose to apply to other firms to progress or develop new skills.

STATISTICIAN

Job Description

Statisticians are concerned with the collection, analysis, interpretation, and presentation of quantitative information.

As a statistician, you will design and manage experiments and surveys and deal with the initial collection of data. You'll process and analyze the data in context, looking for patterns to help make decisions. You will then advise on findings and recommend a strategy.

Strong analytical and IT skills are essential, as are interpersonal and communication skills in order to share findings with your colleagues and clients.

Responsibilities

As a statistician, you'll typically need to:

- consulting with clients and agreeing what data to collect and how it should be gathered taking into account any ethical and legislative considerations
- designing experiments, trials or surveys to produce the required data
- collecting and analyzing the data
- interpreting the data and making sure that the right decisions are made based on the results

Career Prospects

Promotion depends on performance and merit within the GSS. Statisticians are part of an accelerated promotion program and are encouraged to move post every two years to get exposure to as many different areas of statistics as possible. In order to get a promotion, assistants are required to sit formal promotion boards.

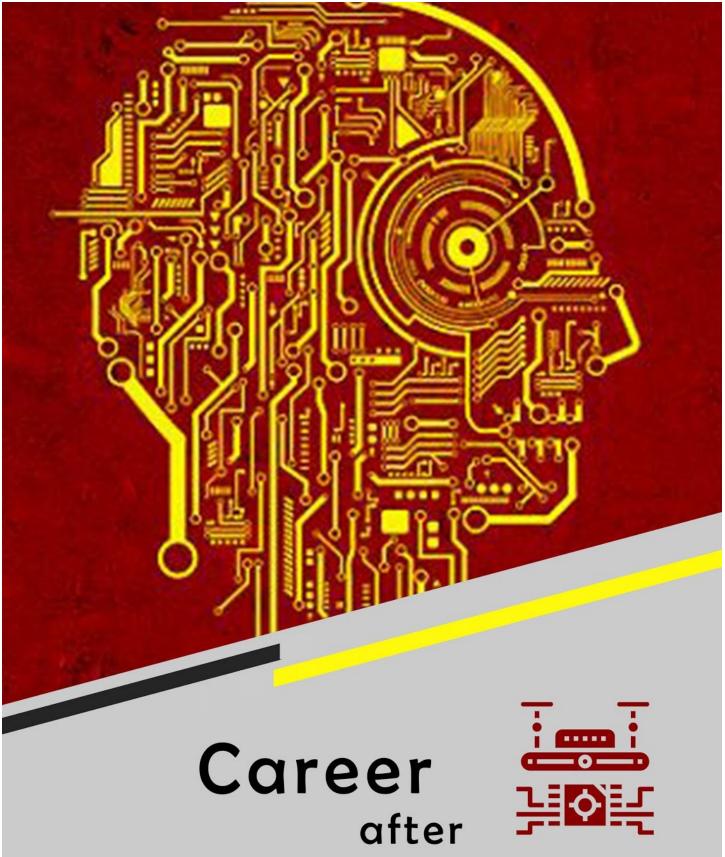
You could expect to compete for a senior grade (Grade 7 statistician) within four to five years of appointment or sooner, and the selection board will be looking for the potential to reach even higher levels.

REPUTED RECRUITERS

Some of the major recruiters that recruit students are:

- Boston Consulting Group
- Nomura Holdings
- American Express
- Walmart





ELECTRICAL Engineering



With a degree in electrical and electronic engineering you can find work in a wide range of sectors including aerospace, automotive, energy, IT and telecommunications.

Electrical engineering is divided into many subfields that include electronics, digital computers, power engineering, telecommunications, control systems, radio-frequency engineering, signal processing, instrumentation and microelectronics.

The various job profiles in this consist:

JOB PROFILES

ACOUSTIC CONSULTANT

Acoustic consultants provide acoustics, noise and vibrations services, such as noise surveys, noise assessments, acoustic design advice and building acoustics.

Acousticians have the option of specialising in a number of areas, including:

- architectural acoustics
- audio engineering
- musical acoustics
- ultrasound
- underwater acoustics.

Responsibilities:

Tasks may vary from role to role, but generally you'll be expected to:

- undertake noise assessments, for example in buildings to make sure they meet building regulations
- complete acoustic modelling, with knowledge of how changes in design affect sound levels and quality

- design and research medical equipment, such as ultrasound
- work with recording studio and broadcast sound equipment
- use modelling software, which could include ODEON, SoundPlan, INSUL, CadnaA and/or CATT.

Skills:

You'll need to have:

- knowledge of codes of practice, policy and legislations
- noise modelling skills including familiarity with noise modelling software
- excellent IT skills including proficiency in Excel and Word as well as computer simulations
- the ability to collate and analyse data
- accuracy and quality control

Career Prospects:

Many acoustic consultancies are Small & Medium Enterprises, with one to five employees, therefore upward progression within them is hard. It's common for a new entrant to move companies up to three times within their first five years and then to settle in one place after that.

The ultimate goal of many acoustic consultants is to set up their own consultancy business.

ELECTRICAL ENGINEER

As an electrical engineer, you'll design, develop and maintain electrical control systems and components to required specifications. The electrical equipment that you'll design and manufacture is used across many sectors, including:

- the building industry and services, including lighting, heating and ventilation
- transportation and transport networks
- manufacturing and construction

• production and distribution of power.

Responsibilities:

The work can vary according to the industry and your employer, but typically you'll need to:

- design systems and products
- read design specifications and technical drawings
- make models and prototypes of products using three-dimensional design software
- record, analyse and interpret test data
- propose modifications and retest products
- monitor a product in use to improve on future design.

Skills:

You'll need to show:

- relevant technical knowledge and up-to-date sector knowledge
- an analytical and problem-solving approach to work
- oral and written communication skills to make technical information easy to understand for non-technical audiences
- flexibility in order to adapt to evolving technologies
- planning and organisational skills, such as time and resource allocation
- a commitment to continuing professional development (CPD) throughout your career.

Career Prospects:

There's no set route for career progression and your prospects will depend to a certain extent on how you choose to develop your career and your preferred specialist area. As you gain experience, you may decide to stay in an engineering role or work in research and design (R&D). Alternatively, you may choose to:

- go into project management
- take on a management role
- pursue an academic career



• become a consultant or contractor.

ELECTRONICS ENGINEER

As An Electronics Engineer You'll Design, Develop And Test Components, Devices, Systems Or Equipment That Use Electricity As Part Of Their Source Of Power. These Components Include Capacitors, Diodes, Resistors And Transistors.

You could specialise in a particular subfield of electronic engineering, such as:

- control engineering
- instrumentation
- signal processing
- telecommunications engineering.

Responsibilities:

As an electronics engineer, you'll need to:

- work with colleagues to design new systems, circuits and devices or develop existing technology
- test theoretical design
- write specifications and technical reports
- follow defined development processes
- systematically improve the detailed design of a piece of electronic equipment
- ensure that a product will work with devices developed by others, can be made again reliably, and will perform consistently in specified operating environments
- create user-friendly interfaces

Skills:

You'll need to have:

• strong analysis and practical problem-solving abilities to improve designs

- oral, written and diagrammatic communication skills, with the ability to translate complex ideas into clear concepts
- creativity, innovation and attention to detail
- strategic thinking and commercial awareness of the industry you're in
- an understanding of electrical health and safety legislation.

Career Prospects:

Most engineering careers lead to senior positions managing other staff and/or larger projects and budgets. As a professionally qualified engineer, you may become a senior manager or move into other roles within the industry, such as:

- marketing
- recruitment
- sales
- training.

MACHINE LEARNING ENGINEER

As a machine learning engineer, working in this branch of artificial intelligence, you'll be responsible for creating programmes and algorithms that enable machines to take actions without being directed. An example of a system you may produce is a self-driving car or a customised newsfeed.

There may be some crossover with other disciplines, including:

- computational statistics
- mathematical optimisation
- data mining
- exploratory data analysis
- predictive analytics.

Responsibilities:

As a machine learning engineer, you'll need to:

- understand and use computer science fundamentals, including data structures, algorithms, computability and complexity and computer architecture
- use exceptional mathematical skills, in order to perform computations and work with the algorithms involved in this type of programming
- collaborate with data engineers to build data and model pipelines
- manage the infrastructure and data pipelines needed to bring code to production
- demonstrate end-to-end understanding of applications (including, but not limited to, the machine learning algorithms) being created
- build algorithms based on statistical modelling procedures and build and maintain scalable machine learning solutions in production
- use data modelling and evaluation strategy to find patterns and predict unseen instances
- Analyse Large, Complex Datasets To Extract Insights And Decide On The Appropriate Technique

Skills:

You'll need to be able to demonstrate:

- the ability to explain complex process to people who aren't programming experts
- strong analytical skills
- high attention to detail
- innovation and creativity
- the ability to work with large, complex datasets.

In some positions, depending on seniority, you may also need to demonstrate the following:

- leadership and management of both teams and projects
- detailed knowledge of machine learning evaluation metrics and best practice
- strong Python coding skills
- experience of a typed language (such as, C++ and Java)
- Linux SysAdmin skills
- messaging (including, Kafka, RabbitMQ, ZeroMQ)
- distributed systems tools (such as, Etcd, zookeeper, consul)
- competence with infrastructure as code (Terraform, Cloudformation and similar)

• a portfolio of your past experience (include any blogs, talks, contributions to Open Source, Kaggle).

Career Prospects:

If you've studied this discipline, your skills will be in high demand across a variety of sectors.

There are opportunities for recent graduates in the field. Progressing to a senior level often involves managing a team. Large multinational technology companies may offer the best prospects for career progression and the highest salaries. Freelance and remote opportunities are available, and since there are currently low levels of competition, some graduates go on to form their own companies.

CONTROL AND INSTRUMENTATION ENGINEER

Control and instrumentation (C&I) engineers are responsible for designing, developing, installing, managing and maintaining equipment which is used to monitor and control engineering systems, machinery and processes.

Responsibilities:

You'll need to develop skills in specific control disciplines, such as:

- advanced process control (APC)
- distributed control systems (DCS)
- programmable logic controllers (PLC)
- supervisory control and data acquisition (SCADA).

The use of these disciplines will depend on the exact nature of your individual job. In general however, tasks and responsibilities can include:

- designing and developing new control systems
- testing, maintaining and modifying existing systems
- analysing data and presenting findings in written reports
- project management within cost and time constrained environments

- understanding and ensuring compliance with relevant health and safety regulations and quality standards
- writing computer software and test procedures

Skills:

You'll need to show:

- creative problem-solving and troubleshooting skills
- excellent critical thinking skills and a high level of numeracy
- flexibility and an ability to compromise
- a high level of attention to detail
- excellent customer care skills and good commercial awareness
- an understanding of, and ability to work with, high-level computer technology.

Career Prospects:

As a C&I engineer you will progress through your career typically acquiring specialist knowledge of a particular industry sector and/or area of C&I knowledge. Working towards professional registration, such as incorporated engineer (IEng) or chartered engineer (CEng) can aid career progression, depending on your level of qualification.

In more senior roles you may lead a team or manage test programmes. Senior positions carry the highest level of responsibility and typically include planning and management activities, as well as leading new developments. Senior engineers in production and operation functions can often be representatives at board level.

NETWORK ENGINEER

As a network engineer you'll have responsibility for setting up, developing and maintaining computer networks within an organisation or between organisations. You'll offer support to users, who can be staff, clients, customers and suppliers, and troubleshoot any problems that arise. You may, in some cases, also be involved in designing new networks.

Your aim is to ensure the integrity of high availability network infrastructure to provide maximum performance for your users. Networks can include:

- computer
- voice
- firewall.

Responsibilities:

As a network engineer, you'll need to:

- establish the networking environment by designing system configuration; directing system installation and defining, documenting and enforcing system standards
- maximise network performance by monitoring performance, troubleshooting network problems and outages; scheduling upgrades and collaborating with network architects on network optimisation
- undertake data network fault investigations in local and wide area environments using information from multiple sources
- secure network systems by establishing and enforcing policies, and defining and monitoring access
- support and administer firewall environments in line with IT security policy
- report network operational status by gathering and prioritising information and managing projects
- upgrade data network equipment to the latest stable firmware releases
- configure routing and switching equipment, hosted IP voice services and firewalls
- provide remote support to on-site engineers and end users/customers during installation
- provide remote troubleshooting and fault finding if issues occur upon initial installation

• undertake capacity management and audit of IP addressing and hosted devices within data centres

Skills:

You will need:

- an up-to-date knowledge and understanding of your employer's business and industry needs, as well as the technical demands
- to recognise the importance of customer focus and/or of serving the needs of the end user
- excellent communication skills, particularly the ability to communicate with staff who aren't technically trained

Career Prospects:

Your career path will depend, to a certain extent, on the size of the organisation you work for and the scope of its IT systems.

Having gained experience, you can progress to senior network manager and network management positions. Some network engineers choose to broaden their careers into other IT, customer-related or management functions. Technical or infrastructure project management and network architecture are possibilities.

IT CONSULTANT

Your role as an IT consultant will be to work in partnership with clients, advising them how to use information technology in order to meet their business objectives or overcome problems. You'll work to improve the structure and efficiency of IT systems in various organisations.You'll provide strategic guidance to clients with regard to technology and IT infrastructures and will enable major business processes through enhancements to IT.

Responsibilities:

As an IT consultant you'll need to:

- work with clients to define the scope of a project
- plan timescales and the resources needed
- clarify a client's system specifications, understand their work practices and the nature of their business
- define software, hardware and network requirements
- analyse IT requirements within companies and give independent and objective advice on the use of IT
- organise training for users and other consultants
- be involved in sales and support, and where appropriate, maintain contact with client organisations

Skills:

If you want to enter the world of IT consultancy, you'll need to show:

- a logical approach to problem solving/analysing
- the ability to learn quickly
- confident decision making
- presentation skills
- good organisational skills to prioritise heavy workloads
- the ability to communicate technical information to non-IT clients and colleagues

Career Prospects:

The IT industry is so diverse that you can develop your career in a number of different ways, in a number of different industries and sectors. As an IT consultant, your immediate prospects depend on the size and type of the organisation you work for. Movement between employers is common.

Once you gain generalist experience, you may want to work as a senior consultant or specialise in a sector or a program such as SAP or Oracle. Other ways to progress include developing specific technical expertise, possibly contributing at national and international technical conferences or moving into a more strategic business direction, either for a company or a management consultancy firm.

EXIT OPPORTUNITIES:

Electrical graduates can get job offers at industries such as defence and FMCG. Defence systems are now so integrated that engineers need to operate cross-discipline, for example using a mixture of mechanical, electronic and electrical engineering knowledge. For the FMCG industry, the real work is not defined in separate buckets of mechanical, electrical, chemical etc., but normally a mixture of different disciplines as a general manufacturing or logistics engineer. Also, they can go into the teaching field or join a research lab. Teaching career is also rewarding, with jobs in top engineering colleges of India offering attractive remuneration packages. Some can also join software industries which demand knowledge of electricity and electronics.



ITC India	Honeywell	
Texas Instruments India	ARM Embedded-Engineer	
Eaton Technologies-Engineer	Qualcomm-Engineer	
Maxlinear	Synopsis	
Tata Motors	Analog Devices	
Philips Chennai	Sandisk	
Taiwan Semiconductor	Tiger Analytics	
Alstom Transport	Cypress Semiconductor	
Mathworks	National Instruments	
Applied Materials	Aruba Networks	
Ittiam Systems	Robert Bosch	
Photon Interactive	Energo	
Tata Communications	TVS Motor Company	
Tata Consultancy Services Ltd		



COMPANY	PACKAGE OFFERED
Texas Instruments	Greater than 20 lpa*
Qualcomm	Greater than 20 lpa*
Sony	Greater than 20 lpa*

*According to the IIT Bombay Placement Statistics 19-20



ENERGY SCIENCE & ENGINEERING

The harnessing of energy, from mining or from renewable sources, is a huge concern across the world, and a career as an energy engineer will put you in the forefront of this vital sector.

The few specializations fields are:

- Power Engineering
- Nuclear Engineering
- Hydro Engineering
- Solar Engineering
- Wind Engineering

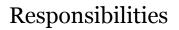
JOB PROFILES

ENERGY ENGINEER

As an energy engineer, you'll be involved with the production of energy through natural resources, such as the extraction of oil and gas, as well as from renewable or sustainable sources of energy, including biofuels, the hydro, wind, and solar power.

Your focus will be on finding efficient, clean and innovative ways to supply energy. You could work in a variety of roles, including:

- designing and testing machinery
- developing ways of improving existing processes
- converting, transmitting and supplying useful energy to meet our needs for electricity
- researching and developing ways to generate new energy, reduce emissions from fossil fuels and minimize environmental damage.



As an energy engineer, you'll need to:

- design, develop and build renewable energy technologies
- combine renewable energy production with existing power systems
- carry out site inspections and energy surveys
- design and select equipment
- use mathematical and computer models to complete design and specification calculations
- carry out lab experiments and adapt them to large-scale industrial processes
- check site and ground conditions for the installation of renewable technologies, such as wind turbines
- negotiate service agreements and manage associated costs and revenues
- liaise and negotiate with specialist contractors, geologists, and other relevant organizations
- develop technical expertise in all matters to do with energy and environmental control.

Skills

You'll need to show:

- general understanding of the energy market
- knowledge of relevant legislation surrounding energy efficiency and carbon emissions
- IT skills, including knowledge of 3D software such as AutoCAD
- commercial awareness and an understanding of business
- project management skills
- initiative and the ability to recognize emerging problems and proactively develop solutions.

Foreign language skills can be an advantage for working in multinational companies.

Career Prospects

Due to the demand in this area, career opportunities are good and in most instances, you'll have the chance to work up to a senior engineer or management position. This may require moving employers to a bigger company or possibly having to relocate.

Achieving chartered status can help with professional development and may lead to higher salaries. It's possible to reach the fellowship level with organizations such as EI. You'll typically need to have been in a role for more than seven years and have spent at least five of those in a senior role.

You could choose to specialize in areas such as corporate social responsibility (CSR) or move into research and development to look into new and better ways to optimize production and find new renewable energy sources.

There are also opportunities to join the growing number of environmental consultancies, become self-employed or move into the education field to lecture on energy engineering.

ENERGY MANAGER

As an energy manager, you'll plan, regulate and monitor the energy use in an organisation or facility. Your aim will be to improve efficiency by evaluating energy use and putting in place new policies and changes where needed.

Responsibilities

As an energy manager, you'll need to:

- develop, coordinate and implement strategies and policies to reduce energy consumption
- encourage the use of renewable and sustainable energy resources within an organisation or community and raise the profile of energy conservation
- develop solutions for carbon management
- create policies and systems for buying energy and helping with contract negotiations
- provide technical and practical advice and offer training on energy efficiency
- liaise and negotiate with contractors, the building supplies industry, council services and other relevant organisations
- keep accurate records and regularly collect energy monitoring data
- carry out site inspections and energy surveys
- benchmark energy consumptions against best practice guidelines

Skills

You'll need to have:

- numerical skills
- good communication skills to be able to present a case briefly and logically
- influencing and negotiating skills to motivate various colleagues to work towards a common goal
- potential to stimulate and manage change
- project management skills
- the ability to establish effective networks both within and outside the organisation
- potential to educate and train other managers and the workforce
- knowledge and enthusiasm for energy management and renewable energy issues

Career Prospects

You may progress in your career in a number of ways and your options will depend on your employer and the sector you're in. With experience, or further qualifications, you could specialise in a certain area such as:

- corporate and strategic matters
- energy consultancy
- environmental engineering
- environmental protection
- facilities management.

ENVIRONMENTAL CONSULTANT

You may work on a number of environmental issues or specialise in one area, such as:

- air, land and water contamination
- environmental impact assessment and flood risk
- waste management and recycling
- emissions and climate change
- renewable energy opportunities

• environmental management systems.

Responsibilities

As an environmental consultant, you'll need to:

- conduct field surveys and collect data about levels of pollution or contamination on a site or area of consideration
- carry out desk-based research, interpreting data which can include using software-modelling packages
- write reports and share findings with multi-disciplinary colleagues, clients, sub-contractors (such as analytical laboratories) and regulators
- advise on best courses of action based on research findings
- develop conceptual models, which involves identification and consideration of potential contamination
- research previous investigations of a site to provide information to clients considering purchase
- undertake fieldwork to identify previous activities on the site and any contamination
- look at the suitability of new developments, like housing, power stations, wind farms or other large sites that may impact the environment
- manage legislative issues for clients and maintain an awareness of how legislation impacts projects.

Skills

You will need to show evidence of the following:

- business skills and commercial awareness, as you'll be operating in a very commercial environment
- communication and presentation skills
- IT skills, such as word processing and the use of spreadsheets and presentation packages
- project-management skills, as time and resources are allocated to projects and need to be monitored and adhered to

• organisation and good time management, as you'll often need to manage several projects at a time

Career Prospects

With experience, you may be asked to manage small projects in order to take on more responsibility.

You'll generally progress to the position of senior consultant when you have around five years' experience. At this level, you'll usually be responsible for the management of staff, site investigations, contracts and the allocation of resources. You'll be involved in business development, with responsibility for marketing the business to new clients and developing relationships with existing clients, as well as identifying and submitting tenders for new work.

After a number of years in a senior role, you can move on to become a principal consultant, where you will focus on team management and commercial development.

Further progression to director level may be possible in some cases. Alternatively, you could move into other related areas such as research and consultation or policy and campaigns.

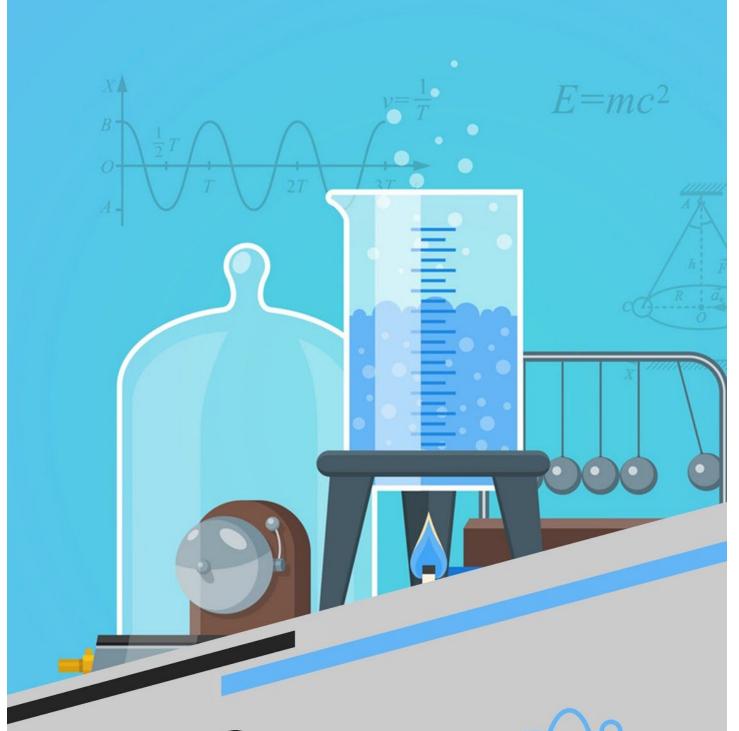
REPUTED RECRUITERS

- Society of Energy Engineers & Managers
- The Energy & Resource Institute
- BHEL
- Atomic Energy Commission
- Bureau of Energy Efficiency



COMPANY	PACKAGE OFFERED
Sulzon	6-10 lpa*
Bloomenergy	6-10 lpa*
GSE Renewables	6-10 lpa*

*According to the IIT Bombay Placement Statistics 19-20



Career after ENGINEERING Physics

ENGINEERING PHYSICS

A physics degree is a great starting point for a career in scientific research, as well as in a range of careers in the business, finance, IT and engineering sectors.

Enlisting below the various job profiles:

JOB PROFILES

ACADEMIC RESEARCHER

As an academic researcher you'll apply your expertise and skills developed through study and research. You'll aim to publish papers on your work in peer-reviewed, well-respected journals and will write reports, books or chapters of books on your specialist area of knowledge.

Responsibilities

- carry out original, high-level individual and collaborative research with other team members
- organise your own time and budget effectively, including for off-site and overseas visits
- analyse large sets of data and information, drawing relevant conclusions
- work to deadlines as required by fund or grant holder
- prepare and deliver presentations at national and international conferences to large audiences
- undertake thorough and comprehensive literature reviews
- teach undergraduate and postgraduate students

Skills

- a high level of intellectual ability, to plan and carry out research
- technical aptitude, to learn how to use new equipment and emerging technology
- interpersonal skills, to develop strong working relationships and trust with a broad range of people to foster productive collaborations and future partnerships
- concise and meaningful high level written communication skills for publishing work, conference proceedings and funding bids

- strong IT skills including the use of Microsoft Office, and for some areas excellent data analysis and statistical knowledge
- excellent verbal communication skills, to present ideas and conclusions in lectures and presentations
- flexibility and resilience, to keep going when research doesn't generate results in the expected timescale.

Career Prospects

Delivering positive outcomes in early roles in this career area will give you the best chance of long-term success. This requires strong performance while you:

- write and publish research papers in high-quality, peer-reviewed journals in line with departmental targets
- present at conferences, lectures and other teaching responsibilities
- contribute to writing bids and applications for research funding
- develop collaborative relationships with staff at other institutions.

Taking on additional responsibility, along with being a supportive and enthusiastic colleague, will also help. As you progress you'll gain more leadership and strategic responsibilities, so taking any opportunities that allow you to demonstrate and develop these skills is advisable.

ASTRONOMER

Astronomers are scientists who study the universe, its objects and how it works. They aim to push the boundaries of human knowledge about how the universe works by observation and theoretical modelling. You can work in observational astronomy, using telescopes and cameras to look at the stars, galaxies and other astronomical objects, or in theoretical astronomy, where you'll use maths and computer models to explain observations and predictions.

Astronomers can specialise in studying:

- planets
- stars

- galaxies
- cosmology (the origin of the universe).

Most Modern Research In Astronomy Involves Significant Computer Programming And Modelling, Whether You Work With Real Data From Observatories Or Do Theoretical Work.

Responsibilities

Generally speaking, astronomers are employed by universities or dedicated research institutes (sometimes - but not always - affiliated with universities). Your duties typically involve:

- collecting and analysing data from cameras, satellites and other observations
- planning and executing research projects to answer fundamental questions (such as, how do galaxies form?)
- applying for time to observe at international observatories
- reading existing academic literature
- putting your work in the context of other researchers' work
- writing scientific articles
- applying for grants to fund your research
- collaborating with other astronomers, often internationally
- training and mentoring students and postdoctoral researchers
- Teaching Courses In Astronomy Or Related Areas.

Skills

You'll need to have:

- strong physics, mathematics and statistics skills
- computer programming skills
- research and analysis skills
- problem solving/troubleshooting skills
- excellent communication, both oral and written
- the ability to make progress without strict deadlines
- the ability to collaborate and work in a team
- project management skills

• the ability to train and mentor students

Career Prospects

In academic research, a PhD is usually followed by at least one, but sometimes more, short-term postdoctoral research contracts of up to three years in length. Permanent astronomy research posts are primarily at universities and are highly competitive. Evidence of having an impact in your field of study is measured by the quantity and quality of peer-reviewed original publications. Fellowships are available for recent PhD graduates and postdocs which can help you establish your independence as a researcher, as well as help you gain experience in securing funding.

Academically, the promotion from lecturer to reader and ultimately professor depends on continuing your research excellence while also securing research funding, teaching and mentoring students, and contributing to the management and administration of the department or institute.

TECHNICAL AUTHOR

As a technical author, you will be responsible for writing specialist information about products and services, and how they work. You will need to explain how things are used in a way that is easy to understand. The information may be presented in the form of user guides for software applications, reference and instruction manuals for appliances, training guides, instructional videos or online help incorporated into software and operating guides.

As A Technical Author, You'll Need To Understand The Product Or Applications And Then Design And Write Documentation To Explain It To Users. You May Also Provide This Information In Various Other Forms Including Software Demos And Interactive Tutorials, Wikis, Blogs And Podcasts, Using Video, Illustrations And Graphics.

Responsibilities

As a technical author, you'll assess the audience and the nature of the documentation, and will need to:

• attend planning and briefing meetings

- collaborate with developers and managers to clarify any technical issues
- interview experts and sales and marketing specialists
- work with translators, printers and service providers.

A large part of your job will be spent researching and gathering the information required. You'll need to:

- use the product or service in question to understand the technology and applications for which documentation is being prepared
- gather and analyse the information needs of the user.

Then comes the challenge of presenting the information. For this, you'll:

- organise information according to your user's needs
- write and edit text
- commission, coordinate or prepare illustrations
- use a variety of software applications to present the information
- index and catalogue material.

Related administration may involve:

- working on and managing multiple projects simultaneously
- creating work schedules
- marketing publicising services and skills to potential clients
- Keeping Up To Date With Developments And Trends In The Industry And Attending Training Courses.

Skills

You will need to have:

- a feel for words and a good command of grammar and vocabulary
- the ability to express instructions clearly and briefly in simple language
- a concern for verbal consistency and an appreciation of tone and style
- good documentation skills and the ability to produce visually attractive instructions
- interpersonal and communication skills to effectively gather information

- an ability to grasp and structure large amounts of information and anticipate the reader's knowledge gaps
- an enquiring mind with attention to detail
- editorial judgement
- accuracy and a methodical approach to work
- the ability to work to tight schedules
- excellent planning and organisational skills
- analytical and questioning skills to get information from experts
- the ability to work successfully as part of a multidisciplinary team
- A Good Understanding Of Computers And Other Communication Tools.

Career Prospects

Career progression typically begins at junior technical author level up to the position of senior technical author. You may progress from there to project leader or editor. With more experience, you can go on to managing teams or becoming more involved in related areas such as usability, interface design, customer experience, training and quality assurance.

You may have to move between organisations to achieve career progression, especially if you're working for a small company with only one technical author. However, you'll have flexibility to work across different sectors, for example finance and pharmaceutical, or to use your specialist knowledge for different publications, such as writing manuals or magazines. It may even be possible to use your science and communication skills to provide instruction for specialist scientific equipment.

With experience, and once you've built up a network of contacts, there are opportunities to become a freelancer or consultant. This work tends to be project based and may lead to a higher salary or freedom to choose assignments.

HIGHER EDUCATION LECTURER

As an HE lecturer, you'll need expertise in your subject area in order to teach students. Teaching methods include lectures, seminars, tutorials, practical demonstrations, field work and e-learning. Multimedia technologies are becoming increasingly used.

You'll Also Pursue Your Own Research To Contribute To The Wider Research Activities Of Your Department Or Institution. The Aim Is To Have This Published In Books Or Scholarly Articles, Which Can Help Raise Your Institution's Profile.

Responsibilities

As an HE lecturer, you'll need to:

- deliver lectures, seminars and tutorials
- design, prepare and develop courses and teaching materials
- develop and implement new methods of teaching to reflect changes in research
- supervise students' research activities, including final year undergraduate projects, Masters or PhD dissertations
- supervise your own research group, which typically includes research assistants (postdocs), PhD and Master students
- support students through a pastoral or advisory role
- undertake personal research projects and actively contribute to your institution's research profile
- write up research and prepare it for publication
- prepare bids to attract funding to your department for a range of research projects
- carry out administrative tasks related to the department, such as student admissions, induction programmes and involvement in committees and boards
- contribute to professional conferences and seminars in your field of expertise
- establish collaborative links with other institutions, as well as with industrial, commercial and public organisations

Skills

You'll need to have:

- expertise in your subject area
- enthusiasm for your specialist research area and the ability to pass this passion on to your students and peers
- published research and a willingness to participate at professional conferences and seminars
- a capacity for original thought and the ability to produce original research for publication

- excellent oral and written communication skills in order to write reports and applications for funding, and to deliver lecturers, workshops and presentations
- networking skills in order to build relationships with other researchers and research groups, both in the UK and overseas, as well as within your own department
- the ability to organise your own workload and research group
- the ability to manage your time within competing demands
- the capability to work both independently and as part of a team to achieve both your own research goals and the aims of your department
- excellent analytical skills
- a flexible approach to work
- Good General It And Administrative Skills.

Career Prospects

You're likely to concentrate on building up your teaching skills and experience and developing your research profile in the first few years.

In order to increase your career prospects, you'll need to:

- attend and participate in conferences, workshops and seminars
- present research and papers at conferences
- actively contribute to the research profile of your department by getting your research published in high quality, peer-reviewed journals
- undertake work exchanges abroad
- prepare bids and apply for research grants and funding.

Early responsibility is common and most lecturers are given a high degree of independence in their work very early on. As your career progresses, you can expect to take on further responsibility in teaching, research or administration and, in some cases, a combination of all three. Management responsibilities are also likely to increase.

Promotion to more senior levels will depend on your willingness to undertake different roles and on the continued demonstration of an active research profile. These senior levels may include posts such as senior lecturer and principal lecturer.



If you continue to build up expertise after achieving these positions, you may be able to progress to the roles of reader, chair, professor or dean.

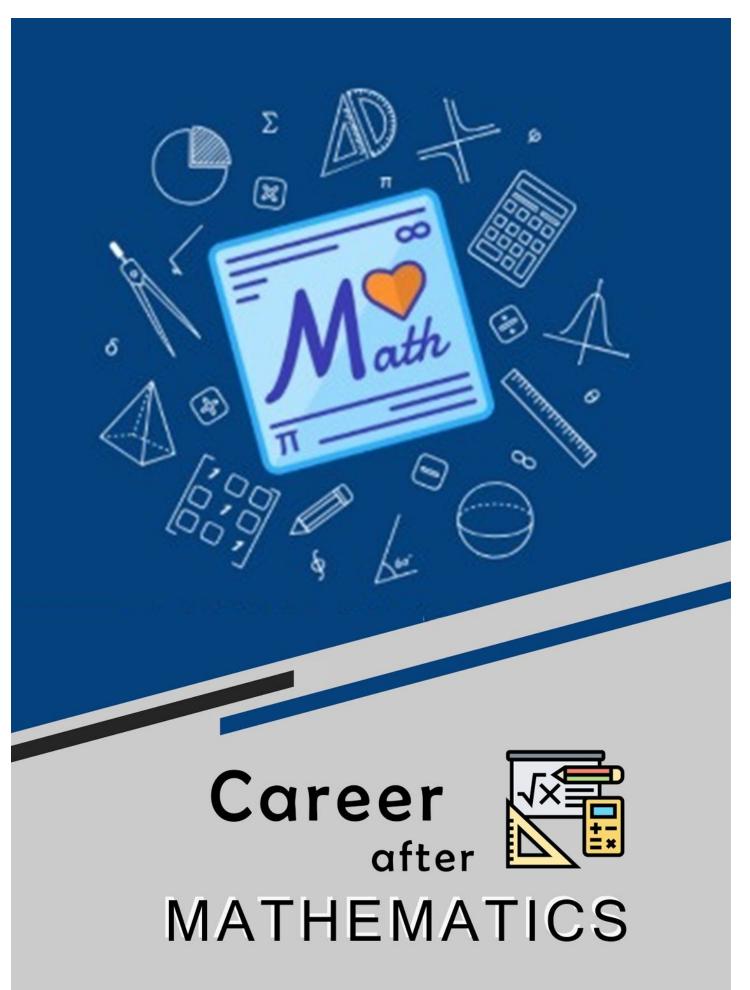
COMPANIES & SALARY PACKAGES





COMPANY	PACKAGE OFFERED
Analog Devices	15-20 lpa*
TSMC	Greater than 20 lpa*
BYJU'S	6-10 lpa*

*According to the IIT Bombay Placement Statistics 19-20





Whether you call it 'math' or 'maths', or prefer the traditional 'mathematics', if you study numbers at university, your career opportunities are not only numerous, they're also fairly lucrative. Thanks to the growing importance placed on technology, big data and economic efficiency by all kinds of organizations, expert number crunchers are increasingly in demand. This wide range of opportunities comes from the universal need for graduates with strong analytical and problem-solving skills – which math graduates should have by the bucketload.

Those who study math are keen problem solvers, eager to make sense of even the most advanced equations. Academic research is a common career path, but so are careers in business, economics and banking.

JOB PROFILES

ACTUARIAL ANALYST

Job Description

As an actuarial analyst, you'll use statistical formulas to assess risk. In life insurance, for example, this could involve working out the average life expectancy of different demographics to determine the policy premiums each should be charged.

Analysts use specialist computational software and spreadsheets, so an interest in and aptitude for using IT is useful. You could work in various areas of the financial services industry and will often be engaged in a support role within an actuarial team.

Responsibilities:

As an actuarial analyst, you'll need to:

- understand and use complex mathematical formulas, particularly in the area of advanced statistics and modeling
- use spreadsheets or other specialist software to complete data analysis tasks

• provide technical support to a team of actuaries, producing statistical reports and analysis

Career Prospects:

- The skills and expertise of actuarial analysts are in demand as most of the work relates to a dynamic area of the financial services sector, notably pensions and life insurance. Those with highly developed numerical and analytical skills will find opportunities for graduate entry positions. The competition for these roles is fierce.
- Undertaking the professional exams to become a fully qualified actuary provides the greatest opportunity for your development in the profession. From qualification, you'll be able to progress further into senior roles or consultancy work

MACHINE LEARNING ENGINEER

Job Description

As a machine learning engineer, working in this branch of artificial intelligence, you'll be responsible for creating programmes and algorithms that enable machines to take actions without being directed.

A key feature of this work is that you're providing computers with the ability to learn automatically and improve from experience, without being programmed.

Responsibilities

Tasks may vary from role to role, but generally, you'll be expected to:

- understand and use computer science fundamentals, including data structures, algorithms, computability and complexity and computer architecture
- use exceptional mathematical skills, in order to perform computations and work with the algorithms involved in this type of programming
- collaborate with data engineers to build data and model pipelines

• build algorithms based on statistical modelling procedures and build and maintain scalable machine learning solutions in production

Career Prospects

If you've studied this discipline, your skills will be in high demand across a variety of sectors. There are opportunities for recent graduates in the field. Progressing to a senior level often involves managing a team. Large multinational technology companies may offer the best prospects for career progression and the highest salaries.

ASTRONOMER

Job Description

Astronomers are scientists who study the universe, its objects and how it works. They aim to push the boundaries of human knowledge about how the universe works through observation and theoretical modeling. You can work in observational astronomy, using telescopes and cameras to look at the stars, galaxies and other astronomical objects, or in theoretical astronomy, where you'll use maths and computer models to explain observations and predictions.

Most modern research in astronomy involves significant computer programming and modeling, whether you work with real data from observatories or do theoretical work.

Responsibilities

As an astronomer, you'll typically need to:

- collecting and analyzing data from cameras, satellites and other observations
- planning and executing research projects to answer fundamental questions (such as, how do galaxies form?)
- applying for time to observe at international observatories
- teaching courses in astronomy or related areas.

Career Prospects

In academic research, a Ph.D. is usually followed by at least one, but sometimes more, short-term postdoctoral research contracts of up to three years in length. Academically, the promotion from lecturer to the reader and ultimately professor depends on continuing your research excellence while also securing research funding, teaching and mentoring students, and contributing to the management and administration of the department or institute.

DATA SCIENTIST

Job Description

Your job is to use data to find patterns and help solve the problems faced by businesses in innovative and imaginative ways. You'll extract, analyze and interpret large amounts of data from a range of sources, using algorithmic, data mining, artificial intelligence, machine learning, and statistical tools, in order to make it accessible to businesses. Data scientists are in high demand across a number of sectors, as businesses require people with the right combination of technical, analytical and communication skills.

Responsibilities

As a data scientist, you'll need to:

- work closely with your business to identify issues and use data to propose solutions for effective decision making
- build algorithms and design experiments to manage, interrogate and extract data to supply tailored reports to colleagues, customers or the wider organization
- use machine learning tools and statistical techniques to produce solutions to problems
- test data mining models to select the most appropriate ones for use on a project

Career Prospects

- Progress will depend on your ability to quickly learn the relevant skills needed to analyze large data sets, as well as your commitment to the organization you're working for. You can be promoted to more senior data science roles within your company, which may involve line management of junior data scientists.
- Promotion from junior to senior data scientists can take between two to five years. After five years you'll be expected to take on more people management responsibility.

SOUND ENGINEER

Job Description

Sound engineers are responsible for manipulating acoustics to achieve a desired result. You may work in many different contexts, including live events (music concerts, theatre performances, and sporting events) or graduation ceremonies. As a sound engineer you could also work in a studio, recording for commercial music, film, TV, radio, advertising, gaming or interactive media purposes.

As a studio sound engineer, you could be responsible for planning a recording session with an artist or musician, setting up the required equipment, recording each instrument separately and then editing and mixing recorded tracks, enhancing the sound to achieve a high-quality recording.

Responsibilities

Tasks will vary depending on whether you're working in live or recorded sound, and according to the size of the team, but generally, you'll be expected to:

- communicate with the performers, director or producer to understand their artistic vision and contribute your own creative ideas
- conduct sound checks for the front of the house (audio for the audience) and the stage monitor or foldback system (audio for the performers), before the performance in live sound
- use a mixing console during the performance to create a live mix which balances sound levels
- enhance, edit and mix studio-recorded tracks

Career Prospects

There's no set career path in sound engineering but typically you'll enter the field as a runner or technical assistant and work your way up to the level of an engineer, focusing on a particular specialism within either live or recorded sound.

From the level of a studio engineer, you could move to a senior engineer or master engineer position. Promotion depends on hard work, the right attitude, and ability, but also to some degree, being in the right place at the right time. Networking, making a good impression and building a reputation is therefore important for developing your career.

RESEARCH SCIENTIST (MATHS)

Job Description

The work of a research mathematician is varied but often involves proving deep and abstract theorems, developing mathematical descriptions (models) to explain or predict real phenomena and applying mathematical principles to identify trends in data sets.

Applied research can also contribute to the development of a commercial product or develop intelligence about business trends.

Responsibilities

As a research mathematician you'll typically need to:

- use specialist mathematical software such as Mathematica, MATLAB or Mathcad or programming languages such as C/C++ to develop programs to perform mathematical functions
- attend, and sometimes present at, national and international scientific conferences and meetings in your particular field of interest
- advise clients on how to benefit from mathematical analysis, making recommendations based on these analyses

- manage a research team (or group of research students in academic settings)
- produce tailored solutions to business problems using innovative and existing methods, as well as suggesting new ways to analyze data

Career Prospects

- You can take on greater responsibility for projects after gaining several years of practical experience. Once you've managed the work of other mathematicians you can progress to roles such as project manager or technical director.
- In academic settings, following your Ph.D. you'll typically move on to fixed-term postdoctoral research contracts of up to three years in length. Most newly qualified postdoctoral fellows take up advertised positions or apply speculatively to an established scientist.
- Further career development is into lectureships, and ultimately to professorial level with managerial responsibility. Permanent research posts without teaching or administrative responsibilities are highly sought after.

REPUTED RECRUITERS

- American Express
- Goldman Sachs
- Deloitte
- JPMorgan Chase
- Pfizer
- Deutsche Bank

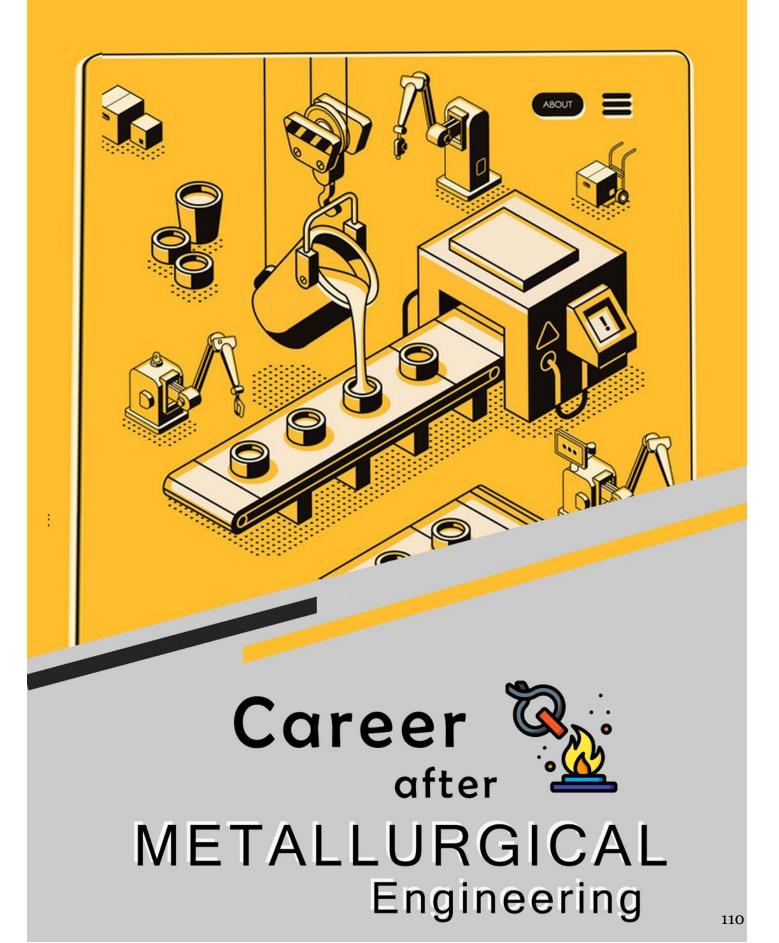
COMPANY	PACKAGE OFFERED
EXL	10-15 lpa*
Accenture	10-15 lpa*

Citibank

10-15 lpa*

*According to the IIT Bombay Placement Statistics 19-20







With rapid advances in the field of medicine, architecture, technology, communication and increased demand for sustainable products, the need for newer materials is rising.

This need has fuelled a demand for material science experts. Material science engineers are involved in the research, design and development of materials to advance technology and products. They are involved in all the phases of material development, right from selecting raw materials to creating and testing the final product.

JOB PROFILES

MATERIALS ENGINEER

Job Description

As a materials engineer you'll be responsible for working with various materials to improve their performance, or creating new materials to help advance technologies or products.

You'll need an understanding of the properties and behaviours of different substances, from raw materials to finished products. You could work with many different materials, from ceramics to plastics, and polymers to industrial minerals.

Responsibilities

- selecting the best combination of materials for specific purposes
- testing materials to assess how resistant they are to heat, corrosion or chemical attack
- analysing data using computer modelling software
- assessing materials for specific qualities (such as electrical conductivity, durability, renewability)
- developing prototypes

- considering the implications for waste and other environmental pollution issues of any product or process
- advising on the adaptability of a plant to new processes and materials
- working to solve problems arising during the manufacturing process or with the finished product, such as those caused by daily wear and tear or a change of environment

Career Prospects

- Career prospects are generally good within this branch of engineering. Due to the range of specialist areas and such rapid technological change in the field, demand for materials engineers is consistent.
- Once you've built up experience, it's possible to move into general management roles (within laboratories or in the wider organisation), or to develop a technical specialist area.
- Progression to management will depend on the size and scope of your employer. For example, a small but highly specialist biomedical laboratory cannot offer the management career potential available within a global oil and gas company.
- You can focus your career in a particular direction depending on your interests. For example, you could decide to be based in the laboratory working on research and development, or you may want to concentrate on the production and processing side.
- With significant experience you could set up your own consultancy or small specialist practice, or you could find work as a contractor for various different organisations and projects.

NANOTECHNOLOGY ENGINEER

Job Description

Nanotechnologists manipulate matter on the nanoscale (one billionth of a metre), developing new materials and equipment as well as drugs and diagnostic tools. Nanotechnology encompasses science, physics, chemistry, biology, engineering and computer science.

Responsibilities

Work is usually laboratory based, but its exact nature can depend on whether you work in industry or academia. The responsibilities in both lines of work are often the same and you'll need to:

- plan and conduct experiments to investigate and analyse nano-scale systems
- operate, or design and construct, complex instrumentation
- extrapolate data to develop theories to explain experimental results
- arrange the testing of products or materials
- develop new products and ways of applying new methodology
- collaborate with other scientists, often including those from other disciplines
- disseminate new findings at departmental, institutional or national meetings and conferences, including presenting to a variety of audiences

Career Prospects

- Career structures vary with each employer, but career paths tend to be well-defined in all sectors and are dependent on achieving research goals.
- In academic research, a PhD is usually followed by one or more short-term postdoctoral research contracts of up to three years in length. Academic promotion depends on research achievement, which is measured by the quality and quantity of original papers published.
- Progress is then to a lectureship and ultimately to a professor post with management responsibilities. However, this is only possible if you're successful in securing funding for your own research project and group.

BIOMATERIAL ENGINEER

Job Description

As biomaterials science has matured, it has taken on much more biological content, moving from an approach that emphasizes inertness to one that embraces biological activity. Biomaterials science is "a growing field". Effectively, scientists working in the biomaterials field have to have a good chemistry

background, perhaps a good physics background, definitely good biochemistry and biology, and a good appreciation, of course.

Responsibilities

The tasks you carry out will vary depending on your employer and the seniority of the post you hold, but may include:

- using computer software and mathematical models to design, develop and test new materials, devices and equipment. This can involve programming electronics, building and evaluating prototypes, troubleshooting problems, and rethinking the design until it works correctly
- conducting research to solve clinical problems using a variety of means to collate the necessary information, including questionnaires, interviews and group conferences
- assessing the potential wider market for products or modifications suggested by health professionals or others
- writing reports and attending conferences and exhibitions to present your work and latest designs to a range of technical and non-technical audiences
- meeting with senior health service staff or other managers to exchange findings

Career Prospects

- Undergraduates interested in a biomaterials career should consider spending a summer doing a medical internship, or spending some time in the research and development environment of a company or in a government institute. This will help you get acquainted with the field's objectives and demands. The more experience you get early, the better it will be for their future employment and for their future success.
- Currently, the majority of biomaterials jobs are in academia, but the private sector is showing signs of activity, with academic labs spinning out companies, pharmaceutical companies allying themselves to biomaterials companies, and traditional medical implant companies looking to replace their 50-year-old technology.



SEMICONDUCTOR ENGINEER

Job Description

Semiconductor processing engineers oversee the manufacturing of electronic semiconductors, which are commonly known as integrated circuits or microchips. These microchips are found in all electronic devices—including cell phones, cars, and laptops—and are an important part of modern life.

Responsibilities

- **Materials Engineering**: Materials engineers use their knowledge of the properties of various raw materials to develop specifications of materials used to manufacture semiconductor devices. They also modify materials to increase cost effectiveness and performance.
- **Process Development**: Process development engineers modify existing or develop new processes for manufacturing semiconductor devices. They outline correct procedures for manufacturing semiconductor devices, collaborate with materials engineers to select the right raw materials and solve process-related challenges that arise during production.
- **Quality Assurance**: Quality control inspectors, also known as quality managers, work in firms that manufacture semiconductor devices where they ensure products meet industry standards. They inspect the manufacturing procedures to maintain adherence to procedures, examine products for deviations from manufacturing specifications and defects, and accept or reject products for sale based on their findings.
- **Patent Examination**: Patent examiners play an integral role in creating a competitive and innovative environment for manufacturers in the semiconductor industry. Working in regulatory agencies, patent examiners review applications from semiconductor device manufacturers to determine whether an invention is original, useful and innovative.

Career Prospects

• An enormous number of career paths exist in this \$249 billion dollar industry. The biggest companies are Taiwan Semiconductor Manufacturing Company (NYSE: TSM), United Microelectronics Corporation (NYSE: UMC), Intel Corporation (NASDAQ: INTC), Toshiba Corporation, NEC Corporation, Sony Corporation, International Business Machines

Corporation (NYSE: IBM), Samsung Group, Texas Instruments (NYSE: TXN), STMicroelectronics, and NXP Semiconductors.

METALLURGISTS (IRON, STEEL, ALUMINIUM ETC)

Job Description

As a metallurgist you'll be concerned with the extraction and processing of various metals and alloys. You'll investigate and examine the performance of metals such as iron, steel, aluminium, nickel and copper and use them to produce a range of useful products and materials with certain properties.

Your work may be in:

- Design and manufacture
- Production management
- Quality assurance
- Research And Development

Responsibilities

As a chemical metallurgist, you'll need to:

- design and control processes to separate metals from ore
- monitor and test for corrosion
- develop ways to improve metals by making them stronger or more adaptable
- test metals to ensure they meet quality and safety standards.

In physical metallurgy, you'll need to:

- assess the physical structure and behaviour of metals
- investigate accidents where it is suspected that the cause may be related to metallurgical failure, such as in air crashes
- produce reports on research and tests carried out.



As a process metallurgist, you'll need to:

- control the shaping of metals through casting, rolling, forging and drawing
- join metals using welding and soldering techniques
- Design Metal Components And Prototypes.

Career Prospects

If you remain in industry and want to stay in the technical side, you may progress to senior management positions where a high level of technical competence is expected.

It's also possible to specialise in a particular area of metallurgy, such as stainless steel, non-ferrous alloys or precious metals, or in a particular industrial sector.

If you'd prefer to move into a different role and have a good technical background with excellent communication, numerical and analytical ability, you could work in production management. Opportunities also exist in non-technical fields, such as:

- product and business development
- quality assurance
- sales and commercial work
- supplier and customer liaison.

Moving into research roles is also a possibility and opportunities exist in private sector industrial firms, academic laboratories, contract research laboratories and government laboratories.

With substantial experience, it's possible to find work as an independent consultant, contracting your services to larger organisations.



CERAMIC ENGINEER

Job Description

Ceramic engineers are specialized materials engineers who work with ceramics, which are nonmetallic, inorganic materials that are processed at high temperatures. Glass, porcelain, brick, and cement are all examples of ceramics. Ceramic engineers develop new ceramic products as well as methods and equipment for processing ceramic materials. They work with a wide variety of products, ranging from glassware and electronic components to nuclear reactors and linings for blast furnaces and jet engines.

Most Ceramic Engineers Are Employed In The Stone, Clay, And Glass Industries. Others Work In Industries That Use Ceramics, Such As The Aerospace, Iron And Steel, And Chemical Industries. Some Ceramic Engineers Teach And Do Research In Universities. Others Work For Government Agencies And Research Centers.

Responsibilities

- Ceramic engineers often specialize in one type of work. For example, many are involved in research and development. They develop new ceramic materials synthetically or from minerals found in the earth.
- Advance the technology of existing ceramics, such as improving heat and fire resistance. Ceramic engineers may also explore new uses for ceramic products, such as using ceramics in miniaturized circuits and human bone and teeth replacements. Many ceramic engineers are involved in production.
- Direct the processing of the natural raw minerals and synthetic materials used to make ceramics.
- Design the kilns and other equipment used in manufacturing as well as direct the crews that build the plants and operate the kilns.
- Work in sales and show customers ways to use ceramics to solve their design and production problems. They sometimes oversee the installation and operation of ceramic equipment in customers' plants.

• There are also several product fields within the industry. Ceramic engineers usually specialize in one or more of these products.

Career Prospects

- Ceramic engineers often start as assistants and then advance to positions with more responsibility. They can become junior members of sales or production teams. With more education and experience, they can become project supervisors, department heads, and even executives of large companies.
- Materials engineers in general are expected to have employment growth about as fast as the average for all occupations through 2014. Although declining employment is expected in this profession, ceramics engineers still will be needed to develop new materials for electronics and biotechnology. Growth should be particularly strong for engineers working on nanomaterials (microscopic technology).

GROWTH OPPORTUNITIES

Metallurgy is a very less exploited subject. The advantage of such a course is that though jobs are limited, you have a good pay if you can prove yourself to be an able candidate. Instead of pursuing bachelors in this course, many students do prefer to do their masters before looking for job opportunities. After finishing education in metallurgy, one can get jobs in R&D (research and development) departments in companies that manufacture metals, or in factories or automobile manufacturers, nano materials and energy as well are two upcoming sectors for Metallurgists. Additional courses like non-destructive testing, can help one become the quality control officer or manager in companies dealing with metallurgical services.

SKILLS REQUIRED

• There is no doubt that CGPA will be the first thing that the company will look forward to creating an impression of the candidate. Moreover, it becomes more critical when it comes to the core job as the courses that we do provide tools for "to be engineers" in their respective fields.

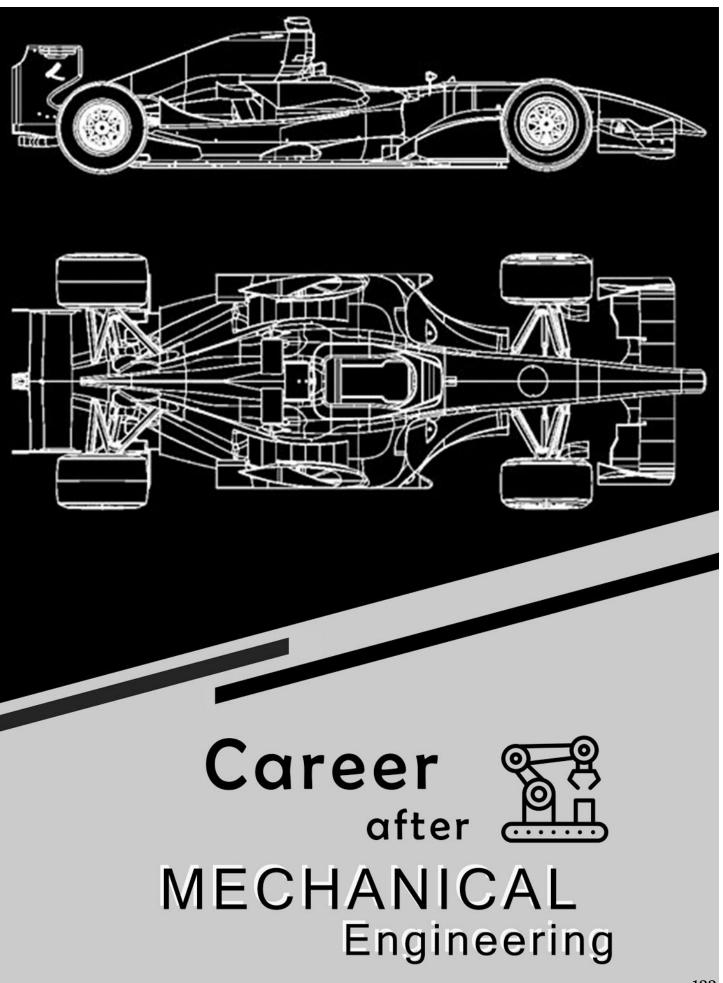
- Knowledge of various characterization and testing techniques that one learns during the 4/5 years comes to handy during his/her interview. Though, in most cases, we will not have hands-on experience; in-depth theoretical knowledge is a must if one wants to pursue core engineering as a prospect.
- There is a modicum of core companies for placements; all of them mostly disposed to a few courses, and hence one must devote some extra time in going a mile ahead. One should have good knowledge of the profile that the company is offering, provided he/she wishes to apply for the same.
- One can work in any lab of the department that entices the person by getting in touch with the professor, and undoubtedly it will be beneficial during the interview as the candidate will have good practical knowledge in that field.
- Internship in the core field, either corporate or research, will definitely give a boost to the profile. Though theory provides an excellent base, the practical experiences expose the challenges that one may not face otherwise. Also, such an internship experience will brief one about the functioning of a company or an industry. One gets to meet a lot of new people in such a setting where one can benefit from the knowledge exchange and network building to burnish one's personality.

COMPANIES & SALARY PACKAGES



COMPANY	PACKAGE OFFERED
Micron	Greater than 20 lpa*
Murata	Greater than 20 lpa*
JSW	10-15 lpa*

*According to the IIT Bombay Placement Statistics 19-2





MECHANICAL ENGINEERING

Since mechanical engineering is the broadest of all engineering fields, the job prospects on offer for skilled mechanical engineers are aplenty and unending. Mechanical engineers are required to design, test, manufacture, install, operate and maintain a wide array of machines and mechanical systems that are used in countless industries. These professionals can find employment both in the government and private sector undertakings.

JOB PROFILES

AUTOMOTIVE ENGINEER

Job Description

As an automotive engineer you'll design, develop and manufacture vehicles such as cars, motorbikes, buses and trucks and their engineering systems.

You'll need to have a combination of engineering and commercial skills to be able to deliver projects within budget. Once you've built up experience, it's likely you'll specialise in a particular area, for example, structural design, exhaust systems or engines.

Responsibilities

Your tasks as an automotive engineer will depend on your specialist area of work but you could need to:

- use computer-aided design (CAD) packages to develop ideas and produce designs
- decide on the most appropriate materials for component production
- solve engineering problems using mechanical, electrical, hydraulic, thermodynamic or pneumatic principles
- build prototypes of components and test their performance, weaknesses and safety
- take into consideration changing customer needs and government emissions regulations when developing new designs and manufacturing procedures
- prepare material, cost and timing estimates, reports and design specifications

Career Prospects

As an automotive engineer, you'll be able to choose from a range of career options. It's possible to advance to supervisory engineer roles and senior positions within project team management, general management and consultancy.

MECHANICAL ENGINEER

Job Description

As a mechanical engineer you'll provide efficient solutions to the development of processes and products, ranging from small component designs to extremely large plants, machinery or vehicles. You'll work on all stages of a product, from research and development to design and manufacture, through to installation and final commissioning.

Responsibilities

As a mechanical engineer, you'll need to:

- research and develop products for example, mechanical hearts if working in the medical industry
- improve production processes such as those in large oil refineries, or services within buildings
- design and implement cost-effective equipment modifications to help improve safety and reliability
- develop and use new materials and technologies
- manage people, projects and resources this will depend on your role
- make sure a product can be made reliably and will perform consistently in specified operating environments
- use research, analytical, conceptual and planning skills, particularly those in mathematical modelling and computer-aided design

Career Prospects

Most careers in engineering lead to a senior position with responsibility for other staff or larger projects and budgets. If you're required to lead teams or manage projects, developing people management skills will be helpful.

You may be able to move into business functions, such as procurement, sales and marketing or human resources (HR). Once you have developed your technical skills, you can move into senior engineering posts, such as engineering director. You could also consider moving into engineering consultancy.

COMPUTER AIDED DESIGN ENGINEER

Job Description

A CAD engineer, also known as a draughtsperson, uses CAD software to create technical drawings and plans - also known as draughting - for products and parts used in the engineering, construction and manufacturing industries.

You'll work with architects and design engineers to understand the requirements of their initial designs and turn them into accurate and detailed technical drawings in 2D and 3D models. These drawings are used at all stages of a project, from estimating cost and feasibility to creating the blueprints for manufacturing and instructions for installation.

Responsibilities

As a CAD technician/draughtsperson, you'll need to:

- create high-quality detailed technical drawings and plans based on designs supplied by architects and designers and make modifications to existing drawings
- use a variety of CAD software programmes to create designs in 2D and 3D models
- liaise with architects, engineers and designers to understand their design requirements and provide technical advice to manufacturing and construction technicians
- provide accurate, detailed and to scale drawings
- ensure drawings are compliant with industry and health and safety standards and protocols

• calculate costs and apply knowledge of materials and engineering principles to check feasibility of manufacture and construction of the product

What To Expect

- CAD technicians are mainly office-based and can spend long hours at a computer or drawing desk requiring periods of concentration.
- Not all the work is individual and you could be working with a team of other technicians or architects, contractors or design engineers.
- You'll typically have to meet with clients and designers to understand their requirements for a design. You could also be providing technical advice to designers, manufacturers on shop floors and engineers on construction sites.

Career Prospects

Newly qualified and junior CAD technicians may initially work on small projects, making revisions to existing drawings or converting archive drawings from paper to computer. After gaining experience, your role may develop and allow you to be more involved in the design process and work on larger projects.

CONTROL AND INSTRUMENTATION ENGINEER

Job Description

Control and instrumentation (C&I) engineers are responsible for designing, developing, installing, managing and maintaining equipment which is used to monitor and control engineering systems, machinery and processes.

Your job is to make sure that these systems and processes operate effectively, efficiently and safely.

You might work for companies who manufacture and supply the equipment or for the companies who use it, such as nuclear and renewable energy companies and environmental agencies.

Responsibilities

You'll need to develop skills in specific control disciplines, such as:



- advanced process control (APC)
- distributed control systems (DCS)
- programmable logic controllers (PLC)
- supervisory control and data acquisition (SCADA).

What To Expect

- Your work may be based in an office, laboratory or factory, depending on the nature of the organisation.
- Visiting clients and working on-site is a common aspect of the work.
- Some positions may carry high levels of responsibility and may be stressful, particularly at a very senior level, where accountability lies directly with the C&I engineer. Similarly, C&I engineers often have to work under pressure, to tight deadlines and within budget.
- Power generation and renewable energy research are growing sectors, which means there are good opportunities for C&I engineers.
- Positions are available across the UK and opportunities to work overseas are widely available, particularly within the oil and gas industry or with global pharmaceutical and manufacturing companies.

Career Prospects

As a C&I engineer you will progress through your career typically acquiring specialist knowledge of a particular industry sector and/or area of C&I knowledge.

Working towards professional registration, such as incorporated engineer (IEng) or chartered engineer (CEng) can aid career progression, depending on your level of qualification.

INDUSTRIAL ENGINEERING & OPERATIONS RESEARCH

Job Description

Industrial Engineering is concerned with the design, analysis, and control of production and service operations and systems. Today, industrial engineers are more broadly concerned with productivity

and all of the technical problems of production management and control. They work in various branches of companies: manufacturing, distribution, transportation, mercantile, and service.

Responsibilities

An operations manager ensures smooth operation of various processes that contribute to the production of goods and services of an organization. While the manager may not be specialist in any field, expectation is to perform well in various different roles. Some roles and responsibilities of an operations manager include:

- Delivery management: ensure delivery is on-time and goods and services meet quality criteria, obtain feedback from clients and communicate it to concerned departments
- Logistics management: coordinate with quality assurance personnel to ensure that goods produced meet acceptable standards and positive feedback from clients
- Budget management: coordinate with finance department to obtain necessary approval for budget, and ensure that quality equipment are maintained
- Third-party relation management: ensure the adherence of standard procedures in hiring of outside services, and the proper execution of the agreed terms
- Inventory management: ensure that the raw materials received are properly stored and conserved
- Operational strategizing: decide how to make optimum use of resources for organization, and determine the types of equipment needed to fulfill organizational quality policy

Other Professions In Operations Management

- IT Operations Manager: oversee teams of programmers, software engineers, and other professionals in dealing with data computing
- Financial Operations Manager: oversee company's entire finances, analyze reports to ensure company is working within budget, perform financial forecasts
- Operations Manager Research Analyst: decide how to allocate a company's resources, such as time, people, space, money and raw materials, to ensure profits
- Quality Assurance Operations Manager: lead tests and inspection of products to ensure that products are free from defects
- Industrial Production Operations Manager: perform employee scheduling, hiring and terminations, quality control, maintenance and coordinating the entire unit's activity
- Marketing Operations Manager: analyze demand and monitor consumer trends in order to find the most effective marketing strategy, forecast revenues and establish prices

• Supply Chain Management: coordinate of efforts of a network of vendors that provides specific materials and components for a company's products.

Career Prospects

- Employment of industrial engineers is projected to grow 8 percent over the next ten years, faster than the average for all occupations. This occupation is versatile both in the nature of the work it does and in the industries in which its expertise can be put to use.
- Because they are not as specialized as other engineers, industrial engineers are employed in a wide range of industries, including major manufacturing industries, consulting and engineering services, research and development firms, and wholesale trade. This versatility arises from the fact that these engineers focus on reducing internal costs, making their work valuable for many industries. For example, their work is important for manufacturing industries that are considering relocating from overseas to domestic sites.
- Industrial engineers who are just starting out usually work under the supervision of experienced engineers. In large companies, new engineers also may receive formal training in classes or seminars. As beginning engineers gain knowledge and experience, they move on to more difficult projects with greater independence to develop designs, solve problems, and make decisions.
- Eventually, industrial engineers may advance to become technical specialists, such as quality engineers or facility planners. In that role, they supervise a team of engineers and technicians. Earning a master's degree facilitates such specialization and thus advancement.
- Many industrial engineers move into management positions because the work they do is closely related to the work of managers.

GROWTH OPPORTUNITIES

It is expected that Employment of mechanical engineers is projected to grow 10 percent in the next few years, slower than the average for all occupations. Mechanical engineers should experience faster than average growth in architectural, engineering, and related services as companies continue to contract work from these firms. Mechanical engineers will also remain involved in various manufacturing industries—specifically, transportation equipment and machinery manufacturing.

Machinery will continue to be in demand as machines replace more expensive human labor in various industries. This phenomenon in turn should drive demand for mechanical engineers who design industrial machinery. So ample scope for employment is seen in Core Companies like thermal power industry, gas turbines industry, Air Conditioning , Refrigeration industry, Oil and Gas exploration and Refining industries, Agricultural sector, Automobile industry etc. and also FMCG Companies like

HUL,ITC, Britannia, etc. People are bound to move up in the pay-scale as well as responsibility if they are willing to work hard.

EXIT OPPORTUNITIES

A mechanical engineering degree is a great passport to a huge variety of non-engineering graduate jobs, both within the engineering industry and outside it. If you want a non-technical career in the engineering sector, a number of the larger employers run into areas such as finance and management. You could also consider jobs in areas such as supply chain or technical sales. If you wish, you could start your career in an engineering job, and then progress into a more business focused role at a later date. Mechanical engineering graduates are welcomed for their high level of numeracy and problem-solving mentality. In particular, IT companies and technical consultancies are well worth exploring, especially if you have some programming skills.Your skill set will also go down well with recruiters for finance, management and business or management consulting graduate schemes, while teachers with technical backgrounds are always in demand.

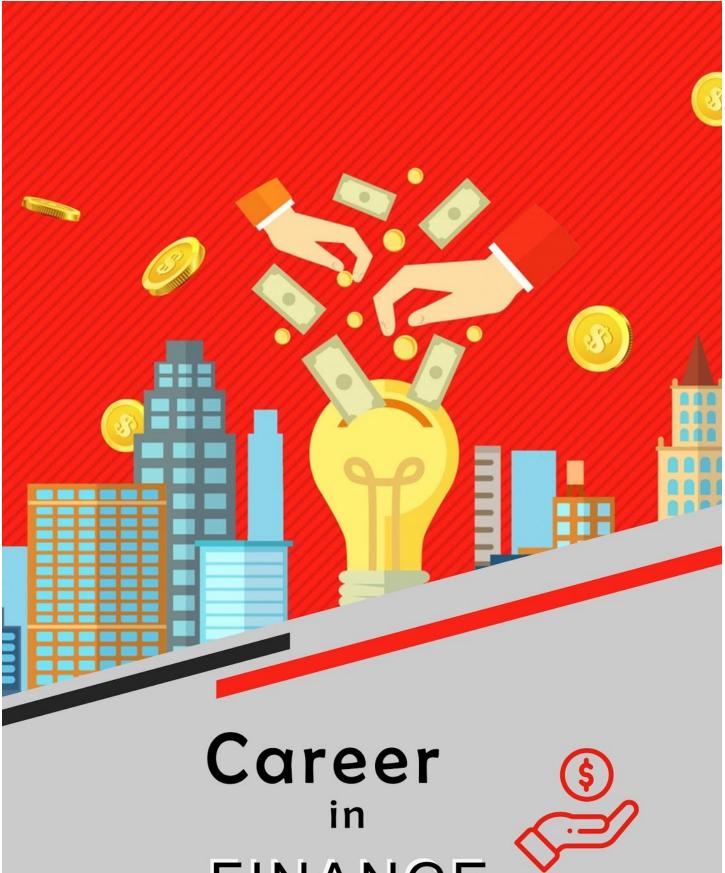
COMPANIES & SALARY PACKAGES



COMPANY	PACKAGE OFFERED
Daikin	Greater than 20 lpa*
Jaguar	15-20 lpa*
TATA steel	15-20 lpa*

*According to the IIT Bombay Placement Statistics 19-20

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FINANCE

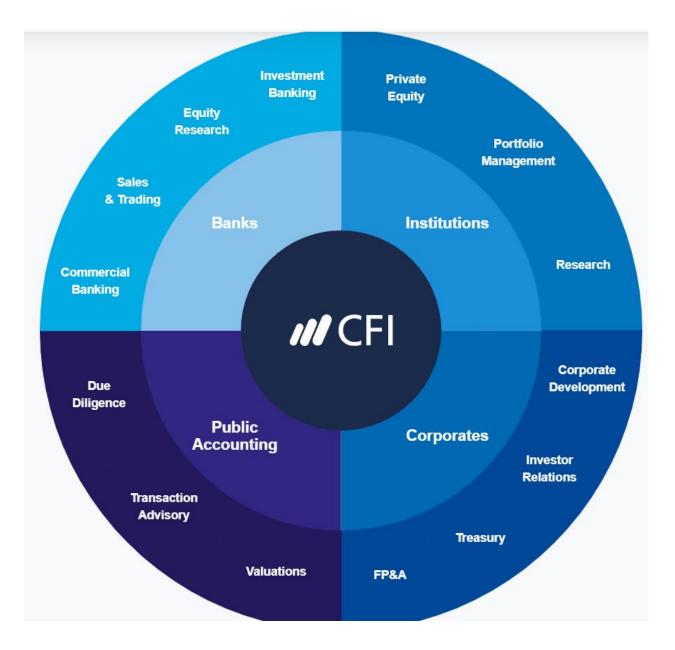


A career in finance deals with the management, creation and study of money and investments. It is broadly divided into three categories, public, corporate and personal finance. Public finance includes tax systems, government expenditures, budget procedures, stabilization policy and instruments, debt issues, and other government concerns. Corporate finance involves managing assets, liabilities, revenues, and debts for a business. Personal finance defines all financial decisions and activities of an individual or household, including budgeting, insurance, mortgage planning, savings, and retirement planning.

CAREER MAP

This career map has been designed to help you find a career of your choice. The term "corporate finance" encompases into a wide variety of roles across a diverse range of employers. In order to make it easier to understand, the industry has been divided into four different types of employers.

- 1. Banks
- 2. Institutions
- 3. Corporates
- 4. Public accounting firms





JOB PROFILES

FINANCIAL RISK ANALYST

Job Description

It is researching, devising and fine-tuning methodology to capture the economic risk of illiquid investments (think Private Equity, early-stage deals, Joint Venture), balancing interests of multiple stakeholders. The usual cycle is to come up with a new model or adjustment to existing model, propose it to the validation team (second line of defense) for approval, present in the Methodology Steering Committee for approval and work alongside the technical team for its implementation in the system. In more ways than one, the role is pretty similar to that of Product Manager at a startup.

Responsibilities

- Perform credit analysis and underwriting activities, evaluating financial position and credit worthiness, for prospective and existing commercial/merchant/portfolio accounts.
- Maintain and review current information on existing accounts.
- Reviews credit history to assess credit worthiness of new prospective clients.
- Ensures a balanced risk and revenue trade off consistent with credit policy and loss target expectations.
- Investigates the processing activity on accounts that have exceeded the parameters set in our risk management system and makes a real time decision if the account is conducting business in a fraudulent manner or in a way that increases the credit exposure
- Investigations include the gathering of data from various sources systems and interpreting the data.
- A successful analyst must have the ability to work in a fast paced environment and be able to make real time/accurate decisions.
- The analyst must also be able to communicate effectively and professionally with Law Enforcement, Visa, MasterCard, Attorneys, Merchant Business Owners, and credit card customers who make purchases at our clients business.

Skills Required

- Analytics Insights Targeting
- SAS, R, Python ,Hive, Pyspark, SQL
- Advanced Statistical Techniques
- Hands on programming and ability to design
- Data Science/Machine Learning/Artificial Intelligence knowledge
- Expertise in Coding, Algorithm, High Performance Computing
- Active learning, transfer learning, neural models, Decision trees, reinforcement learning, graphical models, Gaussian processes, 5.Bayesian models, Map Reduce techniques, attribute engineering
- Gradient boosting machines, self-reinforcing algorithms

INVESTMENT BANKING

Job Description

An investment banking role usually deals with products from the equity capital markets, debt capital markets and mergers and acquisitions domains and an analyst's tasks usually include identifying and analysing opportunities, making pitch books and presentations, preparing financial models, attending meetings and executing transactions through interactions with the client, regulatory bodies (eg. Stock exchanges and SEBI in India) and counsels who handle the documentation

Responsibilities

• Serve as the primary go-to people when a company holds an initial public offering (IPO) to sell stock to the public. Newly public companies are scrutinized beyond belief on how their IPOs turn out. The success, or lack of success, from an IPO often sets a company on an irreversible trajectory, for good or bad. For this reason you are required to set up line up big-time investors and put their IPOs in the most auspicious positions to succeed.

- Help broker M&As, lending expertise to make sure things go smoothly. When clients seek investment opportunities outside their realms of expertise, investment bankers serve in advisory roles to assist in finding the best opportunities.
- Development of various types of financial models to value debt and equity for mergers, acquisitions, and capital raising transactions.
- Perform various valuation methods; Develop recommendations for product offerings, private equity transactions, mergers and acquisitions, and valuations. Conduct preparation and review of materials used in the financing of clients, including investment memoranda, management presentations and pitchbooks.Develop relationships with new and existing clients in order to expand the business.
- Perform due diligence, research, analysis, and documentation of live transactions.Create presentations for client portfolios. Affinity for current events, critical issues, and relevant news.

Skills Required

- Expected to get actively involved at every stage of the transaction, working closely with middle/senior management teams
- Candidates should be analytical, multitasker, persuasive, should possess excellent number crunching / analytical skills, and have a hunger for growth both as a person and as a professional.
- Should have been part of the Financial Services Sector team in previous roles(preferred)

Exit Options

Private Equity, Hedge funds, Angel investment firms, and higher positions in the same company



MARKETS RESEARCH ANALYST

Job Description

The role involves a quantitative aspect which encompasses analysing markets, identifying triggers and opportunities for client trades (for banks/regulated bodies) and in-house trading (by trading firms). This may also involve a sales aspect of reaching out to clients, understanding their credit, liquidity and foreign currency requirements to take or hedge positions and push products to suit their needs. The incumbent usually work in a fast-paced, multi-tasking environment, analyzing large amount of data and developing prediction algorithms/regression models and implementing them in C++, R, MATLAB and python environments, market research, information gathering & research.

Responsibilities

- Establish market expertise in the relevant industry, contribute market insights and analyst briefings; Conducting primary and secondary research; responsible to execute market research and consulting assignments/projects.
- Write market/Industry research studies and finalize them.
- Finalize Table of contents/scope/structure of the market research studies.Estimate market sizes and forecasting
- Analyse the requirement of the client and do the needful accordingly.
- Focus on the business development of the organisation.
- Demonstration of product to the Customer through Presentations, Catalogue etc
- To provide necessary reports & information to management from time to time.
- Identifying new prospects, through market research. Prospecting and Lead Generation through campaigns like e-mails that results in quality leads in sales.

Skills Required

- Good knowledge of databases, public sources of information, and/or industry specific sources
- Adept in conducting preliminary research to ascertain data availability, and estimate time/effort
- Strong business writing skills-narrative, appealing, succinct. Should be able to convey complex research ideas in a compelling and easier way through writing

- Articulate ideas and point of views in a confident and effective manner in client calls during all stages of the project lifecycle
- MS office suites (Word, Excel and PowerPoint)
- Working knowledge on Secondary Market tools like Factiva, hoovers etc.

EQUITY RESEARCH

Job Description

Equity research roles essentially cover the research analyst's views on various listed companies. The work involves analysing the companies, preparing models and understanding the companies' financials which form the basis of the research analyst's views of the company and eventually lead to an investment decision (eg. buy, sell or hold)

Responsibilities

- Analyze target companies financials (P&Ls, balance sheets and cash flow statements along with financial ratios) and operational activities.
- Gather information from primary and secondary sources to make sound investment recommendations
- Conduct comprehensive industry research and analysis
- Preparation of research reports indicating buy ,sell, or hold recommendations
- Tracking the stock recommendations

Skills Required

- Expertise with research databases like Bloomberg, Factset, Reuters, Thomson Research, etc
- Familiarity with accounting, financial ratios, financial statements
- Familiarity with economic data, inter relation between economic variables, etc.
- Specific Qualifications (if required)(like CA, CFA, FRM, etc)
- Preferably ample relevant experience

CONSUMER BANKING / COMMERCIAL BANKING

Job Description

Though these aren't specific roles but departments and a wide array of roles exist in them, the core responsibility of these departments shall include client management, sales, analysing client behaviour to offer products best and servicing all client requests. The role may involve building tools to automate roles and analyse client behaviours which can involve coding

Responsibilities

Usually the responsibilities depend on the type of position being offered. Some general responsibilities:-

- Lead the Branch Banking Service Team
- Ensuring service excellence to enhance portfolio, control retention and better cross sell
- Ensure compliance to banking guidelines, quality framework and audit requirements
- Authorize and check entries of logs
- Check vouchers to clear high vaue transactions
- Vault / Key custodian

Skills Required

- Usually no specific skills required
- Numeracy skills
- Team work
- Time management

CARDS PAYMENT ANALYST

Job Description

The cards business shall usually deal with analysing client spending trends and identifying key trends or key customers to push the products and services of a bank to grow business further. Role usually

involves analysing consumers' card usage trends and transaction information for business development.

Responsibilities

- Will be responsible for achieving issued cards targets for outbound telesales.
- Will manage end to end outbound telesales process including doc collection.
- Will ensure and monitor daily product wise, agent wise, lead flow, data churning and conversion
- Will Conduct daily floor activities to drive numbers and achieve cross selling targets at the
- Complete ownership of all Management Information system(MIS) related to telesales team
- Data allocation and enrichment
- Team recruitment, management, retention and training

Skills Required

- Preferred have 2- 4 year of experience overall with outbound telesales processes
- Should have excellent communication skills along with strong presentation and data analytics skills.
- Excellent Team Management Interpersonal Skills.
- Should be good in creating new scripts for outbound sales and in training team
- Proficiency in SAS Modelling and segmentation methodology

TECH ROLES IN FINANCE

Job Description

Usually, the tech roles are associated with automating and optimizing some aspects in a finance company's day to day operations and will involve coding layered on an understanding of how the business works and finding inefficiencies

Responsibilities

- Mentor, motivate and lead a team of high calibre data-scientists and ML engineers
- Maintain a well-structured code-base optimized for maintainability and extensibility
- Communicate complex data concepts in terms a non-technical layperson can follow

- Articulate data-derived stories that explain business uncertainty
- Provide constructive feedback when offering criticism or challenging assumptions
- You are capable of working at a conceptual level (understanding business objectives)

Skills Required

Specific skills depend on the type of job available in this sector

- Strong hold in Backend Developments and Algorithms.
- Thorough knowledge of java, MySQL, JQuery , Javascript, Play/Spring Framework and working knowledge of HTML and CSS.
- Strong Hold on Object Oriented Programming and Design Patterns.
- Should have exposure to SQL Query Tuning and Optimization.
- Experience with MVC Design Architecture.
- Can Ideate product ideas and put them into action.
- Passion for coding, and versatility to explore problems and solve them.
- Knowledge on Banking/payment domain is a must
- Amazon web services and PHP is an added advantage

FINANCIAL BUSINESS ANALYST

Job Description

The Financial Business Analyst position is responsible for the financial planning and analysis of the Company's business. This position is responsible for analyzing financial statements and predicting future performance of the Company. This includes forecasting future revenues and expenditures, as well as assisting in the budget process. The Financial Analyst position is responsible for assisting in the creation of and in keeping track of the Company's financial plan. Analyzing the Company's performance, alongside changes and market trends, to create forecasts and calculate variances between those forecasts and actuals. This position will track down and explain the causes of these variances.

Responsibilities

• Creating concise and clear analysis, including variance analysis to analyze financial issues and performance

- Collate and create clear reports for internal & external stakeholders
- Developing innovative financial models for large client dealings comprising of joint venture model and build-operate-transfer models etc. along with approaches for continued improvement in efficiency
- Reviewing proposals that are submitted to customers in terms of financial and pricing clauses, analyze the impact and risks of the proposal financials for the organization
- Preparing multiple pricing models and scenarios for the business unit based on customer request for proposal or where multiple investments by the organization
- Reviewing & Recommending legal contractual documents such as (Master Service Agreements "MSA", Statement of Work "SOW", Non-Disclosure Agreement "NDA" &, others)
- Identifying commercial risks & prioritizing along with proposing risk mitigation framework
- Prepare strategic plan for contractual and commercial negotiation with customer, vendors and alliance partners
- Creation of sophisticated data models from raw data collected from different sources & validations

Skills Required

- CA/ MBA (Finance), or similar educational background with 2-4 years of post-qualification experience are preferred
- Strong in stakeholder management and a P&A background
- Experience in banking industry preferred
- Ability to research issues/problems and provide a 'solution-based' approach
- Expert knowledge of Excel (i.e. use of pivot tables, macros, arrays, etc), MS Access
- Strong knowledge of Essbase

FINANCIAL ADVISOR - ENTRY LEVEL

Job Description

Personal financial advisors assess the financial needs of individuals and help them with decisions on investments (such as stocks and bonds), tax laws, and insurance. Advisors help clients plan for shortand long-term goals, such as meeting education expenses and saving for retirement through

investments. They invest clients' money based on the clients' decisions. Many advisors also provide tax advice or sell insurance and annuities.

Responsibilities

- Work on a variety of activities/opportunities assigned by the Pool (Finance) Manager based on Value/Risk (e.g. control frameworks concerns, performance management, large investment cases, complex contracts) depending on the requirements :
- Deliver the full suite of Finance support (including tax, treasury, accounting and structuring) autonomously and coordinate the involvement of centers of excellence.
- Independently ensure that a proper functioning control framework is in place and that risks are properly understood, reflected and managed.
- Independently ensure value and risks are made transparent and understood in both decision making and in performance management.
- Ensure a fit for purpose performance management system is in place.
- In activities where Finance Operations and Business act together to deliver, lead/initiate structural improvement projects and leaves the accountability for delivery with the accountable people.
- Bring in new proposals of high value activities to the Pool Manager who decides on the resource allocation.
- Actively look for opportunities to reduce non value adding Finance activity ("demand management").
- Maximize use of Finance Operations in delivery of processes.

Skills Required

- Able to prioritize and execute tasks in a high-pressure environment.
- Excellent verbal and written communication skills in English and Hindi.
- Strong communication, negotiation and presentation skills.
- Accuracy, attention to detail and the ability to explain complex information clearly and simply
- Strong analytical and Problem-solving skills



RISK/COMPLIANCE ANALYST

Job Description

Compliance analysts, also known as compliance officers, work to ensure that the activities of their employing companies adhere to guidelines established by the government or non-profit agencies that regulate them. These professionals generally need bachelor's degrees and years of experience to obtain employment. Detail-oriented people who want to help businesses and organizations meet regulatory expectations may want to look into this job.

Responsibilities

- Ensure due diligence is performed on the existing clients to comply with Know Your Customer regulations
- Develop expertise in the Anti Money Laundering/Customer Identification due diligence policies
- Communicate with internal and external clients to obtain relevant documentary requirements in line with current policies
- Work closely with managers to ensure Review case review targets are on track and being progressed
- Responsible for selling financial planning services and creating revenue.
- Explaining and promoting financial planning to prospective clients.
- To handle the client complaints of their queries regarding the services and take their feedback about the services.
- Maintaining and updating customer databases.
- Provide financial planning support to clients.
- Assist clients in the gathering of financial information.

Skills Required

- MBA/CA/FRM/CFA highly preferred
- Expert knowledge in analyzing financial statements.
- Banking Product & Process Knowledge
- Understanding of accounting principles and Regulatory Knowledge
- Excellent knowledge of competition & current trends in the financial industry.

- Experience preferred in credit risk management in banking from reputed financial houses
- Exposure to banking preferable

MERGERS AND ACQUISITION ANALYST

Job Description

Mergers and acquisitions analysts do most of the preliminary legwork for potential deals. They analyze industry prospects by gathering information about growth, competitors, and market share possibilities. They also review company fundamentals and financial statements. The analyst will then build a mosaic to help upper-level managers make decisions on a deal. This work is done over many months, but during certain periods analysts can work very long hours—up to 18 hour days. It is an extremely stressful and high-pressured job.

Responsibilities

- Review, analyze, and present financial summaries of target partnerships
- Assist with the due diligence and underwriting processes, including the construction of investment committee approval memorandums and financial models
- Assist in the support of Business Development Managers in the field to drive an effective and efficient pre-acquisition lifecycle
- Effectively generate and communicate financial analysis in efficient and timely manner
- Assist in the management of minimum viable product's pipeline of potential acquisitions
- Support minimum viable product's integration team to ensure smooth integrations of target companies
- Work closely with the key stakeholders to assist in financial projects and execute operational improvement initiatives
- Assist and participate in cross functional teams and projects to ensure sufficient returns

Skills Required

• Masters in Finance or Masters In Business Administration (MBA) with Finance as Major and experience preferred

- Strong communication and interpersonal skills; ability to work with teams across the world as an integrated team member
- Familiarity with Databases Bloomberg, Refinitiv (Thomson Reuters), Dealogic and Merger Market will be a big plus
- Excellent understanding of Microsoft Office products, tools and utilities for business use
- Strong MS Excel skills having ability to present complex analysis in a simplistic manner, including a good understanding of running / creating Excel Macros
- Interest in following capital markets and M&A activity, in particular
- Ability and dedication to meet strict and aggressive deadlines
- Analytical mindset with an eye for details

INVESTMENT ANALYST

Job Description

Investment analysts collect information, perform research and analyze assets, such as stocks, bonds, currencies, commodities, company financial statements, price developments, currency adjustments and yield fluctuations. Investment analysts often focus on specific niches to become experts in their chosen fields, such as a particular industry, a geographical region or a specific asset class. The information gathering also includes macro developments, such as following a country's political sea changes, climate change and the impact of natural disasters, and emerging industries and service sectors to recommend investment decisions to their employers.

- The core responsibility of an Investment Analyst is to conduct research and analyze data. They may assess the performance of stocks and bonds, analyze profit and loss sheets and companies' accounts, and make informed recommendations to their manager or team leader regarding financial directions. While they are not responsible for making the ultimate decision in investments they do conduct the research and provide the data that aids in the decision-making process.
- Writing financial research summaries and compiling data into comprehensive reports are part of the Investment Analyst's job requirements. The reports often include a recommendation

section that offers advice on which actions should be taken and which actions are to be avoided.

• Investment Analysts typically spend part of their day consulting with stockbrokers, stock market traders, fund managers and other business contacts to aid in their analyses. Keeping tabs on the financial markets' constantly changing patterns and trends requires Investment Analysts to be in close contact with these people on a day-to-day basis. They may speak directly with them, or may review reports and data they have compiled.

Skills Required

Advanced level Microsoft Excel (including Macros, Pivot tables, etc) and PowerPoint skills

CREDIT ANALYST IN CONSUMER BANKING

Job Description

The responsibilities of the credit analyst include analyzing credit data and financial information of persons or companies that are applying for credit or loans to determine the risk that the bank, or other lending or credit-granting institution will not recoup funds loaned. The level of risk is then used to determine if a loan or line of credit will be granted, and if so, the terms of the loan, including interest rate. Credit analysts will prepare reports based upon their findings to help make decisions on lending and credit-worthiness.

- Gather client deal requirements, financial statements and other inputs for performing quality analysis and due diligence.
- Work with Regional management and product partners in structuring credit solutions for the clients and ensuring the appropriateness of the products.
- Responsible for end-to-end BCA process including preparing all the tools like Odyssey, Scorecard, etc, in-depth analysis of various risks, quality presentation and ensuring fast credit approval.

- Ensure compliance of all internal and regulatory credit/other portfolio related policies e.g. preparing the Country Portfolio Standard checklist, Temasek check, other special reporting requirements, etc.
- Evaluate the environmental and social risks for the client using the Environmental and Social Risk Assessment Tool (ESRAT).
- Work with RM to calculate and monitor overall RoRWA at account level.
- Market, industry & client research (ROC Searches, annual statements, credit rating etc).
- Reference check / market check buyers, suppliers, competitors & lenders & to be documented by way of call report / file note.
- Legal & compliance liaising and preparing term sheets for lending products.
- Post Deal Account monitoring
- Monitor quality of the portfolio by tracking weekly excess / past dues and strictly complying with the ASTAR / EAR process.
- Ensure timely submission of quality Quarterly Credit Reports.
- Monitor risk triggers, covenants and other credit conditions and report appropriately.
- Prepare timely stress tests and credit opinion reports

Skills Required

- Good understanding of Credit markets
- Strong customer relationship building skills and Presentation skills
- Candidates should have knowledge in engaging clients and arranging the funds for them through various banking channels.
- Preparation of CMA reports and arranging sanctions and disbursement facilities (Working capital, term funding, project funding, LC, BG etc.) for the client.

FINANCIAL COMPLIANCE ANALYST

Job Description

Finance compliance analysts are hired by finance firms to ensure that all relevant rules and regulations are being adhered to. The primary function of a financial compliance analyst is to oversee the processes and procedures being followed in the finance department.

Responsibilities

- Conduct risk assessments to identify risks and key internal controls that mitigate identified risks
- Follow up, track, analyze and report on IT Risk Assessment results
- Contribute to governance and facilitate remediation recommendations of related risks, deficiencies, gaps or issues
- Advise stakeholders with identifying compensating control alternatives where IT risk requirements cannot be met
- Assist with driving risk management and governance strategies for emerging technology areas
- Remain current with industry best practices and monitor the legal and regulatory environment for developments that could require changes to FactSet s established policies, standards and practices
- Develop processes, policies, procedures, standards, and guidelines for the IT GRC Program. This will include development of an Internal Controls framework and buy in with Risk Management policies
- Collaborate with stakeholders (Senior Leadership, Strategic Business Units, IT, Legal) to ensure a consistent process for identifying, assessing, responding and reporting on IT risks
- Maintains updated knowledge in the field of risk management and compliance to efficiently work on frameworks including NIST CSF, CIS Controls, GDPR, SOX 404, ITIL, etc.
- Promote and raise awareness of cybersecurity programs and posture, driving change and influencing proper cybersecurity hygiene within the organization

Skills Required

- Strong project management skills to simultaneously work on multiple projects concurrently
- Experience with managing a GRC tool application support life cycle
- Strong written and oral communication skills with the ability to explain technical ideas to non technical individuals at any level
- Relevant degree (Risk Management, Computer Science, Management Information System (MIS) or equivalent experience
- Certification: Certified Information Security Auditor (CISA) or Certified in Risk and Information Systems Control (CRISC)
- Experience in developing IT Risk Frameworks, methodologies, assessment plan

COMPANIES & SALARY PACKAGES

- Deutsche Bank
- Credit Suisse
- Axis Bank
- Goldman Sachs
- HDFC Bank
- ICICI Bank
- Kotak Mahindra

- Blackstone
- DBS Bank
- American Express
- Citicorp
- Morgan Stanley
- JP Morgan Chase



Morgan Stanley

optiver





JPMORGAN CHASE & CO.

COMPANY	PACKAGE OFFERED
Deutsche Bank	15-20 lpa*
Morgan Stanley	15-20 lpa*
Goldman Sachs	Greater than 20 lpa*

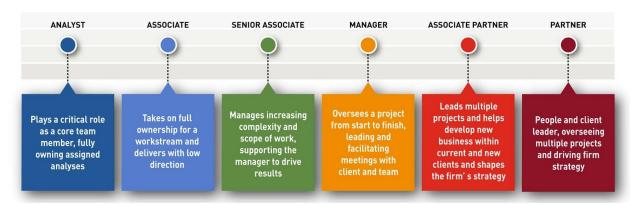
*According to the IIT Bombay Placement Statistics 19-20





CONSULT

"Consulting is the business of providing expert advice to a company or person". When we hear the word "consulting", we think of a top university MBA advising enterprise business or corporate strategy, which is not the accurate picture. A consultant is someone who has some level of expertise which a group of people find useful and are willing to pay for it. Being a consultant is an exciting opportunity to learn ins and outs of running a business in an effective and profitable way.



This is the career ladder of a person who works in a standard consulting firm. The hierarchy begins with analysts, who are fresh recruits at the bottom up to partners, having at least 10 years of work experience in the field of consulting.



IGAO level	Accenture	IBM Global Business Services	Deloitte	EY	КРМG	PwC	FTI Consulting
Business Analyst	Analyst	Entry Level Consultant	Analyst	Associate	Associate	Associate	Consultant
Junior Consultant	Consultant	Consultant	Consultant	Senior Associate	Senior Associate		
Senior Consultant	Senior Consultant	Senior Consultant	Senior Consultant	Senior Consultant	Senior Consultant	Senior Associate	Senior Consultant
Manager	Manager	Manager	Manager	Manager	Manager	Manager	Director
Principal	Senior Manager	Principal	Senior Manager	Senior Manager	Senior Manager	Director	Managing Director
Partner	Partner	Partner	Director	Director	Director	Partner	Senior Managing Director

JOB PROFILES

STRATEGY CONSULTING

Job Description

A strategy analyst helps identify business needs, coming up with proposals for achieving strategic visions. As a strategy analyst, your job duties are to lead consulting sessions with company management, rate strategy proposals based on business objectives, identify growth areas, and analyze models for data-driven strategy recommendations

- Contribute to the company's strategy through research, analysis, and synthesis
- Develop and execute quantitative and qualitative analyses

- Partner with cross-functional partners on special projects in support of the company's strategy, leading workstreams and facilitating collaboration across teams to drive the business forward
- Lead the evaluation of new business opportunities; assess market potential and partner with the Strategy & Product Operations innovation team to develop business cases for launch and scale
- Develop executive-level presentations for key stakeholder conversations
- Mentor more junior team members to support work planning, hypothesis generation, and structured analysis

Skills Required

- Strong quantitative and analytical skills with ability to translate data into meaningful insights
- Demonstrated accuracy, efficiency and attention to detail
- Advanced skills in MS Office and various databases
- Advanced skills in MS- Excel, VBA, R will be an added advantage
- Exceptional verbal and written communication and interpersonal skills
- Strong intellect with proficient commercial and entrepreneurial instinct
- Ability to operate in an ambiguous environment, break cliches and introduce a dynamic approach

MANAGEMENT/BUSINESS CONSULTING

Job Description

A management analyst is responsible for conducting and preparing operations and procedures manuals to assist management of a company in operating more efficiently and effectively. They conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies. Management analysts usually work in the business field.

- Understand business objectives and operational readiness related to a client's needs
- Translate a client's strategic direction and business objectives into holistic project plans

- Coordinate with technical resources in aligning deliverables to address human interaction with technical solutions
- Actively align cross-functional stakeholders around objectives and measures of success
- Proactively identify, mitigate and resolve issues that may adversely impact projects
- Analyze proposed changes and determine impacts on business processes and organizational design
- Implement communication and training programs that prepare the organization for consumption of new digital business processes and incentivize adoption
- Collect necessary data on existing workflows to understand organizational impacts related to a specific change to the business group, customer, or partner and deliver prescriptive recommendations to ensure a smooth transition
- Provide analytical support to project teams and conduct research and data analysis to support the team's analysis and conclusions
- Contribute to business development activities such as pre-sales client presentations, research, requests for proposal (RFPs), and responses to statements of work (SOWs)

Skills Required

- Students should possess organizational and management skills to double up the chances of getting hired by a top-notch company.
- A good understanding of the business ecosystem, market trends, good interpersonal and communication skills, knowledge of two or more languages, sharp analytical capabilities, and the ability to work under tight deadlines and work pressure are the aspects that the students should focus on.
- Moreover, technologies like AI, Machine Learning, Blockchain, and Pattern Analysis are widely being used in the consultancy industry bringing innovation to their services and agility into their organizations. For this, the existing employees are being trained in using these technologies whereas the companies give priority to the candidates acknowledged with the latest technological advancement at the time of new hiring. So, the management consultants need to be adaptable to the changing work culture and should be able to provide quick and profitable consulting solutions to the clients.



HUMAN RESOURCE CONSULTANT

Job Description

Human resources consultants ensure that an organization's human capital serves the best interests of the company. By creating and developing a human resources model specific to the organizations that hire them, human resources consultants work to ensure that the company is effectively using its personnel to achieve its stated goals, while also ensuring the workforce is operating at a high level of productivity and efficiency.

Responsibilities

- Partner closely with key stakeholders including leaders and HRBPs to understand the businesses strategies and needs Conduct in-depth research and analysis of the most cutting-edge human resource theories and practices around the world. Drive the compensation, benefits and performance strategy, solution and execution.
- Design and iterate compensation policies including compensation ranges, structure, short and long-term incentive plans, etc. in support of business needs. Apply expertise in quantitative analysis to see beyond the numbers and help influence and support business decisions.
- Design and optimize benefits programs to ensure competitiveness, effectiveness and alignment with the company's core value and culture.
- Maintain strong working knowledge of legislation and work closely with the legal team to ensure existing policies are in compliance with applicable legislative and regulatory requirements.
- Develop and execute a comprehensive communication strategy for compensation, benefits and performance philosophy and policies.
- Establish and develop a regional CBP team.

Skills Required

- Thorough understanding of human resources principles and practices, including employment laws and regulations. This includes self-directed maintenance on knowledge of current laws, events, industry trends and economic factors that may impact BBSI and its clients
- Knowledge of HR metrics and ability to benchmark, measure, analyze and articulate the value and Return Of Investment of HR initiatives, practices and policies

- Ability to become a trusted advisor to business owners
- Additional operations or business experience outside of HR
- Prior exposure to payroll processing, strong knowledge of wage and hour laws
- Extensive Microsoft Office experience
- Senior Professional in Human Resources or Professional in Human Resources certification is strongly preferred

FINANCIAL ADVISORY CONSULTANT

Job Description

Financial consultants work with companies or individuals to plan for their financial futures by offering information and guidance on topics that include taxes, investments and insurance decisions. Often called financial advisors, these consultants work closely with clients to offer personalized financial advice. Consultants may also direct the buying and selling of stocks and bonds for their clients. Some consultants work for consulting firms that focus on the financial needs of specific businesses or industries.

Responsibilities

- Analyze financial and investment information obtained from clients to determine strategies, products and services to help clients meet their financial and investment objectives
- Provide financial planning information/education to clients about the purpose and details of financial products, services and strategies
- Build and maintain client base, keep client financial and investment plans up-to-date and acquire new clients on an ongoing basis
- Provide knowledgeable, objective finance & financial planning guidance and customized financial strategies to consumer segments that demand high quality services.

Skills Required

• The ideal candidate should have experience in handling Indian financial accounting: A/P, A/R, budgeting and finalization of financial statements as per provisions of Indian GAAP, UK GAAP and IFRS. Candidates with additional knowledge of overseas accounting and tax regulations will be preferred. This experience and skills will enable the candidate to handle Company and

its client's financial accounting requirement Problem solving and critical thinking abilities, demonstrated analytical skills with high attention to detail.

- Complete in-depth understanding of operational accounting
- Experience in handling accounting teams
- Strong controllership and technical skills
- Previous history of managing national and international internal entities/ clients
- Experience of using a Tally (must), CRM package and maintaining clients details as well as latest IT skills such as excel, word, outlook

INFORMATION TECHNOLOGY CONSULTANT

Job Description

IT Consultants are external analysts who evaluate a company's IT systems to help them meet their business objectives. Their primary duties include analyzing and diagnosing a company's IT infrastructure, understanding a client's business needs and designing and implementing a technology solution.

- Developing and maintaining data transformation scripts using the various technologies and softwares
- Administration of all cloud infrastructure
- Development of deployment and automation scripts for new hospital customers onboarding to our cloud infrastructure
- Monitoring of system performance
- Management of technical aspects of IT security
- Support of development infrastructure
- Development of custom queries (SQL, Application Insights, Sumo Logic) to troubleshoot customer issues and monitor field performance
- Improvements to logging flows to support the creation of dashboard and reports showing system usage and performance
- Hands on support of technical aspects of 3rd party identity management implementation (including SSO) with hospital customer

• Hands on support of the technical aspect of establishing a data connection with our customer hospitals

Skills Required

- Good balance between Infrastructure and Application
- Skilled in evaluation of current state analysis, defining systems strategy, developing system requirements, designing/ prototyping, testing, training, defining support procedures and implementation
- Expertise in problem resolution coupled with strong communication and interpersonal skills
- Builds strong working relationship with external stakeholders and should be able to convince / negotiate in case of conflicts
- Responsible for recommending solutions considering the scope of client requirements
- Excellent client facing skills along with prior demonstrated experience of leading teams at various stages
- Project Management skills, including, the ability to work and plan effectively with minimal direction in ambiguous situations, and manage the implementation of the plan

OPERATIONS CONSULTING

Job Description

Operations consultant is a type of research analyst who uses data models to help an organization's management streamline and improve operations. They help increase business efficiency, reduce costs, and improve responsiveness to customers. Operations consultants may work independently or as part of consulting firms, and their career paths can vary according to specialization or industry.

- Building dashboards, analysis, and reports for various business units and lines of business
- Presenting recommendations to executives and business unit leaders
- Researching industry trends/opportunities, and preparing competitive analysis
- Supporting Associates with acquisition due diligence
- Analyzing strategic initiatives such as new product offerings and partnerships

Skills Required

- Must have experience in managing facilities for a manufacturing or plant Excellent customer service skills
- Ability to lead, manage, assign, and motivate teams
- Interpersonal influence

BUSINESS PROCESS CONSULTANT

Job Description

A business process consultant is an external consultant who helps businesses by researching and analyzing the processes and systems that a business implements. Once this has been done, he or she will make recommendations to improve these processes and practices with an eye to improving overall efficiency. The consultant may also be involved in designing simulations to test proposed process improvements.

- Implements and coach's others in the implementation of customer engagement and product development plans. Develops customer specific business process program plans that align with customer, business deliverable, and enterprise strategy and influence appropriate roadmap(s).
- Acquires and applies expert knowledge of the business and leads alignment and development of business deliverable processes and capabilities with business needs.
- Plans, directs, and coordinates activities for complex projects.
- Manages business process risks by using established methodologies and exercising control plans to ensure alignment with CoSA specific requirements, process requirements, and business needs. Identifies CoSA and business process risks across all activities.
- Develops communication plans for customers and internal stakeholders. Ensures alignment between internal stakeholders and customers across all business process projects and services using proactive communication and engagement strategies.
- Utilizes reporting, data, and analytics to measure process and project performance, deliver operational efficiencies, and inform key stakeholders.

Skills Required

- Mastered the art of the cold open, have developed skills for overcoming objections, and have a healthy approach to handling rejection
- Should be able to understand technology products and speak about them confidently
- Position requires strong written and verbal communication skills, as well as strong organization and time management
- Master of elevator pitch and consultative thought process
- Preference will be given to candidates who demonstrate:
- Experience with Salesforce or any similar CRM software
- An MBA degree from a reputed institution is a plus

EXIT OPTIONS FOR CONSULTING

- Private Equity
- Hedge Funds
- Asset management and equity research
- Entrepreneurship
- Corporate roles predominantly in Fortune 500
- Graduate school

WORKING HOURS

Consulting firms tend to have a high average of 60-80 working hour weeks, spread over five days translating into 12-16 hour days. Very often the employees are expected to pull all-nighters to meet their targets. These firms usually have upsides of protected weekends to recuperate.

COMPANIES & SALARY PACKAGES

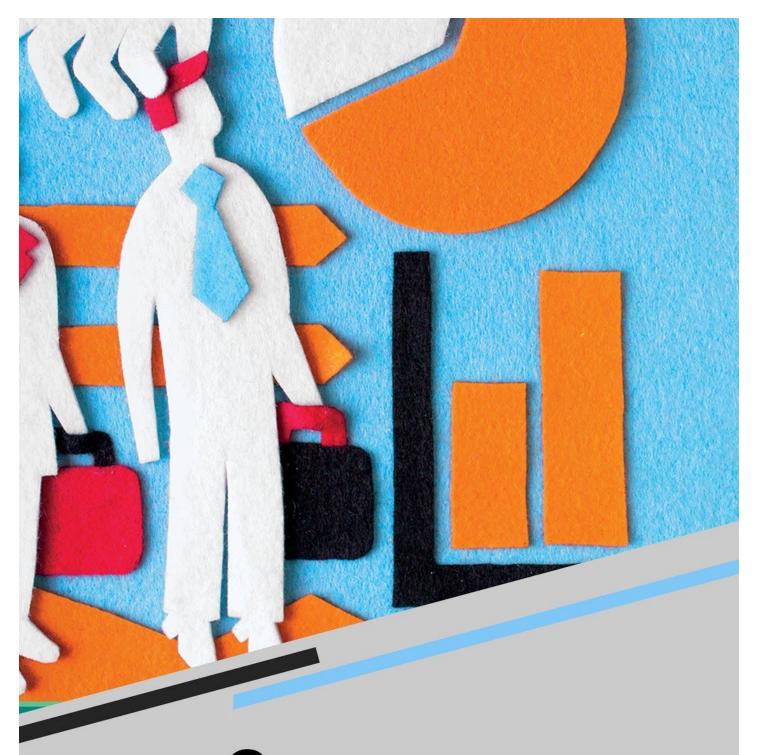
- KPMG
- Deloitte
- EY Parthenon
- LEK
- Strategy& (formerly Booz & Company)

- AT Kearney
- McKinsey
- Boston Consulting Group
- Bain and Company
- Nomura Research Institute



COMPANY	PACKAGE OFFERED
BCG	15-20 lpa*
Bain & Company	15-20 lpa*
LEK	Greater than 20 lpa*

*According to the IIT Bombay Placement Statistics 19-20



Career in ANALYTICS



ANALYTICS

Analytics is the discovery, interpretation and communication of meaningful patterns in data. It entails applying data patterns towards effective decision making. Working in the field of analytics requires simultaneous application of statistics, computer programming and operations research. Specifically, areas within analytics include predictive analytics, prescriptive analytics, enterprise decision management, descriptive analytics, cognitive analytics, Big Data Analytics, retail analytics, supply chain analytics, store assortment and stock-keeping unit optimization, marketing optimization and marketing mix modeling, web analytics, call analytics, speech analytics, sales force sizing and optimization, price and promotion modeling, predictive science, credit risk analysis, and fraud analytics.

JOB PROFILES

ANALYST, FRAUD PREVENTION

Job Description

Collect customer data, personal as well as transactional data and analyze the patterns to detect anomaly, and point to fraudsters.

- Profitability by implementing fraud control measures
- Use big data tools like Map Reduce, PySpark, Hive, etc for analysis of customer data. Spending pattern analysis, Merchant analysis, analysis of digital signatures etc. on a regular basis in the team. Models to catch customers with fraudulent intent are developed. Network science is used to create connections between accounts. Newer projects are also using Machine Learning to develop these models. Ensure orderly filing of relevant documents/reports reviewed.
- Review Risk reports generated
- Timely blocking of Online ID for suspicious fraudulent activity
- Timely confirmation of suspicious transactions, and unblocking of ITB.
- Ensure that policies and processes are followed to identify and minimise accounts that show a high-risk usage pattern

- Ensure that alerts are monitored and actioned on a case to case basis with a balance of fraud risk and customer service
- The Fraud Control and Authorisation function requires an ability to make quick on- the spot decisions, so as to ensure a balance between risk and customer service is an on-line situation.
- A good understanding of systems / procedures
- An understanding of the risk involved in various transaction types and account holder profiles

Skills Required

- Requires the ability to synthesize information and generalize the pattern.
- Great interpersonal skills, ability to manage relationships with key partners and collaborate with remote teams effectively.
- Ability to work independently with minimum direction, comfort with ambiguity, and strong deliverability within strict time frames.
- Work experience in Fraud Prevention is an added advantage.
- Familiarity with tools such as Excel, Google Spreadsheets

DATA ANALYST

Job Description

A data analyst collects and stores data on sales numbers, market research, logistics, linguistics, or other behaviors. They bring technical expertise to ensure the quality and accuracy of that data, then process, design and present it in ways to help people, businesses, and organizations make better decisions

- Lead in the analysis and reporting efforts related to financial forecasting, costs and reporting and data modeling.
- Develop new and modify existing reports.
- Design and modify databases to support reporting and analysis needs.
- Use analytical skills to determine solutions and resolve problems.
- Present findings of analysis to the Executive team and various team members.

• Perform special projects as needed by the management team.

Skills Required

- Professional experience in Business Intelligence/Data Analytics/Modelling. Preferably within a digital business.
- Experience with predictive modeling, forecasting, and segmentation analysis.
- Strong experience working with R. Experience with other scripting languages like Python a plus.
- Proficiency in web analytics platforms such as Mixpanel, Google Analytics, Adobe Analytics etc. Experience on data platforms like Superset and Redshift.
- Familiar with digital campaign management and reporting tools.
- Strong knowledge of digital media, current local trends in media consumption, marketing opportunities

BUSINESS DATA ANALYST

Job Description

Gather data from a variety of sources, incorporating company and industry knowledge, mathematical and technological expertise, and problem solving skills to solve less complex business issues.

- Perform a combination of less complex and complex reporting and analysis, which could involve creating reports from initiation to completion, resulting in recommendations for the business unit based on their needs for major and minor process improvements, small to medium projects within the business unit.
- Develop solutions for routine and more complex problems for the business unit. Identify and recommend changes to policies, procedures and business models with guidance from leaders.
- Ensure the reporting of high-quality metrics data by troubleshooting issues and working with team members and data owners to improve the timeliness and quality of data.
- Drive consistency in functionality, presentation, and quality of all new dashboards and reports, ensuring best practices are adhered to during creation.

- Work with our account managers to understand customers campaign goals (e.g. performance, budget, etc.)
- Analyze performance metrics (CTR, Completion Rates, Spend) across campaigns and take action to improve the results and achieve our customers goals
- Develop and run data experiments and interpret the results
- Proactively communicate the key insights from the performance of active campaigns to the relevant internal teams: account management, product, and engineering

Skills Required

- Proven working experience as a data analyst or database expert
- Expertise regarding data models, database design development, data mining and segmentation techniques
- Strong knowledge of and experience with reporting packages (Tableau, Power BI, etc), databases (SQL etc).
- Knowledge of statistics and experience using statistical packages for analyzing datasets (Excel, SPSS, SAS etc)
- Strong ability to collect, organize, analyze, and disseminate significant amounts of information with attention to detail and accuracy
- Adept at queries, report writing and presenting findings
- BTech/ BSc in Mathematics, Economics, Computer Science, Information Management or Statistics

DATA SCIENTIST

Job Description

Data scientists utilize their analytical, statistical, and programming skills to collect, analyze, and interpret large data sets. They then use this information to develop data-driven solutions to difficult business challenges. Data scientists commonly have a bachelor's degree in statistics, math, computer science, or economics. Data scientists have a wide range of technical competencies including: statistics and machine learning, coding languages, databases, machine learning, and reporting technologies.

Responsibilities

- Design and build the Minimum Viable Cloud Data Platforms
- Deploy/automate/monitor the Machine Learning models into production with ML DevOps
- Build streaming, ingestion, processing data pipelines
- Streamline and simplify model development, test, and deployment with container architectures
- Support the DevOps needs of multiple teams, systems, and products
- Design and develop data products and machine learning solutions for enterprise Analytics
- Possess in-depth understanding of C.S. parallelism concepts and efficient data processing techniques suitable for machine learning applications
- Architect and implement ETL / Machine learning product solutions using best practices in Azure Cloud environment or other compatible environment
- Understand available data, including both in structured and unstructured formats, and recommend effective ways for storage and analytical processing in the cloud

Skills Required

- Proficient in SQL Queries and Excel Functions.
- Knowledge of statistics and experience using statistical packages for analysing data sets (Excel, SPSS, SAS, R, Python, etc) is required
- Strong analytical skills with the ability to collect, organize, analyze, and disseminate significant amounts of information with attention to detail and accuracy
- Familiarity with BI technologies
- Technical expertise regarding data models, database design development, data mining and segmentation techniques
- Adept at queries, report writing and presenting findings Experience using statistical computer languages (R, Python, SQL, etc.)
- Experience with distributed data/computing tools: Map/Reduce, Hadoop, Hive, Spark
- Experience using web services: Azure, BLOB, Snowflake, CosmoDB, Redshift, Redash / Mode
- Experience creating and using advanced machine learning algorithms: regression, clustering, decision trees, GBM, factor analysis, neural networks, etc



DATABASE ADMINISTRATOR

Job Description

A professional database administrator (DBA) will keep the database up and running smoothly 24/7. The goal is to provide a seamless flow of information throughout the company, considering both backend data structure and frontend accessibility for end-users.

Responsibilities

- Upgrade Oracle and Sql Server instances.
- Manage Sql and Oracle databases from design through deployment and ongoing operations.
- Work with developers to gather user requirements and specifications for desktop and web applications.
- Work with developers to design efficient, flexible database structures to support application requirements. Create appropriate keys and indexes to insure data integrity and performance.

• Assist in the creation\modification of views, functions, stored procedure and triggers to implement business rules.

- Create users, roles, profiles, permissions.
- Institute best practices around database security and access.
- Create scripts for implementing database structures and permissions for initial deployment, or for subsequent enhancements.
- Monitor database performance and server performance.
- Monitor databases for 'integrity' issues.
- Create jobs to perform backups, index reorgs and other database maintenance activities.
- Monitor backups, index reorgs, file sizes, disk space, memory usage, and take appropriate action when there are issues.
- Review database and server logs to identify error conditions.
- Create database "links" that support the application without providing too much access to the remote server.
- Help developers debug troublesome queries.

• Provide support for issues such as database and query design, database connectivity, permissions, database errors and performance issues.

Skills Required

- Knowledge of Microsoft Clustering and Hyper-V virtualisation concepts
- SQL Server Reporting Services Administration
- SSIS Package Administration
- Always On Availability Groups
- SQL Replication
- Familiar with unstructured databases such as CosmosDB.
- Familiar with JSON and XML.
- Familiar with Redgate Tools
- Familiar with Powershell

BIG DATA DEVELOPER

Job Description

Build analytics and ML platform to collect, store, process, and analyze huge sets of data spread across the organization.

- The platform will provide frameworks for quickly rolling out new data analysis for data-driven products and micro-services.
- Partner with end-to-end Product Managers and Data Scientists to understand customer requirements and design prototypes and bring ideas into production. Developing real products. You need to be an expert in design, coding, and scripting. You'll be writing high-quality code that is consistent with our standards, creating new standards as necessary, and demonstrating correctness with pragmatic automated tests. You'll review the work of other engineers to improve quality and engineering practices and participate in continuing education programs to grow your skills.

Skills Required

- Statistical or machine learning DSL like R
- Distributed and low latency (streaming) application architecture
- Row store distributed DBMSs such as Cassandra
- Familiarity with API design Hands-on experience on Hadoop based implementations involving HDFS, Map Reduce and Hive or equivalent SQL on Hadoop technology
- Should have knowledge on AWS Big Data Stack like Athena, Redshift, Glue and Lambda.
- Working experience on Apache Spark 2.0 using Scala. Adequate knowledge on Data Frames, Spark SQL and Spark Streaming
- Should be an expert in SQL Queries . Knowledge on other Database technologies like MS Sql Server, Oracle etc. is an added advantage.
- Excellent problem solving and analytical skills

EXIT OPPORTUNITIES

Entrants in the field of analysts work in a similar profile with which they had entered the field for about five years. Post that, the employees prefer to have a broad technical experience rather than continue being a data scientist. Software engineering is the most common exit option in this field. Other exit options are technical mconsulting, risk management in finance and manage technical team in a startup.

COMPANIES & SALARY PACKAGES

- Amazon Web Services(AWS)
- Microsoft
- Oracle
- Citrus
- Cisco
- Tata Consultancy Services
- IBM
- Ernst and Young

- American Express
- PwC
- Citibank
- Capital One



COMPANY	PACKAGE OFFERED
PwC	10-15 lpa*
American Express	15-20 lpa*
Ernst & Young	10-15 lpa*

*According to the IIT Bombay Placement Statistics 19-20

THE POWER OF FAST-MOVING CONSUMER GOODS

COCA-COLA COLGATE-PALMOLIVE DANONE DEAN FOODS ESTÉE LAUDER GENERAL MILLS HEINZ HENKEL KELLOGG KIMBERLY CLARK KRAFT L'ORÉAL MARS NESTLÉ P&G PEPSICO RECKITT BENCKISER UNILEVER



Career in FMCGs



Fast-moving consumer goods(FMCG) are products that are sold quickly and at relatively low cost. FMCG goods relies on a huge range of roles and responsibilities. The sector has a high level of job stability due to their never ending demand. Careers in this sector give high exposure to a stimulating and fast paced working environment along with constant innovation.

JOB PROFILES

LINE LEADER, SUPPLY CHAIN MANAGEMENT

Job Description

Line leaders oversee the manufacturing activities within their department. This job can take place in a variety of settings, from warehouses and production facilities to factory environments. Line leaders undertake a combination of physical and mental work that ranges from filling out paperwork and filing reports to managing production assembly lines and helping their team complete orders. Line leaders are strong communicators who can motivate a team to achieve certain targets and have great time management and problem-solving skills.

- Design processes for various business units in Treasury (includes workflows, control design, reporting framework & risk-controls matrices). Processes cover all Treasury products including Fixed Income and Money markets, Equity, Foreign Exchange & Derivatives
- Facilitate adherence to compliance requirements (internal and regulatory) through implementation of frameworks or other modes of stakeholder engagements
- Facilitate audit interactions and provide support in terms of audit compliance
- Facilitate reduction in operational risks for the business through identification of areas prone to risks and assist in close out of the same
- Evaluate existing processes to identify re-engineering/improvement opportunities
- Management of the changes to the key Treasury policies as applicable due to business/regulatory changes and recommend changes to ALCO / Board

• Ongoing and effective interaction between business users from various sections of Treasury (Front office, Mid office, Operations, IT & BSG) and with control functions such as Compliance, Risk, Audit (internal and external) etc.

Skills Required

- Leadership line leaders must motivate their team and show support and guidance when necessary, so strong leadership skills are key to this job.
- Teamwork working well as part of a team is critical to a line leader's job, as they oversee their colleagues and manage their own schedule.
- Assisting others and offering advice or guidance are also important in this job; Communication skills line leaders clearly relay instructions and procedures so that all tasks are completed accurately and on time, so they need to be good communicators. Time management production lines run on strict schedules, so line leaders must manage their own time well, as well as the time of those around them.
- Problem-solving skills when issues with production arise, line leaders think quickly and proactively to resolve them as soon as possible.
- Troubleshooting skills are important to success in this profession

SUPPLY CHAIN MANAGER

Job Description

This Supply Chain Manager will be responsible for the forecasting, ordering, and fulfillment activities of all products and will cooperate with corporate manufacturing and 3rd party warehouse providers.

- Actively manages Supply Chain Operations, including supervising Logistics Planning and Data Entry positions.
- Oversee transition and integration to new warehouse 3PL partner.•Create integrated processes among Supply Chain, Sales and Marketing to ensure appropriate forecasting for demand and translating same to supply signal for single supplier.

- Help establish and track key performance metrics and benchmarks relating to supply chain planning/forecasting.•Identify and execute cost containment.
- Tracks delivery reliability, back-orders and coordinate early deliveries when necessary to minimize shipping costs. Establish one common Demand Plan for the entire product portfolio in collaboration with the relevant functions in the Platform and Global Supply Chain for the tactical horizon
- Support and collaborate with SRTs and TP/Region SC Head to establish optimal Supply Plan and monitor deviations versus budget for the tactical horizons) Supply volumes/based on demand b) Operational cost, supply performance and Inventory projection at platform/region and at external suppliers (toll manufacturing, decoupling points)
- Collaborate with SRTs the to get accurate overview of capacity and resources for the assigned External Suppliers in order to highlight early warning signals in terms of unbalanced supply vs demand (i.e Supplier S& Op)
- Responsible for driving the execution of write-off process in collaboration with ESO TP/Region key players
- Optimize key supply chain processes according to the NOSSCE standards for the assigned ESO TP/Region (i.e. Demand Control and Demand Review, Supply Review, IBP, transportation/material flow,..) and relevant parameters (i.e. lead times, MOQ, product segmentation, order frequencies,..) in order to increase the processes effectiveness and compliance to the defined standards.
- Support the ESO TP/Region SC Head for effective deployment into TP/Region of supply chain processes (ESO NTO / Global SC) including innovative planning models and generates analysis to support improvement of the planning and execution reliability for the ESO TP/Region.
- Promote, monitor and eventually lead actions plans to achieve supply, customer services level (i.e. OTIF, stock outs) and inventory targets.
- Governance process at ESO TP/Region, analyzing the supply KPI reporting, highlighting gaps Vs targets and defining and tracking gaps mitigation actions in collaboration with SRTs.
- Responsible for the coordination of bottleneck management to avoid or minimize stock out risks for markets and patients creating scenarios in collaboration with Global Functions
- Support implementation of Supply Chain Processes improvement initiatives with new suppliers in collaboration with SRTs.
- Supports supply risk management process within platform/region responding to ad hoc requests for analysis or information regarding supply chain risks and opportunities.

Skills Required

- Previous working experience as a Supply Chain Manager for (x) years
- Hands on experience with supply chain management software (such as SAP MM, AP Modules, SAP Plant Maintenance, etc.)
- Sense of ownership and pride in your performance and its impact on company's success
- MBA in Supply Chain Management, Finance, or similar relevant field preferred

LOGISTICS AND FULFILLMENT MANAGER

Job Description

The Warehouse & Logistics Manager will be responsible for the day to day activity of running the inventory and warehouse operations ensuring that the inventory system is fully operational. Responsible for the day to day operations of the Inventory team and ensuring the work flow and supervision of the team is effective and obstacles to the process are cleared.

Responsibilities

- Develop and execute the logistics strategy for NA, including managing all transportation, warehousing and service providers.
- Manage customer fulfillment processes and activities, including tracking of performance, resolution of problems/issues and operational improvement between the company and external providers.
- Coordinate with internal stakeholders to ensure adequate supply to meet customer needs.
- Manage all reporting tools and external databases related to customer orders and fulfillment.
- Create logistic spend processes and initiatives and holds team accountable for results.

Skills Required

• Data-driven decision making ability & sound commercial judgment through analytical thinking to assess project performance & financial viability. Excel modelling skills necessary, proficiency in SQL a plus.

- Strong project management and stakeholder management skills. Ability to work together with teams across the country to implement the best answer for your city.
- Demonstrated record of leading initiatives and projects at your organization.
- Creative mindset that enjoys experimentation and is willing to take bold bets despite risk of failure.
- Ability to take initiative in a constantly-changing work environment and adopt a generalist do-what-it-takes mindset.

STRATEGIC INSIGHTS MANAGER

Job Description

Consumer insight managers primarily work in market research, seeking to discover target areas that help drive the operational and creative strategies at a company. Consumer insight is used in various divisions of a company, from product development to customer service. Consumer insight managers create reports that they relay to product developers, advertising managers, and other company leaders that decide what next step to take.

- Lead all data analysis requirements to understand the market dynamics for all categories to identify the performance issues, trends and insights to support the management team decision making capabilities.
- Manage all data analysis and reporting requirements for Marketing and Sales Team members to build, monitor and/or track all pricing, distribution, channel programs, sales coverage, promotions, portfolio targeting and brand prioritization needs. Manage mobile metrics.
- Manage all agencies to provide high quality data and reports in line with strategic needs (MSAi, Nielsen, IRI). Negotiate yearly contracts, track payments with the support of finance.
- Support all regional and HQ reporting requirements with timely and accurate data analysis (ASP, SPC, regional templates)
- Drive the management and update of all monthly, weekly, ad-hoc reports and their formatting to ensure that SI department input reflects the changing and evolving needs of the markets.

Follow up global and local trends, new data mining techniques to gather the best consumer and trade insights, update and evolve current methods, reports, agencies as required.

• Recruit, motivate and guide the professional development of the team reporting directly and indirectly to the incumbent.

Skills Required

- Deep Consumer Packaged Goods insights expertise with demonstrated analytical ability on strategic business questions
- Syndicated researcher with expertise on Nielsen Point of Sale software, Panel, Consumption, Mintel, Media data
- Connected insights Ability to evaluate multiple sources of data, stitch together an integrated point of view with actionable recommendations for business

SALES OFFICER

Job Description

Sales Officers are executives that work with companies' sales teams to determine the best strategies to increase customer purchases. They assist higher management in developing reasonable sales goals, oversee the activities of sales employees, and collaborate with marketing teams to expand brand presence.

- Performing market coverage in potentially remote areas
- Achieving sales volume/business targets and implementing sales strategies
- Give product demonstrations to prospective customers
- Interacting and coordination with Sales Coordinator, Marketing, Service, Marketing operations team & Logistics etc. whenever required Achieve sales targets through personal selling (visiting market) and driving the distribution system.
- Managing the distributor system in terms of both front-end and back-end infrastructure.
- Systematically analyse, extract and use MIS reports to identify possible gaps and opportunities to improve execution and performance in your respective geography.

- Negotiate with distributors and develop his people on managing customers to obtain more business.
- Cultivate and leverage relationships with trade to strengthen our market position. Further, use the same the generate and provide market feedback and reports to the branch office.
- Analyse how to improve the competitive position in the market through improved customer service.
- Monitor systematically the performance of the distributor and distributor's sales team and take corrective action (infrastructure gaps)

Skills Required

- Excellent in ROI Calculations & RS Distribution Management
- Should be well-versed with RS appointment & Sales Planning
- Conducting promotional activities & execution
- Knowledge of MS-Office particularly Excel
- Decent Communication in English and Local language is desired
- Minimum 2 years of Experience in Channel Sales preferred

BRAND MANAGER

Job Description

Brand managers work to ensure that a brand remains recognisable, up to date and exciting to customers. Brand managers plan ways to promote – and change the public perception of – brands. Organisations hire brand managers to work 'in-house' on their own brands, where it is likely that they will work solely on a single brand. It is also possible for brand managers to work at a marketing agency, where they may be working on a number of brands for different clients. Brand managers are also responsible for making sure that branding is consistent across advertising and campaigns.

Responsibilities

- Meet the set annual business objectives regarding market share, net sales and volumes for the brand portfolio
- Build high consumer affinity and likeability for the brands

- Develop and deliver distinctive communication strategy in line with the brand strategy and positioning.
- Deep understanding of traditional and new age media mapping consumers current and potential trends, media habits, genre affinity leading to effective media planning and buying
- Create and manage the social media handles of all the brands and execute the local digital brand plan
- Lead a cross functional and agency working team (which includes but is not limited to, agencies, field marketing, sales, consumer insights and other business departments) fostering and building a strong multi-functional team
- Activate the brand through brand education and advocacy consumer, trade and internal
- Develop POS materials, visibility and merchandise and work with field marketing managers as well as on and off-trade sales teams to ensure effective & timely execution
- Build, develop & maintain relationships with lifestyle influencers
- Lead the analysis and reporting of market and competitor trends to identify salient business issues/ opportunities, working closely with sales teams as necessary
- Understand the consumer and shopper behaviour to identify trends in the brand.
- Assist with the development of strategic brand review by analysing category opportunities, identifying key consumer targets, innovation opportunities and activation strategies

Skills Required

- Proven working experience as brand manager or associate brand manager
- Proven ability to develop brand and marketing strategies and communicate recommendations to executives
- Experience in identifying target audiences and devising effective campaigns
- Excellent understanding of the full marketing mix
- Strong analytical skills partnered with a creative mind
- Data-driven thinking and an affinity for numbers
- Up-to-date with latest trends and marketing best practices
- Degree in marketing or a related field



QUALITY CONTROL LEAD

Job Description

The Quality Control Lead reports to the quality control supervisor and oversees the quality Assurance team in the development and administration of internal and external regulations, protocols, and policies as well as creates and maintains test data, performs testing, and reports results to ensure a consistent and high level of quality for all products.

Responsibilities

- Direct responsibility for Filling and Packaging Quality Monitoring.
- Provides guidelines of Quality Inspection for in-process and finished products.
- Oversees daily production and QC activities and supervise/train production & QC staffs.
- Reports to QC Manager.
- Direct responsibility for all Incoming Packaging Component and Labeling Inspection and Testing.
- Issuance of Acceptable Quality Levels (AQLs) for Packaging Components.
- Reviews QC testing results for finished goods, both in-house and contract laboratory.
- Trains/ Supervises QC Inspectors and performs Line Inspection as necessary.
- Provides primary quality review and approval of all Cosmetic Master Production and QC Documents prior to their use.
- Complete GMP-compliant documentation.

Skills Required

- This position will require relevant experience working in manufacturing/operations.
- In-depth knowledge of product/process Risk Management (FDA and ISO standards) is required.
- Experience with a proven track record of implementing appropriate risk mitigation.
- Advanced Technical Training and experience using Statistics, Lean and Six Sigma Methodologies is required including Measurement System Analysis, SPC, DOEs, Reliability, etc.
- Strong knowledge of statistical software packages is preferred with the ability to preview, graph and analyze data and be able to present data that facilitates/drives decision making.

- The ability to perform "hands on" troubleshooting and problem solving is required. The ability to think on the feet and provide sound judgment is highly desired.
- Excellent technical understanding of manufacturing equipment and processes
- Understanding of the NPI (New Product Introduction) process and Process Validation expertise is preferred.
- A thorough understanding of GMP/ISO regulations and validation regulations is preferred.

WORKING HOURS

Average working time is upto 40-45 hours a week with the daily timing being around 8 AM to 6 PM. However, many MNCs are work intensive and demand 50+ hour weeks to meet their monthly targets.

COMPANIES & SALARY PACKAGE

- Emami
- ITC
- Nestle India
- GCMMF(Amul)
- Dabur India
- Asian Paints
- Cadbury

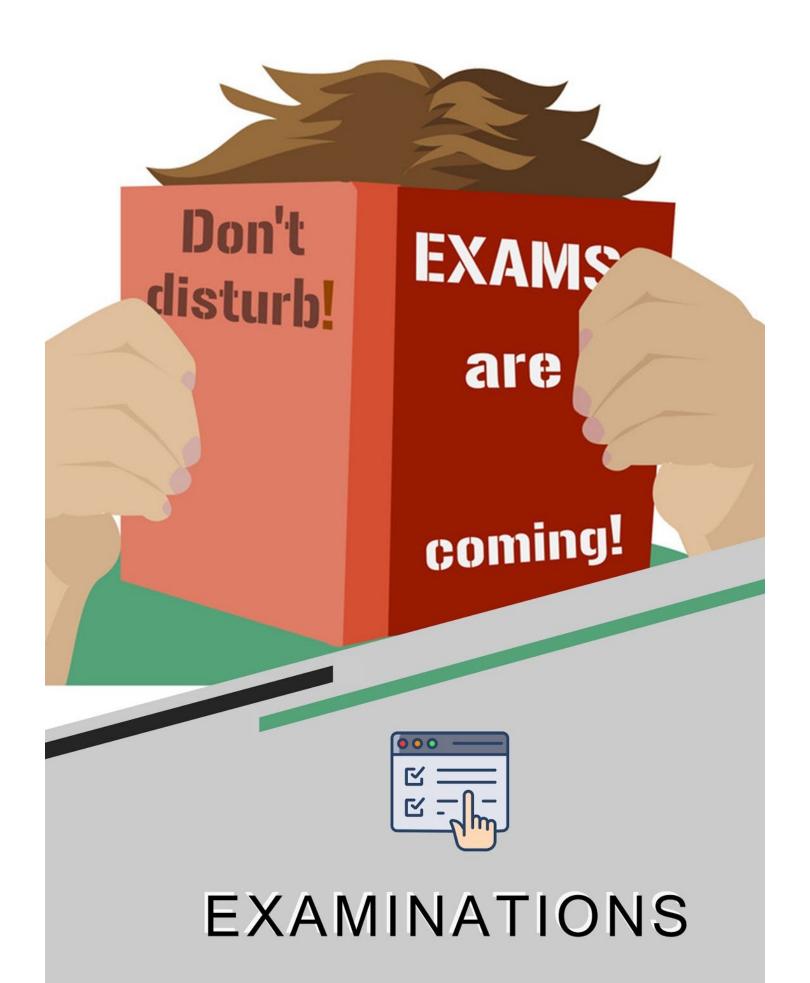
- Britannia India
- P&G
- Johnson and Johnson
- Marico
- HUL

COMPANY	PACKAGE OFFERED	
Flipkart	Greater than 20 lpa*	
P & G	Greater than 20 lpa*	
Zomato	10-15 lpa*	



*According to the IIT Bombay Placement Statistics 19-20





GRADUATE RECORD EXAMINATION (GRE)

WHO TAKES IT?

Prospective graduate and business school applicants from all around the world who are interested in pursuing a master's, specialized master's in business, MBA, or doctoral degree take the GRE General Test.

GRE scores are used by admissions or fellowship panels to supplement your undergraduate records, recommendation letters and other qualifications for graduate-level study

WHEN AND WHERE DO PEOPLE TAKE IT?

The GRE General Test is available at more than 1,000 test centers in more than 160 countries. In most regions of the world, the computer-delivered test is available on a continuous basis throughout the year. In areas of the world where computer-delivered testing is not available, the paper-delivered test is available up to two times a year in November and February.

WHO ACCEPTS IT?

The GRE General Test is accepted at thousands of graduate schools, including business and law, as well as departments and divisions within these schools.

You can take the computer-delivered GRE General Test once every 21 days, up to five times within any continuous rolling 12-month period (365 days). This applies even if you canceled your scores on a test taken previously. You may take the paper-delivered GRE General Test as often as it is offered.

WHAT DOES IT INCLUDE?

The GRE General Test measures your verbal reasoning, quantitative reasoning, critical thinking and analytical writing skills — skills that have been developed over a long period of time and are not

related to a specific field of study but are important for all. Here's a look at content covered in the three test sections — Verbal Reasoning, Quantitative Reasoning and Analytical Writing.

Verbal Reasoning

The Verbal Reasoning section measures your ability to:

- Analyze and draw conclusions from discourse; reason from incomplete data; identify author's assumptions and/or perspective; understand multiple levels of meaning, such as literal, figurative and author's intent
- Select important points; distinguish major from minor or irrelevant points; summarize text; understand the structure of a text
- Understand the meanings of words, sentences and entire texts; understand relationships among words and among concepts

Quantitative Reasoning

The Quantitative Reasoning section measures your ability to:

- Understand, interpret and analyze quantitative information
- Solve problems using mathematical models
- Apply basic skills and elementary concepts of arithmetic, algebra, geometry and data analysis

The Quantitative Reasoning section includes an on-screen calculator. If you are taking the paper-delivered test, a calculator will be provided at the test center.

Analytical Writing

The Analytical Writing section measures your ability to:

- Articulate complex ideas clearly and effectively
- Support ideas with relevant reasons and examples
- Examine claims and accompanying evidence
- Sustain a well-focused, coherent discussion
- Control the elements of standard written English



The fees for taking the exam for Indian students is approximately INR 15,000. Details regarding the fee breakup can be found here: <u>https://www.ets.org/gre/revised_general/about/fees</u>

SCORE SCALES

Three scores are reported on the GRE General Test:

- A Verbal Reasoning score reported on a 130–170 score scale, in 1-point increments
- A Quantitative Reasoning score reported on a 130–170 score scale, in 1-point increments
- An Analytical Writing score reported on a 0–6 score scale, in half-point increments



The CFA exam is actually a series of three exams: Levels I, II, and III. The Level I CFA exam consists of basic knowledge and comprehension questions focused on investment tools, while the Level II exam requires more complex analysis and focus on valuing assets. The Level III exam combines all of the concepts and analytical methods in a number of applications for effective portfolio management and wealth planning.

What is a CFA?

- The CFA charter is one of the most respected designations in finance and is widely considered to be the gold standard in the field of investment analysis.
- To become a charter holder, candidates must pass three difficult exams, have a bachelor's degree, and have at least four years of relevant professional experience.

Why give the CFA?

Without an MBA degree from a reputed B School, it is tough for engineers to get into finance, but with the CFA Program, it is possible because the CFA Program is focused on Investments. If you're an engineer who wants to make a career shift to a financial field then the top priority should be a CFA Program. The engineering background gives him/her quantitative problem-solving skills. Along with this if she/he has a CFA charter she/he is a good match for the investment industry. If you're good at numbers and have an interest in finance, you should do the CFA Program Financial engineering/quantitative finance is a field where they like to hire engineers

CFA Program is a good career option if one wants to pursue Finance. Some of the top career options available after CFA course in India and abroad are:

- Portfolio Manager The candidate can opt to become a Portfolio Manager after completing the CFA course. The role of a Portfolio Manager is to manage the investment portfolio of the clients, choose the appropriate assets to invest in, create an investment portfolio as per the requirements of the client, etc.
- Research Analyst -After completing the CFA course, the candidate can work as a Research Analyst where they can analyze the company's data to identify trends, forecast the performance

and potential growth, provide recommendations and help companies form strategies that will aid in tackling the risks and achieving goals.

- Risk Manager -The role of a Risk Manager is highly in demand, especially for candidates who have pursued a CFA Course over any other course. A Risk Manager analyses the risks that the company is facing currently or the risk that the company is likely to face in the future.
- Financial Analyst -After pursuing CFA course, candidates can also work as a corporate Financial Analyst and help companies strategize to aid smooth functioning and expansion of the business.

When And Where Do People Take It?

The three exams can be taken once a year in June, with the exception of Level I, which can be taken in December as well.

- Location: In India, CFA Institute conducts exam for June attempt in 10 cities: Ahmedabad, Bangalore, Bhopal, Chennai, Hyderabad, Kolkata, Lucknow, Mumbai, New Delhi, Pune.
- For December attempt exam is conducted in 5 cities: Bangalore, Kolkata, Lucknow, Mumbai and New Delhi

What Does It Include?

The following topic areas are covered:

- Ethical and Professional Standards
- Quantitative Methods
- Economics
- Financial Reporting and Analysis
- Corporate Finance
- Equity Investments
- Fixed Income
- Derivatives
- Alternative Investments
- Portfolio Management

More details regarding the structure, weightages and syllabus of the exam can be found here: <u>SYLLABUS OVERVIEW</u>

• Negative marking: There is no negative marking in these exam.



- Reattempt: There is no limit on the number of attempts for re-taking the exam but exam fees need to be paid separately for each re-attempt.
- Grading Procedure: The grading of the Program results happen on the basis of MPS (Minimum Passing Score), after every exam a MPS is calculated based on the performance of an average candidate. Based on the MPS the student gets the result of the same.

Fees

For the Level I exam, the candidate will have to pay one-time program enrollment fees of USD 450 apart from the Registration fees. The Registration fees for all the levels is the following:

Registration Type	Fees	Deadline (Approx.)
Early Registration Fee	USD 700	8 Months before exam date
Standard Registration Fee	USD 1000	4 Months before exam date
Late Registration Fee	USD 1450	3 Months before exam date

What is the difference between CFA and CA?

The focus area of CA is Auditing, Accountancy, and Taxation whereas the focus area of CFA Program is Investment Banking, Equity Research, Investment Advisory Services, Portfolio Management, Wealth Management, etc.

Who can give the CFA?

Before becoming a CFA charter holder, a candidate must meet one of the following educational requirements:-

- The candidate must have four years of professional work experience, a bachelor's degree or be in the final year of the bachelor's degree program, or a combination of professional work experience and education totaling four years.
- For the undergraduate qualification, the bachelor's program must be completed before registering for the Level II exam.
- In addition to the educational requirement, the candidate must have an international passport, complete the assessment in English, meet the professional conduct admission criteria, and live in a participating country.

After meeting the enrollment requirements, the candidate must pass all three levels of the CFA program in sequential order. The candidate must then become a member of the CFA Institute and pay annual dues. Finally, they must sign off annually that they are following the CFA Institute code of ethics and standards of professional conduct.



GRADUATE MANAGEMENT ADMISSION TEST

Who takes it?

To gain admission to an MBA program, chances are you'll need to take the GMAT. About two-thirds of the 1,900+ graduate business schools around the world require GMAT scores for admission, although an increasing number of schools accept GRE scores as an alternative to GMAT scores. Schools that do not require GMAT scores nevertheless welcome GMAT scores to help access an applicant's qualifications.

When and where do people take it?

The GMAT exam is available only at designated Pearson VUE test centers around the world. The list of test centres available in india can be found here:

https://www.indiaeducation.net/studyabroad/international-exams/gmat/test-centres.html

Who accepts it?

The GMAT is accepted at thousands of Business schools. More than 7,000 graduate business programs worldwide across over 2,300 schools use GMAT scores to help them find, recruit, and select the students who best fit with their programs. A list of colleges accepting GMAT score can be found here:

https://www.indiaeducation.net/studyabroad/international-exams/gmat/test-centres.html



The Gmat Exam Has Four Sections:

- 1. Analytical Writing Assessment—measures your ability to think critically and to communicate your ideas
- 2. Integrated Reasoning—measures your ability to analyze data and evaluate information presented in multiple formats
- 3. Quantitative Reasoning—measures your ability to analyze data and draw conclusions using reasoning skills
- 4. Verbal Reasoning—measures your ability to read and understand written material, to evaluate arguments and to correct written material to conform to standard written English

In total, the test takes just under 3 1/2 hours to complete, including two optional breaks.

UNION PUBLIC SERVICE COMMISSION

The Civil Services Examination (CSE) is a nationwide competitive examination in India conducted by the Union Public Service Commission for recruitment to various Civil Services of the Government of India, including the Indian Administrative Service (IAS), Indian Forest Service (IFS), and Indian Police Service (IPS). Also simply referred to as the UPSC examination, it is conducted in three phases - a preliminary examination consisting of two objective-type papers (General Studies Paper I and General Studies Paper-II also popularly known as Civil Service Aptitude Test or CSAT), and a main examination consisting of nine papers of conventional (essay) type, in which two papers are qualifying and only marks of seven are counted followed by a personality test (interview).

1. Preliminary

The preliminary examination intends to focus on analytical abilities and understanding rather than the ability to memorize. The new pattern includes two papers of two hours duration and 200 marks each. Both papers have multiple choice objective type questions only. They are as follows:

- Paper I tests the candidate's knowledge on current events, history of India and Indian national movement, Indian and world geography, Indian polity panchayati Raj system and governance, economic and social development, environmental ecology, biodiversity, climate change and general science, Art and culture.
- Paper II (also called CSAT or Civil Services Aptitude Test), tests the candidate's skills in comprehension, interpersonal skills, communication, logical reasoning, analytical ability, decision making, problem solving, basic numeracy, data interpretation, English language comprehension skills and mental ability. It is qualifying in nature and the marks obtained in this paper are not counted for merit. However, it is mandatory for the candidate to score a minimum of 33 per cent in this paper to qualify the Prelims exam.

2. Mains

The Civil Services Mains Examination consists of a written examination and an interview. The Civil Services Main written examination consists of nine papers, two qualifying and seven ranking in nature. The range of questions may vary from just one mark to sixty marks, twenty words to 600 words answers. Each paper is of a duration of 3 hours. Candidates who pass qualifying papers are

ranked according to marks and a selected number of candidates are called for an interview or a personality test at the Commission's discretion.

Paper	Subject	Marks
Paper A	One of the Indian languages	300
Paper B	English (Qualifying)	300
Paper I	Essay	250
Paper II	General Studies I (Indian	250
	heritage and culture, history	
	and geography of the world	
	and society)	
Paper III	General Studies II	250
	(Governance, constitution,	
	polity, social justice and	
	international relations)	
Paper IV	General Studies III	250
	(Technology, economic	
	development, bio-diversity,	
	environment, security and	
	disaster management)	
Paper V	General Studies IV (ethics,	250
	integrity and aptitude)	
Papers VI, VII	Two papers on one subject to	500
	be selected by the candidate	
	from the list of optional	
	subjects below (250 marks for	
	each paper)	

Sub Total (Written Test)	1750
Personality Test (Interview)	275
Total Marks	2025

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