PATHFINDER: A CAREER CHOICE PROGRAM

Designed for students who are surrounded by many traditional and emerging careers, Pathfinder encourages the student to view his or her career choice through a variety of lenses. It allows them to

- Explore career options, strengths, personality and goals.
- Choose two or three career options that seem suitable for them and
- Build an action plan for further studies and jobs

Rijul Mehra

Note: Information is indicative and based on current research. While Inomi attempts to guide and suggest, a career path is a matter of personal choice of the participant / guardians.

The shoe that fits one person pinches another; there is no recipe for living that suits all cases.

Carl G Jung

>>YOUR PROFILE

This section describes three aspects

Personality profile as assessed by a

- Psychometric tool, MBTI
- Signature strengths
- Work life Goals and Values

PSYCHOMETRIC PROFILE FOR RIJUL

Introverted Energy	Intuitive Perception	Thinking Based	Flexibility Oriented

You love theory and abstract ideas and try to understand things logically by analyzing and understanding their underlying principles. You seek clarity in everything and are driven to build knowledge and help society move towards a higher understanding. You love new ideas and often ignore existing rules and opinions to create your own solution and explanation. You get excited about concepts and love to discuss theory and abstract ideas with others. Usually creative and innovative, you are bored with mundane detail and not overly concerned with practical application of your ideas.

Often quiet and reserved, you do not like to lead or control people and may often be shy in meeting new people. This may make you appear either detached or dreamy to others. However, you are extremely gregarious and self-assertive in the company of those you relate to well or when you violently disagree with an idea or concept. Your logical approach to ideas and situations may sometimes lead you to ignore the feelings of others and to forget to express warmth in relationships.

Independent, unconventional, and original, you are strongly ingenious and have the capacity to create new inventions and pioneer new ideas.

YOUR PERSONALITY AT WORK:

Curious intellect, quick grasp of complexities
Logical, insightful
Contemplative, in-depth understanding
Challenging work/excitement/variety
Seek privacy and time for introspection
Unconventional ideas and solutions
Process based, rather than goal oriented
Independent working
Flexible / non-structured
Dedicated
Tolerant, adaptable
Autonomy, fairness
Inspired work, ingenious

PEOPLE WITH THIS PROFILE ARE OFTEN FOUND IN:

Research & Academia
Scientific Research/ Invention
Biotechnology
Social Science Research
Environmental Science
Professor, Teacher: Senior School
Public Policy, International Relations

Business
Management Consultant
Entrepreneur
Investment Analyst, Risk Analyst
Digital Marketing

Medicine and related fields
Medicine: all fields
Psychology & Counseling: all fields
Therapy: Physical, Occupational

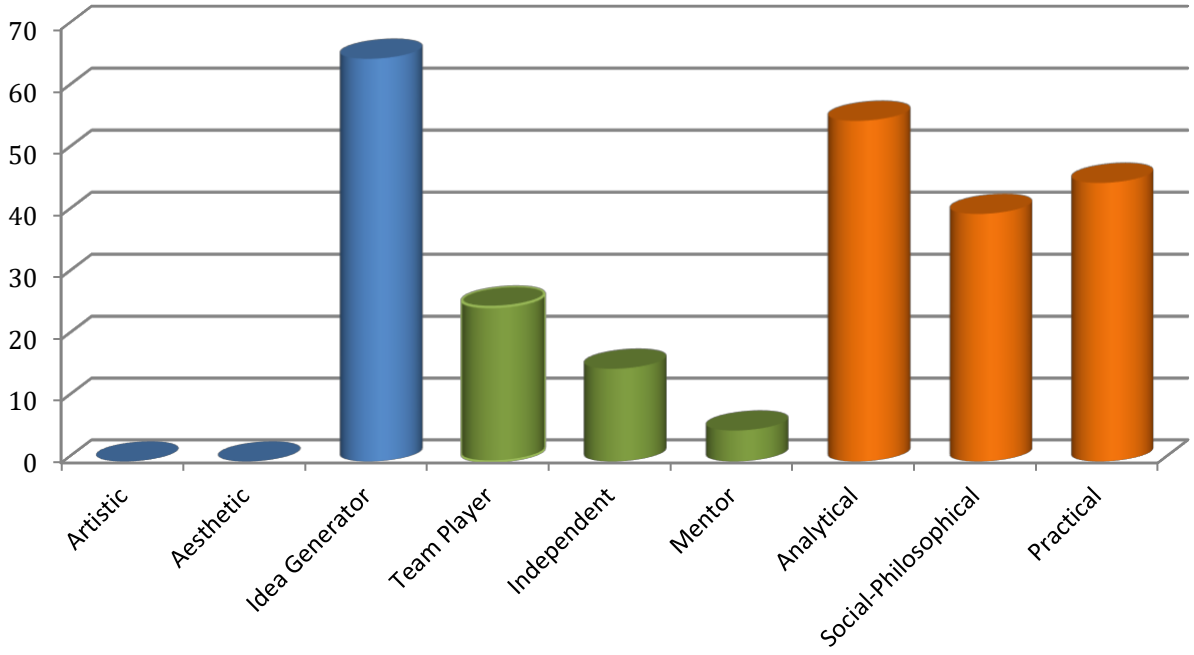
Others
Corporate Lawyer
Intelligence/ Investigation
Government Services

Other technical fields
Engineer: All fields
IT & Systems Manager
Computer Professional
Data Analytics
Game Design, Game Programming

Creative Fields
Design: Graphics, Industrial, UI/IX, Interiors,
Architecture
Musician
Writer
Photographer

Media
Animator
Journalist: Editor
Film Making, Television, Theatre: Production, Direction

RIJUL'S SIGNATURE STRENGTHS



CREATIVE STRENGTHS	INTER-PERSONAL STRENGTHS	INTELLECTUAL STRENGTHS

Creative - Idea Generator

An original thinker, you are inspired by new ideas in a variety of fields. You enjoy using new approaches in almost everything you do. You believe that new ideas can work and are inspired to translate new ideas into action. Idea Generators have original ways of understanding situations and approaching problem solving in varied areas – interpersonal, logistical, entrepreneurial. You think freely and enjoy new concepts and solutions.

Intellectual - Analytical / Practical/ Social- Philosophical

You enjoy framing questions to understand natural, social and human phenomena even though these questions may not have clear answers. You enjoy exploring varied approaches to the same problem. You who like to think but do not enjoy quick and neat answers - instead, you like to pose another question. This makes you interested in diverse subjects and diverse points of view. You enjoy observing and studying the development of human civilization and behaviour. Your insight into behaviour patterns leads you to a

strong interest in fundamental questions about life. You appreciate subjectivity and you enjoy learning about diverse viewpoints on the same subject.

You like to solve problems by taking action. A doer, you are happy to take on projects that require hands on working and practical skills. You enjoy getting things done and are good at working with your hands. You waste little time on option evaluation, argument and debate. You usually just see what needs to be done in a situation, roll up your sleeves and do it.

You like hands-on work and enjoy physical work – lifting, clearing, climbing, retrieving, jumping and a lot of physical sports. You are good at finding practical solutions that work and have the ability to take action to produce concrete outcomes.

ABOUT SIGNATURE STRENGTHS

A Signature Strength is a bit like a fashion statement – this is who I am. This is Me. I do this naturally, without trying too hard. I love to do this. I don't know why. It's just the way I am.

Based on over 10 years of working across age groups with career choices, Signature Strengths was developed by the Inomi team to be a simple tool for people to identify their core Strengths. This instrument has been vetted by professors and independent consultants who specialise in psychometric evaluations.

A Signature Strength is not limiting. It does not mean that this is all I do or that I am bad at other things. It simply means that when I do this, my natural intelligence takes over; I don't have to watch myself too closely and somehow know what to do. As I use this Strength through my work and life, my skill and effectiveness in this grows. And as I build a life that keeps me more and more in my Signature Strength zone, I enjoy myself and the best of me again and again. And before I know it, I am already in the throes of a life-long love affair with myself!

Can I have more than one Signature Strength? Over the years, we have found that most people have two and some have three. For some, these stand above all other Strengths with compelling authority and for some these are supported by many complementary Strengths. It helps to focus on the top two or top three Strengths and choose work that best leverages these after which one could allow it to tap into all other supporting aspects of the self.

RIJUL'S KEY WORK-LIFE GOALS

This refers to an ideal lifestyle that we want our work life to create.
These are rewards from work that define and measure success for us.
This is the ideal work environment for us.

Expertness
To work where my intellectual expertness is valued & recognized

Impact Society
To work for the betterment of the world or society at large

Personal Development
To continuously learn, gain new knowledge and grow as a professional & human being.

Self-Realization
To do work that is personally challenging & realizes my full potential

>>YOUR THOUGHTS & DECISIONS

These sheets record Rijul's thinking during the program. The first page is an open-ended listing of Rijul's thoughts.

My Career Inventory on the second page lists careers Rijul found interesting through the program.

My Career Shortlist on the third page shows careers Rijul filtered as most suitable through the program.

Love is a better master than duty.

Albert Einstein

My dream has always been to be a	Environmental scientist, Data analyst
I am very curious about a career in	Environmental Science, Urban planning
I think I would be very good at	Biology, Chemistry, Economics
My parents would like me to be a / make a career in	NA
My family has a business in	*NA*
I plan to	*NA*
I am considering a career in this sport....	*NA*
Highest level / accomplishment	*Guitar, Basketball*
If there was no risk of failure, I would try to be a	Lawyer
I have always been interested in	Economics, Chemistry, Computers
In my wildest fantasies, I see myself working as	Surgeon
If nothing else, I could always be / do	IT professional
If money was not important, I would love to	Tourist

Other careers that caught my interest			
Scientifc Research	Computer Science	Data Analaytics	IT & Systems
	Investment Banking	Entreprenuership	Consulting
	Environmental engineering	Think Tanks, International Relations, Environmental Policy	Corporrate Law
	Social Work		

MY CAREER INVENTORY			
Scientifc Research	Computer Science	Data Analaytics	IT & Systems
Environmental engineering	Investment Banking	Entreprenuership	Consulting
Think Tanks, International Relations, Environmental Policy			Corporrate Law
	Social Work	Environmental Eco	Urban Planner(with environemtal science)

My Strengths	My Personality	
Idea Generator (65)	**INTP**	
Analytical (55)	Contemplative	
	Curious Intellect	
Practical (45)	Adaptable	
	Flexible	
Social Philosophical (40)	Challenging work	
	Logical	
	Dedicated	

Careers that suit my strengths		Careers arising from my personality	
Scientific research and Biotechnology		Biotechnology	
		Scientific research	Environmental Science
Academics:Social Sciences		Data analytics	
		Architecture	
Architecture	Analyst: Economist	Computer professional	
Computer: Data analytics	Social work		
	Law: Corporate Law		

CAREERS THAT SUIT ME		
Scientifc Research	Architecture	
Social Work	Corporate Law	
Data Analaytics	Environmental Economics	
Biotechnology	Computer Science	

MY LIFE GOALS		
Expertness	Impact Society	Personal Development
		Self-Realization

MY CAREER SHORTLIST
Economics (Environmental)
Bio / Chem with Environment Science
Computer Science

>> CAREER REPORTS

Work areas, environment, prospects and study routes for recommended careers.

When we do what we are meant to do, money comes to us, doors open for us, we feel useful, and the work we do feels like play to us.

>>RECOMMENDATIONS

This section provides primary and contingency career recommendations for Rijul.

A flow chart with suggested undergraduate, work and post-graduate options maps out the recommended path, back-up paths and long-terms options over the next few years.

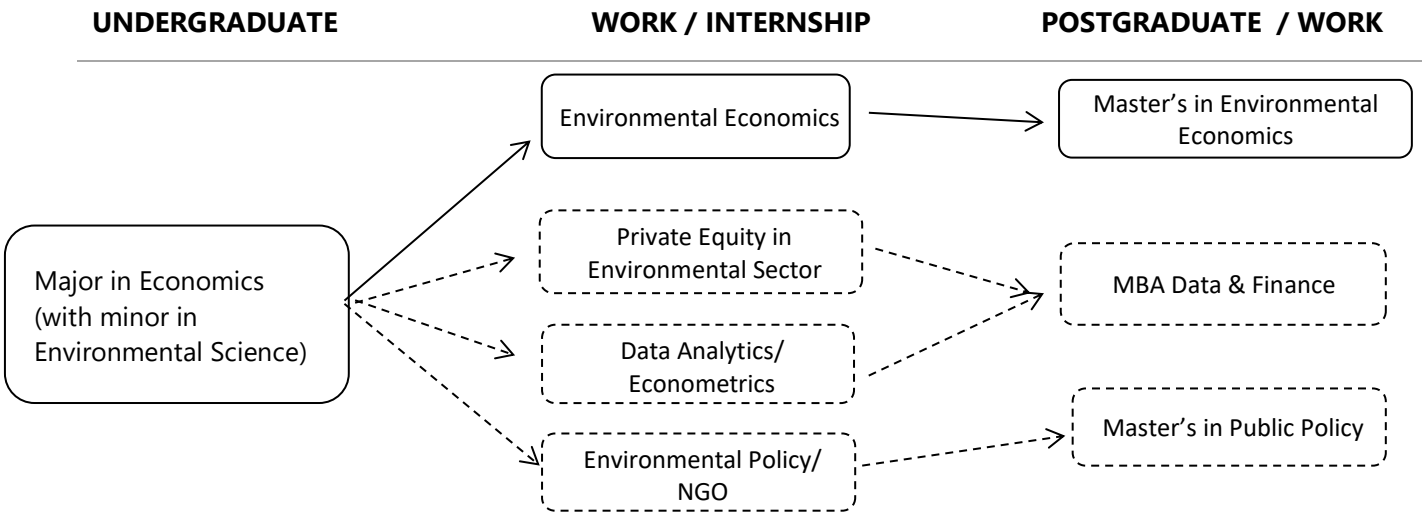
RECOMMENDED CAREER PLAN FOR RIJUL

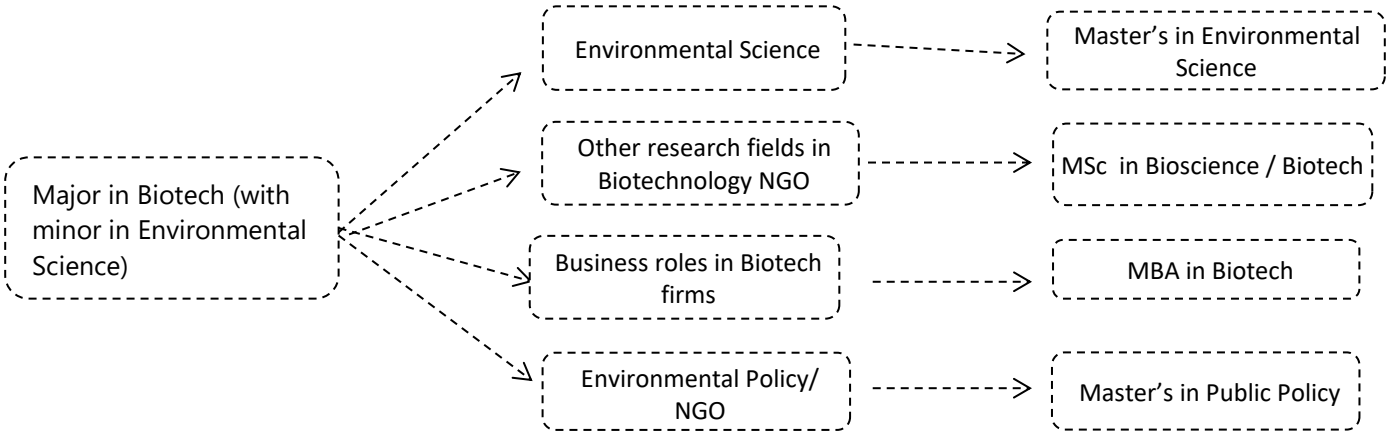
⇨**Key Career Option**: Economics (Environmental/ Finance / Data Analytics)

⇨**Long-term Option**: Public Policy

⇨**Alternate Options**: Biotech / Environmental Science

FLEXIBLE CAREER PATH





YOUR NEXT STEPS

Rijul, a warmly enthusiastic and imaginative person you see life as full of possibilities. You have a wide range of interests and are good at understanding the world from many different angles. You make connections between events and information very quickly, and confidently proceed based on the patterns you see. You are energetic and enthusiastic and enjoy leading a spontaneous and adaptable life. You can excel at almost anything that interests you. You are often excited by new ideas but get bored with details. You thrive on what is possible and what is new.

A highly intellectual person with an analytical bent of mind, Rijul, you want a work life where you can be an expert in your field and impact society at large. You also want to learn and grow at every step both personally and professionally.

Several fields engage your analytical skills and imagination, like economics, finance, data science and applied scientific research. Your passion for the environment can be combined with several of these like environmental economics, investments and private equity in environment-based companies, environmental science and biotechnology research.

As an economist, you can work on analyzing and recommending policies that lead towards development, lowering poverty or equitable growth. You can work with think tanks, government and non-government departments as well as with multi-lateral agencies. This will leverage your interest in research as well as your writing skills. Most people who enter this field go on to do doctoral research (Ph D) as well – it may be worth your while to explore the field for a while before taking on that level of commitment.

Your strong interest in the environment combines very well with your academic interests. Environmental Economists, for example, study the impact of environment policies and design measures that encourage people and companies to follow environmental norms like recycling, limited polluting emissions, using renewable power sources etc. For example, the government can impose a limit on carbon emissions, offer incentives like tax credits to companies that adopt renewable power sources or *dis*-incentives like placing quantity-based taxes on carbon emissions.

Economics can also lead you towards a career in finance and investment, a high-growth field today and in the future. As an investment analyst, you can analyze startups in the environmental space and evaluate their long-term potential. You can be instrumental in driving investments and finances towards companies that are making a genuine impact and guide them towards positive business models.

Several analytical fields like Data Analytics, Risk Analysis and Investment Analysis are highly suited and will leverage your core skills very well. A combined undergraduate degree focused on Economics, Data and Finance will open these areas to you.

If your interest in the environment gets lower with time, Economics still open numerous fields like finance and data analytics, investment analysis, policy analysis and research.

Alternatively, Environmental Science is also a field that interests you and will leverage your scientific bent of mind, imagination, and interest in research. Most courses are available at the post graduate level, and you would want to major in biotechnology at the undergraduate level – or Chemistry and Biology would also make you eligible for leading post graduate courses.

In general, Rijul, applied research is a field you would thrive in – this would leverage your intellectual skills as well as creativity very well while also allowing you to work in areas you love. Applied research would also leverage your people skills and give you entrepreneurial opportunities within organisations (often called in-trapreneurship) as well. This would leverage your intellectual skills as well as creativity very well while also allowing you to work in areas you love. Similarly, basic research would be best in a university environment where you can have access to teaching and student interaction as well. Universities have a high emphasis on research and publication – a culture often captured in the phrase "Publish or Perish"! This will also leverage your tremendous writing talents well.

Management is another option that can be exercised at any stage of your career along either of these two tracks. Several people consider doing an MBA and moving into management after working for a few years in their core skill area like engineering, computers, accounting or law. This is not to suggest that you should do the same but merely to say that a career in Management will remain open to you at any time in your career.

The attached career reports have more details.

RECOMMENDED SUBJECT STREAM

Option 1

HL- Math AI, Chemistry, Eco

SL- English Language & Literature, FL, CS/ ESS

Option 2

HL- Math AI, ESS (interdisciplinary), Economics

SL- Eng. Lang Lit, FL, Chemistry

Option 3

HL- Math AI, ESS (interdisciplinary), Economics

SL- English Language & Literature, FL, Computer Science

>> DEVELOPMENT RESOURCES

Short courses, reading resources and videos to learn more about the area involved

EXPLORING ECONOMICS

SHORT COURSES

US and Canada-based

- Economics Summer Institute : UCLA
- Economics for Beginners : Brown Summer Institute
- Economics Policy Academy : Georgetown
- Introductory Microeconomic Analysis : Boston University summer programs
- World Economics : International Summer Program UofT

India-based

- Young Scholars Program : Ashoka University
- UCL India Summer School, UCL, UK

UK-based

- Behavioural & Experimental Economics : Warwick Summer School
- Economics : Oxford Summer Courses
- Economics : Summer School at LSE

ONLINE COURSES

- Infonomics I: Business Information Economics and Data Monetization : UIUC
- The Art & Science of Economic Policy : IIHS
- Behavioural Economics & Public Policy : IIMB
- Greening The Economy : Lund University
- Understanding Economic Policy : IE University
- Game Theory : Stanford University
- Introduction to Economic Theories : Erasmus, Rotterdam, Netherlands

READING LIST AND VIDEOS

- TED playlist on Economics
- An interesting way to understand Economics and Finance- taught by kids for kids
- 'Economics in One Lesson' A short video encapsulating the famous book by Henry Hazlitt
- Freakonomics + Superfreakonomics, Stephen Levitt
- Why Nations Fail: The Origins of Power, Prosperity and Poverty, Daron Acemoglu
- Where Do Prices Come From?, Russ Roberts
- Investment Biker and its sequel Adventure Capitalist, Jim Rogers
- 'How an Economy Grows and Why It Doesn't', Irwin Schiff
- Pencil: The Movie and Milton Friedman - Lesson of the Pencil

EXPLORING ENVIRONMENT STUDIES

READING LISTS

Environment Economics

Ted Talk : How to get everyone to care about a green economy by Angela Francis

Environmental Economics by Tyler Cowen

What Is Ecological Economics by Dan O'Neill

Environmental Economics: A Very Short Introduction by Stephen Smith

Environmental Economics by Paul Anderson

Environmental Policy

ENVIRONMENTAL LAW AND POLICY IN INDIA by Divan Shyam (Author), Rosencranz Armin (Author)

Environmental Policy: Protection and Regulation

Environmental Science

The Climate solution by Mridula Ramesh

THE NEW CLIMATE WAR by Michael E. Mann

How to Avoid a Climate Disaster: The Solutions We Have and the Breakthroughs We Need by Bill Gates

Environmentalism: A Global History by Ramachandra Guha

The Uninhabitable Earth by David Wallace-Wells

The Great Derangement: Climate Change and the Unthinkable by Amitav Ghosh

Environmental Law

Environmental Law in India by Prof. P.Leelakrishnan

ENVIRONMENTAL LAW AND POLICY IN INDIA by Divan Shyam (Author), Rosencranz Armin (Author)

VIDEOS

Environment Economics

Environmental Economics: A Very Short Introduction - By Stephen Smith

Priceless: On Knowing The Price Of Everything And The Value Of Nothing – Frank Ackerman

Prosperity without Growth: Foundations for the Economy of Tomorrow by Tim Jackson
WORLD OF THREE ZEROS by Muhammad Yunus
Article : Environmental Economics

Environmental Policy

Introduction to Environmental Policy
Environmental Policy Explained

Environmental Science

An Inconvenient Truth by Al Gore
Averting the climate crisis by Al Gore
David Attenborough, People's Advocate for #COP26, Address to World Leaders | Climate Action
The fastest way to slow climate change now by LLissa Ocko
Let the environment guide our development by Johan Rockstrom
10 years to transform the future of humanity -- or destabilize the planet | Johan Rockström

Environmental Law

Environmental Law: A Very Short Introduction | Elizabeth Fisher

ONLINE COURSES

1. Greening the Economy: Lessons from Scandinavia by Lund University
2. Introduction to Complex Challenges
3. Extinctions: Past, Present, & Future By Emory
4. Climate Change Mitigation in Developing Countries
5. Exploring Renewable Energy Schemes

EXPLORING PUBLIC POLICY AND INTERNATIONAL RELATIONS

SHORT COURSES

International

National Student Leadership Conference, American University, Washington DC

Introduction to International Relations, Cornell University

Programs in International Relations, Law and Government, Georgetown University, Washington DC

Yale Young Global Scholars program, Yale University and Yale Centre in Beijing, China

Summer School in International Relations & Diplomacy, Geneva School of Diplomacy and International Relations

Pre-College Politics, Activism & Leadership 2-Week Institute, Emerson College, Boston

India-based

High School Achievers Program, YLAC India

ONLINE AND DIGITAL RESOURCES

Online courses

Global Diplomacy – Diplomacy in the Modern World, SOAS University London

Public Policy Challenges of the 21st Century

READING LISTS

1. Kenneth Waltz, Man, the State, and War
2. Jared Diamond, Guns, Germs, and Steel.
3. Thomas Schelling, Arms and Influence
4. James Scott, Seeing Like a State: How Schemes to Improve the Human Condition Have Failed
5. David Halberstam, The Best and the Brightest
6. Robert Jervis, Perception and Misperception in International Politics
7. John J. Mearsheimer, The Tragedy of Great Power Politics
8. Ernst Gellner, Nations and Nationalism
9. Henry A. Kissinger, White House Years & Years of Upheaval.
10. Karl Polanyi, The Great Transformation.

EXPLORING BIOTECH AND SCIENTIFIC RESEARCH

SHORT COURSES

US and Canada-based

Multiple 1 to 4 week sessions at Brown University
https://www.brown.edu/academics/pre-college/pc-apply.php

Experiences in Biotechnology Academy

https://summer.georgetown.edu/programs/SHS27/experiences-in-biotechnology-academy

SummerLab: DNA, Genes and Drug Production at Boston University

http://www.bumc.bu.edu/citylab/summerlab/curriculum/

SIMR - Stanford Institutes of Medicine Summer Research Program,
https://oso.stanford.edu/programs/high-school-students,

UK and Europe-based

2-week program held at Cambridge University
https://www.reachcambridge.com/courses/biotechnology

2-week program held at Kent University: Molecular biology and IVF
https://www.kent.ac.uk/summerschools/programmes/molecularbio.html

Biotechnology and Genetics at Oxford University

https://oxfordsummercourses.com/biotechnology-genetics/

India Based

Bioscience and Pre-Medical Summer School Program

https://www.stoodnt.com/blog/bioscience-pre-medical-summer-school-india/

Young Technology Scholars

https://youngtechscholars.org/

ONLINE AND DIGITAL RESOURCES

Genomics: Decoding the Universal Language of Life from UIUC

Industrial Biotechnology from the University of Manchester

Genes and the Human Condition (From Behavior to Biotechnology) from the University of Maryland, College Park

Drug Discovery, Development & Commercialization from the University of California, San Diego

Principles of Biomanufacturing: Using Biotechnology to Manufacture Medicines

The Science and Politics of the GMO from Cornell University

Biobased Products for a Sustainable (Bio)economy from TU Delft

READING RESOURCES

1. Mythbreaker - Kiran Mazumdar-Shaw and the Story of Indian Biotech
2. Dolly Mixtures: The Remaking of Genealogy by Sarah Franklin
3. Frankenstein's Cat by Emily Anthes
4. Red Canary by Tim Birkhead
5. The Uses of Life: A History of Biotechnology by Robert Bud
6. Biology Is Technology by Rob Carlson
7. The Life of a Virus: Tobacco Mosaic Virus as an Experimental Model, 1965 by Angela Creager
8. The Selfish Gene by Richard Dawkins
9. Our Posthuman Future by Francis Fukuyama
10. The Strongest Boy in the World by Philip Reilly
11. The Lives of a Cell by Lewis Thomas

VIDEOS

Free video lectures
https://www.freevideolectures.com/Subject/Bio-Technology

Biotechnology can be beautiful

https://www.youtube.com/watch?v=tRYuN9GaN7I

Hiromi Ozaki: How I bring myth and magic to life

Ellen Jorgensen: Biohacking -- you can do it, too

Andrea M. Henle: How CRISPR lets you edit DNA

Jennifer Doudna: How CRISPR lets us edit our DNA

Ellen Jorgensen: What you need to know about CRISPR

>> CAREER REPORTS

Work areas, environment, prospects and study routes for recommended careers.

FINANCE

Money is definitely what makes the world go round. It is hard enough to earn, but even harder to keep track of. The best situation to be in is to have your money work for you. These are places where Accountants, Analysts and Advisors step in. As money becomes increasingly 'abstract' due to technology and mechanization, people who really understand money are well positioned to build careers. Economies around the world are fiercely interlinked and the role of Finance and Accounting professionals is becoming more and more critical.

With the increasing pace of business, financial products are getting increasing complex and varied. Products are created to meet the changing and growing needs of customers in developing and developed countries. Every business activity is measured in terms of its bottom line (read profits). From being back-office jobs mainly for record and book keeping, careers in the Financial Services are increasingly challenging and attractive – offering greater decision making roles, and planning and controlling of operations in many organisation.

BANKING

Retail Banks deal with everyday needs of individuals like maintaining accounts, cash deposits, withdrawals, investment advisory, deposits, loans (housing, car etc.), credit cards, payments, demand drafts, lockers etc.

Corporate Banks deal with banking requirements of companies like current accounts, overdrafts, loans, letters of credit etc. Corporate bankers analyse the performance and risk in companies to decide their suitability for giving loans. They work closely with high-potential companies to create new financial products and innovatively meet their clients' requirements.

Investment Banks help companies and governments raise money – either through issuing shares through the stockmarkets, privately selling equity, or by taking loans from banks or other companies. Investment bankers advise clients on financial deals like Mergers & Acquisitions or investing in other companies.

The power of compounding

In the early 1600's, a group of Red Indians sold an island to the Confederates for just $16! But that was not so bad a deal, after all.

Had they re-invested the $16 at a compounded rate of 8%, it would amount to $30 trillion in 1989 when the actual value of the real estate on the entire island - today known as Manhattan - was $50 billion! The Red Indians would be ahead $29 trillion and change!!

STOCKS AND INVESTMENT

Stockbroking and Investment Broking Stock exchanges are like market places where brokers buy and sell shares of companies for individuals or institutions. Apart from merely managing transactions, stock brokers can also chose to play an advisory role in managing portfolio funds.

Apart from company shares, brokers trade in Commodities (gold, silver, corn, crude oil, rice), Currencies, Futures and Options, Debt, Bonds etc

Why "bulls" and "bears"?

Because of their attacking styles!! When a Bull attacks, it throws the enemy UP, while a Bear will crush you in a stranglehold and pull you DOWN!

Securities Research and Analysis tries to understand and predict the health of shares or commodities and make "buy" or "sell" recommendations at specific price points. Equity Research analyses the financial performance of companies while Debt Securities Research analyses and predicts the financial health of bonds.

Venture Capital involves investing money in new businesses in the early stages of their growth. Generally invested in exchange for shares in the company, venture capital is usually high risk, but offers potential for above-average returns. A venture capitalist is a person who evaluates new businesses and invests after detailed risk analysis.

ACCOUNTING AND AUDIT

Chartered Accountants (CA) or Audit and Account experts have much more to contribute beyond maintaining and auditing (checking) accounts in a firm. Their responsibilities include

- ⇨ Writing up of accounts & preparation of financial statements from the simplest receipts and payments to complex and detailed accounts
- ⇨ Maintaining of books of accounts as required by the Companies Act and auditing accounts to certify that they are drawn on correct accounting principles

Cost Accountants are responsible for budgeting, cost management and performance evaluation of various products and services in a company. Cost Accountants contribute in strategic management and cost competitiveness of companies. Cost Auditors perform cost audits, maintain cost audit records and install cost controls.

CORPORATE FINANCE

Corporate Finance professionals work in the Finance department of companies and look after the day-to-day financial requirements of that company. This includes maintaining and monitoring accounts, day-to-day investing, managing bank relationships, garnering loans etc.

- ⇨ They manage foreign currency transactions and trading – spot, forward covers, derivatives
- ⇨ They maintain balance sheets and profit and loss statements for the company and ensure that the company's statutory requirements are timely met e.g. taxation, RBI declarations
- ⇨ They are responsible for Cash Management which involves collections from customers, payments to suppliers, salaries, PF etc.
- ⇨ They are responsible for the Annual and quarterly budgeting exercises of the company.

Give yourself a Finance Workout

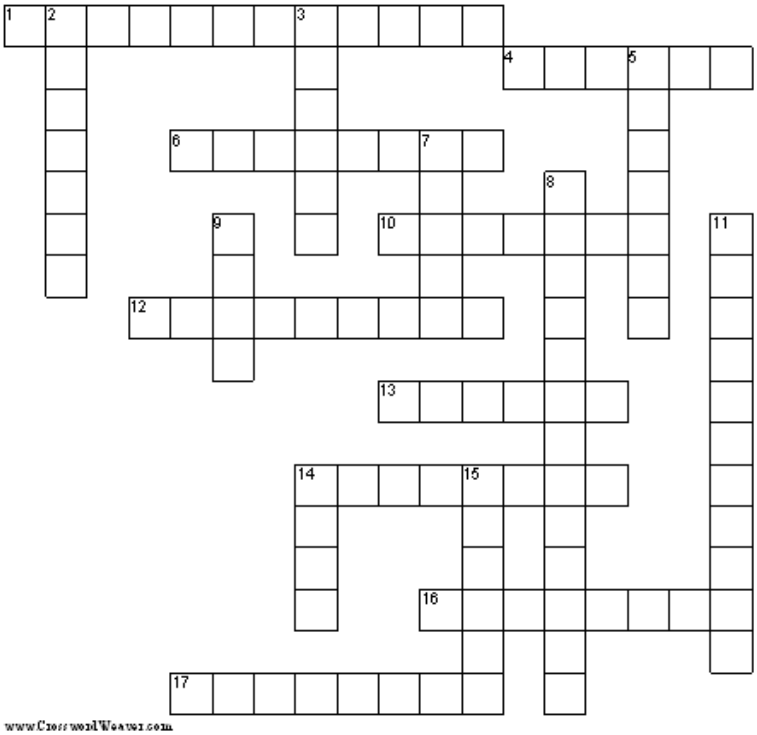
Do this crossword in less than 5 minutes

Across

1. Rate and efficiency of work
4. Ask the bank to advance money
6. Money paid for a loan
10. Wealth of person or business
12. Promise to repair or replace
13. Amalgamation of two companies
14. Legal agreement
16. Total sales of a company
17. Share of profits paid to shareholders

Down

2. Proof of payment
3. Put money into a company or business
5. Money paid to owner of copyright or patent
7. Part of the capital of a company
8. Where shares are bought and sold
9. Money lent
11. Amount of money spent
14. Neither cheque nor credit card
15. Money returned



Answers on last page (note: there are no spaces between words)

WHO MAKES A GREAT FINANCE PROFESSIONAL

- ⇨ Loves numbers and enjoys arithmetic and calculation
- ⇨ Excellent analytical and reasoning powers
- ⇨ Understands complex and technical situations
- ⇨ Quick decision making ability
- ⇨ Unbiased objective outlook on most issues
- ⇨ Ability to work under pressure
- ⇨ High level of integrity, tact and discretion

COMPENSATION

(Rs. '000 per month)	Initial	Mid-level	Senior level
Banking	25-40	75-250	250-1000
Corporate Finance	35-50	75-250	250-1000
Stock broking and Advisory	20-35	35-200	200-1000
Chartered Accountant	35-50	75-250	250-1000

STUDY ROUTES

Commercial/Investment Banking, Equity Analysis, Venture Capital, Corporate Finance

While private banks normally resort to campus placements in B-schools for entry level slots, nationalized banks fill up posts based on the examination conducted by the IBPS (Institute of Banking Personnel Selection) and interviews.

The best route is through an MBA in Finance or a post graduate course in Finance. This is a post graduate degree available to students of any stream. Mathematics in Class XII and graduation is preferred during admissions but is not a requirement. Applicants are usually required to take a common entrance exam like the CAT, MAT or GMAT.

Stock Brokers

- ⇨ As per SEBI Guidelines, the minimum qualification required to be a stock broker is a graduation with at least 2 years of experience in a stock broking firm.
- ⇨ A sub-broker, the previous stage to a broker, needs to have passed Class XII to be eligible.
- ⇨ This is, however, a very basic criterion and one will usually require a post graduation in Finance to find work as part of a stock broking firm or investment company.
- ⇨ An independent Stockbroker require registration with a Stock exchange. To become a member, you need to clear a written test and then undergo training, which includes subjects like accountancy, capital markets, securities and portfolio analysis and so on. A certain amount has to be deposited with the stock exchange as security when one gets membership.

Besides Finance and Accounting, some courses which could be useful are Economics, Computers, Mathematics, etc.

Chartered Accountant

- ⇨ Enroll with the Institute for Common Proficiency Test after Class X or XII.
- ⇨ After passing CPT and 10+2 examination, join Professional Competence Course, articled training and register for 100 hours course called Information Technology Training
- ⇨ Appear in and clear Professional Competence Examination (PCE)
- ⇨ Register for Final course with the Board of Studies. You may join the General Management and Communication Skills Course while undergoing Final course.
- ⇨ Complete articled training of 3½ years.
- ⇨ Appear for Final examination and complete GMCS.
- ⇨ Enroll for membership of the Institute.

Cost Accountant

- ⇨ Enroll with the Institute for at graduate level.
- ⇨ Obtain Coaching Completion Certificate (CCC) by participating in the following:
  1. Group discussion
  2. Business Communication Seminars (2) - in each Stage I & II.
  3. Computer hands-on training – 50 hour module.
- ⇨ Appear in and clear Intermediate Examination
- ⇨ Register for Final course and obtain a Coaching Completion Certificate (CCC) by
  1. undergoing dissertation
  2. completing the compulsory computer training of 100 hour duration
  3. attending the Regional Council's modular training for 15 working days
  4. completing Audit/ Industrial Training for a 12 month period.
- ⇨ Appear for Final examination
- ⇨ Enroll for membership of the Institute.

LEADING COURSES IN INDIA

Chartered Accountant

The **CA** course is conducted by The Institute of Chartered Accountants of India (ICAI), head-quartered in New Delhi. The ICAI has 5 regional offices at Mumbai, Calcutta, Chennai, Kanpur, and New Delhi, with 81 branches to these regional centres.

The **ICWA** Course is conducted by The Institute of Cost & Works Accountants of India, KolKata

MBA Finance

In India the most popular and renowned centres of learning are:

- ⇨ Indian Institutes of Mgmt, Ahmedabad, Calcutta, Bangalore, Lucknow, Indore, Kozikode
- ⇨ XLRI - Xavier Labour Research Institute, Jamshedpur
- ⇨ ISB - Indian School of Business, Hyderabad
- ⇨ FMS - Faculty of Management Studies, University of Delhi
- ⇨ Jamnalal Bajaj Institute of Management Studies, Mumbai (JBIMS)
- ⇨ S. P. Jain Institute of Management Studies, Mumbai (SPJIMR)
- ⇨ Management Development Institute, Gurgaon (MDI)
- ⇨ Narsee Monjee Institute of Management Studies, Mumbai (NMIMS)
- ⇨ Xavier Institute of Management, Bhubaneswar (XIM B)
- ⇨ Symbiosis Institute of Business Management, Pune (SIBM)
- ⇨ Symbiosis Center for Management & Human Resources Development, Pune (SCMHRD)
- ⇨ Institute of Management & Technology, Ghaziabad (IMT)
- ⇨ International Management Institute, Delhi (IMI)

Stock Brokers/ Analysts

Courses specific to this field can be found at:

- ⇨ Mumbai Stock Exchange Training Institute, Stock Exchange Building, Mumbai
- ⇨ Institute of Chartered Financial Analysts of India, Hyderabad
- ⇨ Institute of Company Secretaries of India, New Delhi
- ⇨ All India Centre for Capital Market Studies, JDC Byte Institute, Nasik
- ⇨ Institute of Capital Market Development, New Delhi
- ⇨ Institute of Financial and Investment Planning, Mumbai
- ⇨ College of Business Studies, Delhi University

Leading courses in US and Canada

- Harvard University , United States
- Massachusetts Institute of Technology (MIT) , United States
- Stanford University , United States
- University of Chicago , United States
- University of Pennsylvania , United States
- University of California, Berkeley (UCB) , United States
- New York University (NYU) , United States
- Yale University , United States
- Columbia University , United States
- University of California, Los Angeles (UCLA) , United States
- Princeton University , United States
- University of Michigan , United States
- Northwestern University , United States
- University of Texas at Austin , United States
- Cornell University , United States
- University of Toronto , Canada
- Duke University, United States
- University of British Columbia , Canada
- University of Illinois at Urbana-Champaign , United States

Leading courses in Europe

- London School of Economics and Political Science (LSE) , United Kingdom
- University of Oxford , United Kingdom
- University of Cambridge ge, United Kingdom
- London Business School , United Kingdom
- The University of Manchester , United Kingdom
- The University of Warwick , United Kingdom
- Imperial College London , United Kingdom
- The University of Edinburgh, United Kingdom
- INSEAD, France
- Bocconi University , Italy
- HEC Paris School of Management, France
- Copenhagen Business School , Denmark
- Erasmus University Rotterdam , Netherlands
- University of Amsterdam , Netherlands

Leading courses in Australia

- ⇨ The University of Melbourne , Australia
- ⇨ The University of New South Wales (UNSW Australia) , Australia
- ⇨ The University of Sydney , Australia
- ⇨ Monash University, Australia
- ⇨ The University of Queensland , Australia
- ⇨ The Australian National University , Australia
- ⇨ The University of Auckland , New Zealand
- ⇨ University of Technology Sydney , Australia

Leading courses in Asia

- ⇨ National University of Singapore (NUS) , Singapore
- ⇨ The Hong Kong University of Science and Technology , Hong Kong
- ⇨ Nanyang Technological University, Singapore (NTU) , Singapore
- ⇨ The University of Hong Kong , Hong Kong
- ⇨ The Chinese University of Hong Kong (CUHK) , Hong Kong
- ⇨ Peking University , China
- ⇨ The University of Tokyo , Japan
- ⇨ Seoul National University , South Korea
- ⇨ Tsinghua University , China
- ⇨ City University of Hong Kong , Hong Kong

ENVIRONMENTAL STUDIES AND SCIENCE

"We are the first generation to feel the impact of climate change and last generation that can do something about it"- Barack Obama

Somehow, the pandemic managed to make the world recognise environmental crisis in a way that no cyclone, floods or Greta Thunberg could do. As the world woke up to the fact that things can go irreparably wrong, we threw ourselves into making it right with true human optimism.

Companies, multilateral agencies and universities threw themselves into finding solutions and investments in Environmental, Sustainability and Governance (ESG) programs surged. Climate finance skyrocketed with the World Bank delivering a record $32 billion for climate related projects across the world, more than a third of their total financing! According to Bloomberg Intelligence, ESG assets surpassed $35 trillion headed to over $50 trillion by 2050.

In short, the environment has taken centre stage in the world and presents diverse career opportunities for those whose hearts beat for it! The time for the environmental enthusiast is now!

ENVIRONMENTAL SCIENCE VS ENVIRONMENTAL STUDIES

Environmental Science focuses on the study of natural systems and the application of technology to protect and improve the environment while Environmental Studies focuses on the interaction between human and natural systems and the connection between science and policy.

Environmental Studies while rooted in earth sciences, contains strong elements of the humanities. A Bachelor or Master of Arts (B.A. or M.A.) in Environmental Studies is designed for those who have an interest in the policy and management aspects of environmental and sustainability issues. Coursework may cover the fundamentals of environmental science, but also examine environmentalism and sustainability through a social, economic, political, interpretive and historical lens. Students may choose to focus specifically on one of these facets, such as policy, law or the intersection of social and environmental justice and advocacy.

Environmental Sciences is designed for those interested in the more technical and scientific elements of environmental issues. Students can earn a Bachelor or Master of Science (B.S. or M.S.) and may build a base of knowledge that includes mathematics, chemistry, physics, earth sciences and biology. The goal of this type of program is to provide students with a scientific and quantitative understanding of contemporary environmental challenges, causes and contexts.

Yes, you CAN!

- Recycling one aluminum can saves enough energy to run a TV for three hours.
- During the time it takes you to read this sentence, 50,000 12-ounce aluminum cans are made.
- An aluminum can may be recycled forever!
- We consume over 80 trillion aluminum cans every year.

	Environmental Studies	Environmental Sciences
Available Degrees	Bachelor of Arts, Master of Arts	Bachelor of Science, Master of Science
Related Disciplines	Politics, Social Sciences, Law, Communications, Social Justice Activism	Mathematics, Chemistry, Biology Physics, Earth Sciences
Relevant Interests/ Background	Humanities Communications Policy making Advocacy Education	Sciences Data Analysis Labwork Fieldwork Engineering
Possible career paths	● Environmental Policy Analyst ● Environmental Economist ● Environmental Lawyer ● ESG Investors and Analyst ● Environmental Activist ● Environmental Journalist	● Environmental engineering ● Industrial ecologist ● Energy Scientist ● Hydrologist ● Environmental scientist ● Oceanographer

ENVIRONMENTAL STUDIES – MAJOR FIELDS

Environmental Policy Analysts

Environmental policy refers to any action taken by a government, corporation, or other public or private organization to mitigate the harmful effects of human activity on the environment. An example of an environmental policy at an individual level is – condominiums have rules on segregating garbage into recyclable and non-recyclable bins before throwing it out. Even though by law, one would not be penalised for the same, your society may take certain actions for not complying with their rules.

Environmental Policy analysts may work with the government through the Ministry of Environment, Forest and Climate Change in forest or coastal management, pollution, biodiversity or wildlife conservation. Recruitment would be through the Indian Forest Service or through direct jobs.

Environmental Lawyers

Environmental law is a body of laws, regulations, agreements, and common law that govern how humans interact with their surroundings. Environmental laws naturally aim to protect the environment from harm, but they also define who can use natural resources and on what terms. Laws can vary from pollution regulation to the use of natural resources to forest protection to mineral extraction, and the protection of animal and fish populations.

5 ESG startups

75F offers smart building solutions and building automation software and tools that save energy and reduce greenhouse gas emissions like wireless sensors, equipment controllers and cloud-based software, delivering predictive, and proactive

Ace Green Recycling is a battery recycling startup, which claims to have developed clean and efficient lead-acid battery recycling technology.

AirOk has patented an air filter called EGAPA that , it claims, removes 99.7% of air pollutants from the environment. AirOk offers air purifiers, face masks, purifying bags, and pollution seizure solutions.

altM's stated mission is to develop sustainable materials from agricultural residue and help companies reduce their carbon footprints.

Bambrew produces sustainable alternatives for food packaging, pouches and foldable cartons, and PVC. It uses bamboo to make its plastic-free products.

For example, in July, 2022, India prohibited the manufacture, sale, and use of single-use plastic items such as plates, cups, straws, trays, and polystyrene and plastic carry bags.

Environmental Economists

The focus of environmental economics is to encourage sustainable development policies that balance both environment and economic concerns. It deals with the economic and financial implications of environmental policies such as the impact of the ban on plastic on small-scale industries. A popular example of environmental economics is the carbon tax government levies to penalize industries that emit carbon.

ESG Investors and Analysts

ESG refers to environmental, social and governance goals. As investments by companies in environment projects rise, and many new ventures are getting launched in environmental-friendly products and technology, there is a huge rise in ESG investing and ESG funds in India and all over the world. ESG funds that are focussed on investing in environmentally-responsible business were launched in 1960s but the last five years have seen a huge jump with India alone recording an inflow of Rs 5000 crore in ESG funds in 2021-22 – the first post COVID year. Some of India's best ESG funds include SBI Magnum Global Fund, Aditya Birla Sun Life Advantage Fund, Franklin Build India Fund and the ICICI Prudential Value Discovery Fund.

Environmental Activists

Their focus is to enhance awareness of environmental damage and draw world attention and funds towards solutioning. They may focus on one area of environmental protection such as soil conservation, pollution or marine welfare – like David Attenborough who focusses on wildlife and forests, or Rajendra Singh, a water conservationist. Or they focus on the big picture creating urgency on all fronts like Greta Thurnberg.

Major Environmental Movements in India

Environmental Movements in India have a very long history. These movements are generally composed of various individuals, groups, and unions who share similar concerns in environmental protection and work to reform environmental policies and practices. They are often driven by regional and local concerns of residents.

The Chipko movement in 1970s Uttarakhand is the most famous environmental movement in India. A non-violent movement, it motivated 27 women from the Chamoli district to wrap their arms around trees to prevent their felling.

The spread of environmental movements is not restricted to a single region of the country. A wave of environmental movements emerged in India, particularly after the 1970s. Some other prominent environmental movements in India include:

- Appiko Movement
- Bishnoi Movement
- Silent Valley Movement
- Narmada Bachao Andolan
- Jungle Bachao Andolan

ENVIRONMENTAL SCIENCE AND ENGINEERING – MAJOR FIELDS

Environmental Engineers

Environmental Engineers with a specialisation in civil engineering or chemical engineering work on wastewater management, air and water pollution control, waste disposal and recycling. Electrical and mechanical engineers work on generating and harnessing green energy – through nuclear fusion or solar panels, for example and on reducing the carbon impact of existing technologies with automobile and manufacturing industries.

Some leading areas in research today include climate change, renewable energy, noise, water and air pollution, wildlife conservation and loss of biodiversity.

Industrial Ecologists

Industrial ecologists analyse industrial processes, products and systems and measure their impact on the surrounding ecosystem they operate in. They conduct laboratory and field tests analysing the composition of the air, soil and water around industrial plants and waste areas. They work with environmental science specialists to explore, develop and test alternatives to minimise the ecological impact of the industry they work with.

Environmental scientists

Environmental scientists specialise in chemistry, biology or biotechnology. They conduct laboratory experiments to discover or invent materials, molecules and processes that can replicate the effects of environmentally damaging industrial systems.

For example, those specialising in chemistry may work of developing waterproof and breathable clothing that is biodegradable; they may analyse soil for chemical contaminants and conduct large-scale chemical reactions to neutralise them.

Scientists specialising in environmental biotechnology may research and deploy microorganisms that can help decompose biowaste quickly, or combat air and water pollution.

Energy Scientists

Energy scientists study alternative sources of energy and processes to harvest electrical, thermal and mechanical energy from wind, sun, ocean currents, nuclear fusion and most recently small movements of molecules, fibres and even the human body!

The latest areas of research include deriving energy from the movements of nanoparticles, from nuclear fusion from materials abundant in nature and from the natural movements within the oceans. With fossil fuels expected to deplete by 2050, scientists are working large funds and aspirations to create sustainable large-scale energy generation processes from at least one of these sources.

Not so static any more

We all enjoy creating "static electricity" through the friction between hair, clothes and sometimes human touch can create an electrical charge. It is shocking and funny at the same time when it happens. For example, we can run a balloon on our heads and send it flying to the ceiling!

Scientists at the University of Melbourne have published research that applies the same principle to generate electricity by the friction between very minute fibre layers in ploymers like ethylene-vinyl acetate which is used in the soles of sports shoes to give them a "springing effect", and polylactic acid which is what gives us the occasional muscle cramps while running or

Hydrologists

Hydrologists analyse the natural flow of water, and the impact of man-made structures on processes on it to determine its impact on underground water levels, water quality and safety, river flow and flooding patterns, evaporation and rain and snow cycles.

They use GIS mapping techniques, remote sensing and modelling software to manage water resources, enhance sustainability in water availability and quality, and forecast floods and droughts.

Oceanographers

Oceanographers study the ocean, marine life, glaciers, coral reefs, and their relationship with the biosphere. They may collect samples from the ocean floor, or from marine plant and animal life and run tests to uncover the quality of the ocean water and its safety for marine life and material. They may run mathematical models based on ocean and wind currents to predict ocean movements, geophysical flow dynamics and potential sea-borne disasters like tsunamis. They would use marine robots, remote sensors, and underwater vehicles to explore and analyse, as well as to collect data.

So which major is right for you?

To do well in either field, you need to be passionate about the subject. You should want to be a positive force in the world. Beyond that, think about what you want to do with your degree after graduation.

Do you want to work in conservation, environmental chemistry, climate change science, and so on? Are you a scientist by temperament Then maybe you should go for an environmental science program, or a science-related track of environmental studies.

If you want to work in policy, law, or justice – working with NGOs or government agencies to make change on the ground – then go for an environmental studies degree focusing on social science and humanities. If you want to work towards increasing sustainability in the business world, whether working for larger companies or starting your own sustainable business, go for the business side of environmental studies if your college offers it.

PROSPECTS

Environmental Policy Analysts

Other than the government, policy makers could work with advocacy groups, think tanks, and media. Council On Energy, Environment and Water (CEEW), Centre for Science and Environment (CSE), World Resources Institute India (WRI India) and The Energy and Resources Institute (TERI). Policy Analysts could also work with consulting firms like

Deloitte, Accenture, Booz Allen Hamilton in their Environmental practices working on government or corporate ESG projects.

Environmental Lawyers

Environmental lawyers may work with the government to draft laws, run their own practice handling Public Interest Litigation (PIL) cases against polluting industries, or work with companies dealing with environmental regulations and issues. They can also work with think tanks as policy analysts.

Environmental Economists

Environmental Economists may work with the government, with think tanks and with companies using and trading in carbon credits. Carbon credits are permits for a company to emit a certain quantity of carbon dioxide or other greenhouse gases. Companies earn carbon credits by investing in environment-friendly projects and these credits can also be traded internationally.

Environmental economists work with governments to create regulatory systems for carbon markets and exports of carbon credits. They may also work with think tanks, consulting firms and with companies dealing in carbon credits.

ESG Investors and Analysts

This growth in ESG funds has created a demand investment analysts who can assess the financial and non-financial value and feasibility of these projects. ESG analysts will scrutinize investment opportunities to determine its financial impact, sustainability, environmental impact and growth potential. The analysis guides potential ESG investors on the most suitable projects to invest in.

Environmental Scientists and Engineers

Environmental scientists may work with companies researching processes to cut down carbon emissions or to use recycled good and reduced non-biodegradable waste. Or they may work with research laboratories on sources of clean energy or microbial decomposition of plastics. Or they may work with policy organisations documenting the effects of global warming and climate change on the earth's natural systems and processes.

Ecologists, Energy Scientists, Hydrologists, Oceanographers

They may work on salaries with organisations such as these or government organisations focused on ecological conservation. Or they may work with research labs run by universities or government-funded research labs. In many cases, their work will be funded by research grants, and they could pitch for these grants from think tanks, international NGOs, multi-lateral orgnisations like the Global Green Growth Institute of the UN Research Institute for social development

LEADING COLLEGES ACROSS THE WORLD

INDIA

Mount Carmel College - BSc Environmental Sciences and sustainability

St Joseph's University - BSc Environmental Sciences and Biology

Ashoka University - Minor in Environmental Studies

Flame University BA in Environmental Studies

TISS BA in Analytics and Sustainability Studies

Fergusson College B.Sc. in Environmental Science

Krea University Economics and Environment Studies major

Ashoka University, Environment Studies minor

USA

Brown University A.B , Sc.B in Environmental Studies

praised for its enriching academic environment and interdisciplinary approach, allowing students to explore a wide range of subjects related to environmental science

Stanford University, USA Earth Systems Major

University of California, Berkeley, USA Bachelor of Science (BS) in Environmental Sciences
UC Berkeley is highly regarded for its Environmental Science, Policy, and Management programs. It offers extensive research opportunities and a diverse curriculum that covers everything from ecology to environmental law.

University of California, Santa Barbara (UCSB), USA Environmental Studies, B.A.

Known for its strong emphasis on environmental research and conservation, UCSB offers interdisciplinary programs that cover a wide range of environmental issues, from marine sciences to environmental economics.

University of Michigan, Ann Arbor, USA Major in Earth and Environmental Sciences
The School for Environment and Sustainability at the University of Michigan is highly regarded for its comprehensive programs that blend science, policy, and management to address environmental challenges.

University of North Carolina Chapel Hill Environmental Science Major, B.S.

UK

University of Oxford, UK: Master's Programs: https://www.geog.ox.ac.uk

Oxford offers a robust program in Environmental Science, focusing on the social and ecological dimensions of environmental management. The course is interdisciplinary, drawing from geography, biology, and economics.

University of Cambridge, UK: Cambridge offers a comprehensive Natural Sciences program, which includes a focus on Earth and environmental sciences. The university is known for its rigorous academic standards and research opportunities.

Imperial College London, UK: Earth and Planetary Science Undergraduate Program

Known for its science and engineering focus, Imperial offers an Environmental Science program that emphasizes the practical and quantitative aspects of environmental issues.

University of Edinburgh, UK BSc Ecological and Environmental Science

University of Leeds, UK BSc Environmental Sciences

EUROPE

ETH Zurich, Switzerland: Bachelor Environmental Sciences
ETH Zurich is one of Europe's leading universities in science and technology, offering a strong program in Environmental Sciences. It provides a broad education in the natural and social sciences related to environmental issues.

Wageningen University & Research, Netherlands: Bachelor Environmental Sciences
Wageningen is world-famous for its programs in life sciences and sustainability. It offers a unique Environmental Sciences program focusing on the study of natural resources and the environment.

CANADA

University of British Columbia (UBC), Canada: Bachelor of Science in Environmental Sciences

UBC's Faculty of Science offers a comprehensive Environmental Science program, emphasizing hands-on research and interdisciplinary studies. The university is also noted for its commitment to sustainability.

University of Toronto, Canada, Honours Bachelor of Science | Environmental Science (Major, Minor)

INTERNATIONAL RELATIONS & PUBLIC POLICY

"The best public policy is made when you are listening to the people who are going to be impacted." Elizabeth Dole

"There is a tremendous difference between Public Opinion and Public Policy." Noam Chomsky

International Relations (IR) is the way in which two or more nations interact with each other – how they trade, how they manage military positions with each other, how to handle political alliances with each other and the rest of the world – and even how they manage cultural exchanges. A vast and interdisciplinary field, IR professional deal with security issues, economic issues and trade between countries. They work with government ministries like foreign affairs, trade and commerce or finance – and may also work with think tanks that advice the government on foreign affairs.

A highly academic field, international relations professionals typically specialize in an area through their work and education – typically at doctorate levels. Some areas of specialization include

Global Diplomacy is the art of peaceful interactions between nations IR professionals would typically specialize in a region like South Asia or Middle East.	**International Security** studies the actions taken by countries & International Organizations (eg UN, EU, NATO) to guarantee mutual survival and safety	**Foreign Policy** Refers to the activities and strategies used by a state in its interactaction with other states, unions and other political bodies
Health Is an integral global concern that has implications to economy, society, politics, foreign policy, diplomacy and security.	**Climate Change** Global Warming, the recognition of climate change and the need to counter it are world issues	

FIELDS WITHIN INTERNATIONAL RELATIONS

Global Diplomacy

Diplomacy is centric to understanding international relations. It can be defined as the way in which governments interact and influence the actions of other governments through dialogue and negotiation. It is usually carried out by a group of people called diplomats. Diplomats are a country's representatives abroad who try to help the government they serve.

The main aim for diplomacy is to maintain peaceful relations. They address issues such as trade, conflict, security, environment and technology. The lack of diplomatic relations can result in dire consequences- violence, conflict and even war.

One of the key areas of diplomacy is 'Economic Diplomacy.' This is the part of diplomacy that helps the country's economy thrive and prosper. This includes anything related to investment, trade and taxation. Diplomacy is achieved through dialogue and negotiation. Typically, one country asks for more than they know they will get, then they compromise and come to an agreement with another country. Many a times, an outside diplomat will interfere and help the negotiation. When two countries refuse to reach a compromise, other countries may get involved and use 'diplomatic sanctions.' What this could mean is – the refusal of a leader to meet with the leaders of the other country on a light note or the removal of the embassy from a country on a slightly heavier note. In an extreme case, it could also mean the use of 'economic sanctions' wherein other countries refuse to trade with the offending country. For example, in 2006 many countries refused to trade with North Korea to stop them from illegal testing of nuclear weapons. More recently, the EU has cut gas imports from Russia when Russia declared war on Ukraine.

Diplomats can also threaten to use military power if a settlement cannot be reached. For example- in 2010 when North Korea attacked an island on South Korea, Obama sent an aircraft carrier to Yellow Sea near North Korea to send a warning signal to North Korea as well as China.

Diplomatic activities create a more peaceful world. Even though a country's diplomat is prioritizing their needs and wants, diplomatic relations are essential to create neutrality and reduce hostility.

Recognise Me!

When a country declares independence, it needs to be recognized as independent by other countries. Countries may recognize new nations by receiving ambassadors and diplomatic missions.

Surprisingly, India was first recognized by the USA!
And the USA by Morocco!

First country to recognize Bangladesh was Bhutan (not India).
Taiwan recognizes Bhutan but Bhutan recognizes neither Taiwan nor China.
First country to recognize Israel was not USA but Russia (erstwhile USSR).

International Security

This subsect of International Relations refers to the military actions, the diplomatic agreements like treaties and conventions to ensure international security. This particular concentration focuses on topics like- why countries fight wars? When should other states interfere in a country's internal conflicts? How do countries choose between various military strategies? The effects of energy on foreign policy?

Security is the main concern of all countries. Therefore, there is heavy emphasis on the interaction of countries with each other – their relations and affairs. There are many political and economic factors that drive security policy – energy, migration, industry and technology.

Foreign Policy

Foreign Policies are the sum total of actions of a state in the international system. The main purpose of foreign policy is to defend a nation's national interests. This can be done in violent or nonviolent ways. They are made based on the domestic environment and conditions of a country. The aim is to increase advantage for the country. For example- a developing country should focus on economic development in order to get more leverage in international politics.

The foreign minister, the cabinet and the head of government typically create a country's foreign policy. Foreign Policy usually includes matters of trade, diplomacy, sanctions, military/ defense, foreign aid, intelligence and global environment policy.

Foreign policy is determined by internal and external factors.

Internal Factors A key factor is Geography. The location of a country determines its behaviour towards other members of that area. Also, if a country has abundant natural resources, it is going to be an important member in world politics. Another key factor is demographics. Highly populated countries are good markets for international investment which tends to give them political leverage. A larger population also signifies more military value. The political system and leadership in a country is another critical factor in shaping its foreign policy. The political party and leader in power determine military spending and economic capability.

External Factors - Some of the key external factors are: the objectives of other countries, views and goals of superpower nations, national security and membership of international organizations like NATO, UN. When it comes to the objectives of other countries- one example to be considered is the cold war that still exists between Russia and USA. In 2016, Russia tried to interfere in the US elections and manipulate the results, in turn hoping to become more influential globally thus increasing tensions between the two nations. When it comes to the views and goals of superpower nations, within or outside the UN security council, their opinions on nuclear power are the reason some countries cannot acquire nuclear weapons. National security is the reason for countries to keep armies. Nations fear external aggression and a well-

EU Bloc

The EU is the world's largest trading bloc. "A trade bloc is a type of intergovernmental agreement, often part of a regional intergovernmental organization, where barriers to trade are reduced or eliminated among the participating states. Trade blocs can be stand-alone agreements between several states or part of a regional organization.

built army is their defense mechanism. For instance- it is mandatory in South Korea for all boys to get military training for 18 months as they fear threats from North Korea. Membership of international organizations is another critical factor. Member countries of International organizations have agreements with one another that bind them and guide their actions. For example- NATO members have to defend the freedom and security of other members by political and military means.

Therefore, foreign policy is a vast topic that is determined by a number of factors. However, domestic dynamics- strengths, weaknesses and commitment towards national development primarily define foreign policy.

Climate Change

A growing area of research in today's world, climate change is a global issue. With temperatures rising across the world, Europe facing a heat wave with temperatures hitting 40 degree Celsius, wildfires ravaging across the US & Australia (to name a few), sea level rising at a staggering rate, intense droughts & floods, species loss and the ice caps melting at a more rapid rate than ever before, climate change now constitutes as an international emergency.

International efforts such as the Glasgow Climate Pact, the Paris Agreement are all global efforts by nations to combat climate change. One of the key issues is the reduction of Greenhouse gas. Coal burning is one of the biggest contributors to the emissions of greenhouse gas, specifically carbon dioxide. It is imperative for the US and China to work together, despite their rifts in diplomatic relations, in an effort to combat greenhouse gas emissions. It is also imperative to shift towards using renewable energy. However, renewable energy sources vary significantly from country to country.

Climate change is a global problem and therefore each country needs to follow through on their commitments to reduce global warming. Countries also need to be able to share resources and help one another to achieve this goal.

Global Health

Health was always perceived to be a domestic issue for a country. However, with globalization and interdependence of countries, health has become an integral part of foreign policy. Most recently, with the Covid 19 pandemic – the whole world was at a standstill and the sharing of vaccines, research, data, medicines, masks across borders was the only way forward. The pandemic showed the world the importance of health to an economy, society, politics, foreign policy, diplomacy and security.

However, far before the pandemic, countries used health issues as a soft power tool to fulfil their economic pursuits and maintain international relations. Health is a shared social objective that requires global partnerships to work hand in hand. The first time that health became a global topic dates as far back as the early nineteenth century, when Europe was hit with a cholera outbreak. Even though the disease was transnational, it continued to be handled nationally and moreover locally. Governments struggled to implement national policies and the lack of

international cooperation led to complete ineffectiveness. This realization led to the world setting up the WHO to handle health related issues of the global population.

The world has faced and is facing major global health challenges including tobacco, HIV, obesity in developed countries, malnourishment in developing countries, polio among many others. Health plays a critical role in diffusing tensions and using global resources for mutual benefits. It is a massively growing field within international relations and will continue to be so.

PUBLIC POLICY

Public policy is fast becoming a buzzword in liberal arts colleges. This means working on formulating large-scale policies that promote social good. Public Policy deals with policies but also covers health, politics, climate, social issues, human rights, poverty, energy and really anything that affects the world as a whole. An interdisciplinary field – it covers areas in economics, law, sociology, politics, history and geography mainly.

Typically, a Public Policy professional would specialize in one area of policy over their career – like environmental policy, poverty, education policy, health policy, trade policy or foreign policy. Within each of these areas, there are further specializations that would strengthen your prospects within the field such as water science within environment, child nutrition within health, and conflict in South Asia within foreign policy. A Public Policy professional can work with government ministries, with "think tanks" or with NGOs. "Think Tanks" are literally government or private organizations that "think" i.e. they research, analyse and identify policy solutions to problems and advice government and companies on these. For instance, NITI Aayog is the Indian government's prominent think tank which led the research to build the New Education Policy in 2020. Other prominent Indian think tanks include the Centre for Civil Society, The Energy and Resources Institute (TERI), and Development Alternatives.

Environmental Policy

Primarily focuses on laws and policies related to protecting the environment. Environmental policies concentrate on the ensuring that the relationship between humans and the natural environment is a mutually beneficial one. Some of the main environmental issues are: water and food scarcity, climate change, population paradox, waste management, ecosystem management, management of natural resources, wildlife and endangered species. The government makes policies, rules and regulations for the people, businesses and organisation to follow. For example, India has banned the use, manufacture, import, export, stocking, distribution and sale of single use plastic in 2022 to tackle pollution.

Education Policy

Focuses on the principals and policies around the educational system. It is a set of guidelines and rules aimed at improving the quality of education. In 2015, India launched the campaign "Beti Bachao, Beti Padhao" which translated means "Save the girl child, Educate the girl child." This scheme targets at empowering women at the grass root level. This policy aims at educating young couples, pregnant women and families not only to celebrate the birth of a girl child, but also to send them to school to complete their education. In a largely male centric society like India, the government launched this campaign to reduce the inequality between boys and girls. It also urges the retention of girls at schools.

Health Policy

"Defined as the decisions, plans, and actions that are undertaken to achieve specific healthcare goals within a society." Healthcare policies are designed to fulfill certain societal goals. They are national level policies that provide access to healthcare, its coverage and cost. One such example is "Medicaid" in the US which provides healthcare to low income individuals. It provides medical care to uninsured pregnant women, temporarily unemployed individuals and disabled people. Along with the Medicaid in the US, the Children's Health Insurance Program (CHIP) provides health coverage to children in low-income households.

Free Periods

Scotland has become the first country in the world to make period products free for all.

There is now a legal duty on local authorities to provide free items such as tampons and sanitary pads to anyone who needs them

Trade Policy

Refers to the rules, regulations, goals and standards that governments adopt to regulate the exchange of good and services between countries. Trade policies include tariffs, trade barriers or even subsidies on what can be imported/ exported and between which countries. Trade is pivotal in the fight to end poverty. Countries that allow trading grow faster, improve productivity and provide more opportunities to their people. Trading also benefits lower income households by providing goods at a more reasonable cost. One of the most prominent type of trade agreement is the "free trade" agreement wherein countries trade freely with one another, the governments do not apply tariffs to imports or subsidies to exports. A prime example of this is the European Union. One of the founding principles of the EU is free trade among its members.

EDUCATION AND STUDY ROUTES

While a post graduate degree is the minimum requirement for a career in international relations and public policy, a PhD is highly recommended. These are research oriented fields and therefore a keen interest in academics is required to excel.

COMPENSATION LEVELS ARE RISING

Remuneration varies according to the level of study and expertise you build within international relations and public policy. It is a field with great options. Starting salaries are in the range of Rs 3 lakhs to Rs 12 lakhs per annum.

SKILLS REQUIRED TO BE SUCCESSFUL IN IR & PP

- **Communication and interpersonal skills** the ability to convey messages to many leaders, government officials, staff members and the public.
- **Negotiation skills** The ability to understand one organizations's stance and make them understand yours/ others stance.
- **Cross Cultural Management** an understanding of cultural differences is a must while communicating with people across cultures without offending anyone.

- ⇨ **Teamwork** often many parties are involved when a decision is being made at an international level
- ⇨ **Language skills** the knowledge of different languages/ the ability to learn languages is beneficial
- ⇨ **Analytical Skills** the ability to process complex information, solve problems and make informed decisions
- ⇨ **Autonomy** the ability to make quick informed decisions without much supervision

STUDY ROUTES & LEADING COURSES IN INDIA

In India, International Relations and Public Policy courses are mostly offered at the Master's level. However, one can pursue both courses at the undergraduate level in the US, UK, France, Switerland and other parts of the world.

BA in International Relations/ Public Policy Institutes in India

- ⇨ BA Hons International Relations, Amity University
- ⇨ BA Hons History and International Relations, Ashoka University
- ⇨ Politics and History, Joint Major, Krea University
- ⇨ BA in Politics with Eco, History, Sociology etc, Christ University
- ⇨ International Studies major, Flame University

Post Graduate Courses in International Relations/ Public Policy Institutes in India

- ⇨ MA International Studies, Jawaharlal Nehru University
- ⇨ M.Phil International Politics, Jawaharlal Nehru University
- ⇨ MA Global Peace, Security and Strategic Studies, Savitribai Phule Pune University
- ⇨ MA Politics- International and Area Studies, Jamia Milia Islamia University
- ⇨ MA Defence and National Security Studies, Panjab University
- ⇨ MA Political Science, Panjab University
- ⇨ MA International Relations, Amity University
- ⇨ PhD International Relations, Amity University

Leading International Relations Institutes Abroad

- ⇨ Harvard University, USA
- ⇨ Sciences Po, France
- ⇨ University of Oxford, UK
- ⇨ Princeton University, USA
- ⇨ The London School of Economics and Political Science, UK
- ⇨ University of Cambridge, UK
- ⇨ Stanford University, USA
- ⇨ Yale University, USA
- ⇨ The Australian National University, Australia
- ⇨ National University of Singapore, Singapore
- ⇨ Massachusetts Institute of Technology, USA
- ⇨ University of California, Berkeley, USA
- ⇨ University of Michigan, Ann Arbor, USA
- ⇨ The University of Chicago, USA
- ⇨ University of Birmingham, UK
- ⇨ The University of Western Australia
- ⇨ Karlshochshule University, Germany
- ⇨ Geneva School of Diplomacy, Switzerland

BIOTECHNOLOGY

Science is simply common sense at its best" Thomas Huxley

Biotechnology is Biotechnology is the modification of cells to generate industrial products for specific use. Biotechnology is a highly research oriented science which has great importance in a number of relevant areas such as agriculture, health, prolonging human life, preventing and controlling disease and food production. It encompasses some very modern techniques the exploitation of biological process and living organisms to modify biological and industrial products for specific directed use.

Biotechnology is a constantly evolving field and has so many real world applications. We have just scratched the surface not only in terms of careers above but also biotechnology as a science in itself. Science is not all about white lab coats and fish dissection! Although there are a great many avenues that would let you do both of the above! With the future looking toward finding answers to diseases that have plagued humanity or centuries such as cancer, HIV and diabetes. Biotechnology is the future to solving these diseases.

Golden Rice; A Miracle Answer

A great example of genetic engineering is the creation of 'golden rice'. It has been modified to provide the precursor to Vitamin A: beta-carotene in rice. It is a fortified food that is grown in parts with a deficiency of vitamin A. This kills over 670,000 children each year.

FOUR AREAS OF SPECIALISATION

Red Biotechnology	*Blue biotechnology*	*Green Biotechnology*	*White Biotechnology*
focuses on health and medicine. This area develops a better understanding of diseases and their cure. The most cutting-edge of all biotech areas and has been responsible for preventing some serious epidemics like Ebola	focuses on marine and coastal ecosystems. The focus as the colour suggests are water bodies – quite important as they make up about 70% of the Earth! The area improves marine health and prevents destruction of the environment.	is mostly about human nutrition and food health. One of the other aspects is that it directly affects the human population. A major everyday example is the use of genetically modified (GM) foods	refers to industrial applications. The major aspect of this area is to reduce industrial pollution as well reduce greenhouse emissions by using more environment friendly raw materials.

WHAT A BIOTECHNOLOGIST DOES

BIOINFORMATICS

It has been widely regarded as just a field in computer technology. However, bioinformatics is in fact the application of computer technology to study interactions between biological molecules and cells. It is used to gather, store, analyze and integrate biological and genetic information. Bioinformatics also plays a key role in predicting the future! But not as you might think..... not through crystal balls but through computer based programming. One can understand the origin, effect, predictive function and effect of a drug, enzyme, and pollutant. It is an amazing field that can be applied to all forms of Biotechnology. The major success is making everything online and removing human error as well saving time.

BIOCHEMISTRY

Biochemistry as the name suggests wonderfully harmonizes Biology and Chemistry. The aim of Biochem is provide understanding of how biological molecules give rise to processes that happen in our cells. Biochemistry revolves around 4 main classes of molecules – carbohydrates, lipids, fats and nucleic acids. These are collectively referred to as biomolecules. Biochemistry is pivotal in understanding diseases that are relevant in today's world affecting the human population such as diabetes.

GENETICS

Genetics is the study of genes, heredity and genetic variation in living organisms. The modification of these genes have led to great achievements in fields such as medicine, health, prevention and even and insight into diseases that have plagued the 21st century such as Cancer, Diabetes and HIV. The basis of genetics stems from the identification of the structure of DNA that was first discovered in 1952 by Watson and Crick. This just shows how young the field and the potential is yet to be completely realized.

GENETIC ENGINEERING

Genetic engineering is the direct modification of an organism's genetic composition using biotechnology. Bioengineering is the application of methods of biology, chemistry, mathematics and computer science to solve real world problems. It is used in gene therapy and clinical research. Gene therapy us identifying harmful genes and replacing them with "good" or correcting genes.

WHO MAKES A GREAT BIO-MAN?

Commitment and Drive: Working in laboratories or on computers can often lead to boredom. Working at a cellular level, results are not instantaneous and may not seem ground breaking at the time but may have huge implications. As it is intensely research driven, trial and error is a part of the process and one may have a number of failed experiments until the goal is met. This requires a drive and focus for finding the solution as well as significant commitment to the sciences.

Organization Skills: Managing time is of paramount importance. With experiments and equipment all time sensitive, being organized is non-negotiable. As well as meeting deadlines, cells and other biological material have very short and conditional viability.

Genuine Interest in Science: To succeed in this field, one must have a real interest and passion for science. This would include reading about sciences purely for the joy of it or to address a natural curiosity. As the future would entail reading and commenting on research papers, arguing about new scientific development and publishing your own work.

Good communication skills and Teamwork: No research can be accomplished without support from your peers, students or colleagues. Biotechnology is a hugely interdependent science - there is a lot of collaboration between the individual sciences to develop a new solution.

Analytical Mindset: One has to be hugely analytical. This has nothing to with the form of science but actually a personality trait where one is very logical and structured in their thought process. Due to the intensive and detail driven nature of the beast - this kind of mindset proves extremely beneficial.

Self Confidence: This is probably one of the most important characteristics - one must be convinced about their own research and work. Sciences are driven by results - one has to be confident in their own ability to not only deliver these results but present them to a global audience. One also has to be able to get up from failure and believe in their science until they find the right experiment/program/solution.

COMPENSATION LEVELS ARE PROMISING

Ideally, another qualification is required after the undergraduate degree but emplyment can still be sought after. It is about Rs 20,000.

Post Graduate Degree

Pay scales here are greatly increased. The additional qualification especially if done in field of expertise can significantly improve the salary base. They are in the range of Rs 30,000.

Pure Research (Ph.D)

Post the earlier degrees, one can go one of three ways - one can carry on with a MSc or complete a MSc post the BSc. Although, the salary will increase as well the position held, it cannot take as far as the other two pathways. The first of these pathways is to remain in pure research. This can become a very lucrative position earning as much as CFO's and COO's. They can also become heads of Research and Development for large multinationals such as GlaxoSmithKine, Pfizer or Reckitt Benckiser. These can lead to salaries from Rs 50,00,00 lacs to Rs 1,00,00,000 cr per annum.

MBA

The second pathway is to undertake a MBA. The MBA then leads to the corporate world. This can also be both financially and profile wise very lucrative. They are on par with most corporate salaries and the scientific expertise is welcomed in research/pharmaceutical/FMCG organizations - companies that have their roots in Science. Examples would include GlaxoSmithKine, Pepsi ,Reckitt Benckiser, LÓreal etc. The MBA route is for individuals who would like to remain with their core competence of science but would prefer the corporate structure or environment.

STUDY ROUTES

India

Scientists and researchers are hired by companies at all levels, undergraduate, post graduate and doctoral. A career in pure research would, however, make a PhD indispensable for a successful career path. Most scientists enter a job after their Master's degree and complete their doctoral thesis while at work. Specialized courses in biotechnology are available at the post graduate level to candidates with a bachelor's degree under 10+2+3 pattern of education in Physical, Biological, Agricultural, Veterinary, Fishery Sciences, Pharmacy, Engineering, Technology or Medicine (MBBS). Biotechnology offers PG courses, which you can opt for after graduating in Physics, Chemistry, Biology and Microbiology. After your PG, you can go in for PhD after which you can go in for Post-doctoral research. You can also opt for undergraduate Biotechnology courses which include B.Sc., B.E, BTech., 5-year integrated BTech. and MTech.) and at PG level (M. Sc./ M.Tech.). You can also pursue specialized courses at research level.

Studying Abroad

Another variation is to do a broad science degree (biology, biochemistry) at an undergraduate level before moving to a specialized degree at the post graduate level. Going abroad to the US, UK or Singapore which house many global research centers is an excellent option due to the availability of resources, expertise as well as state of the art laboratories. The education is more driven to a practical learning rather than a theoretical one. The prospects of employment are quite strong in the US and Singapore with companies keen to hire students with these degrees in their laboratories. As they would be used to quality and standards expected by the company (the university has the same regulations placed upon them), this would make the transition beneficial for both parties.

LEADING INSTITUTES IN INDIA

Leading institutes for UG and PG courses

All India Institute of Medical Sciences, Ansari Marg, New Delhi

Amravati University, Amravati

Banasthali Vidyapeeth, Rajasthan

Bharathiar University, Coimbatore

Bose Institute, P-1/12, CIT Scheme, VII Kankurgachi, Calcutta

Calicut University, Kozhikode, Kerala

Centre for Biotechnology, Anna University, Chennai, Tamil Nadu.

Centre for Biotechnology, Pondicherry University, Pondichery

Centre for Plant Molecular Biology, Tamilnadu Agricultural University, Coimbatore

Consortium India Ltd,. G-6, (3rd Floor), NDSE Part 1, New Delhi.

Department of Biotechnology, Devi Ahilya Vishwavidyalaya, Indore, Madhya Pradesh.

Department of Biotechnology, Guru Nanak Dev University, Amritsar

Department of Biotechnology, Jadavpur University, Calcutta

Department of Biotechnology, Punjab University, Goa

Department of Marine Sciences, Goa University, Goa

Department of Microbiology, MS University, Vadodara Gujarat

Department of Zoology, Poona University, Pune Maharashtra

Dr Babasaheb Ambedkar Marathwada University, Aurangabad

Faculty of Applied Science, Mahatma Gandhi University, Kottayam , Kerala

Faculty of Science, GB, Pant University of Agriculture & Technology, Nainital, UP

Haryana Agricultural University, Hissar, Haryana
Himachal Pradesh University, Shimla
Indian Council of Agricultural Research, Pusa Campus, New Delhi
Indian Institute of Science, Bangalore
Indian Institute of Technology, Haus Khas, New, Delhi
Indian Institute of Technology, Kharagpur
Indian Institute of Technology, Powai, Mumbai
Indian Veterinary Research Institute, Izatnagar , Uttar Pradesh
Jawaharlal Nehru Technological University, Mahaveer Marg, HyderabadAndhra Pradesh
Jawaharlal Nehru University, New Delhi
Jiwaji University, Gwalior
Kurukshetra University, Kurukshetra
North Maharashtra University, Jalgaon
Osmania University, Administrative Building, Hyderabad, Andhra Pradesh
Pt Ravishankar Shukla University, Raipur , Chhattisgarh
Punjab Agricultural University, Ludhiana, Punjab
Punjab University, Patiala
Rajendra Agricultural University, PO Pusa, Samastipur, Bihar
School of Biological Sciences, Madurai Kamaraj University, Madurai
School of Biotechnology, Banaras Hindu University, Varanasi
School of Life Sciences, Central University, Hyderabad
Swami Ramanad Teerth Marathwada University, Nanded
Tezpur University, Tezpur
University of Delhi Delhi
University of Hyderabad, Hyderabad
University of Kerala, Thiruvananthaouram, Kerala
University of Madras, Centenary Building Chepauk, Triplicane PO, Chennai, Tamil Nadu.
University of Mysore, Mysore
University of Roorkee, Roorkee

BTech in BioTechnology

Most engineering colleges do have a BTech course in Biotechnology. Some are -
University of Delhi , Delhi
Guru Govind Singh Indraprastha University Delhi College of Engineering Building, Kashmere Gate Delhi, www.ipu.ac.in
Amity Institute of Biotechnology , E-25 Defence Colony,, New Delhi, www.amity.edu
Delhi College of Engg. , Bawana Road, , Delhi

Netaji Subhash Institute of Technology , Sector-3, Dwarka, New Delhi

Indian Institute of Technology , Hauz Khas, New Delhi, www.iitd.ernet.in/jee

College of Management Research & Engineering , S.No. 140/6, Near Warje Chowk, N.D.A. Road, Warje Malwadi (Maha.),

University of Pune, Ganesh Khand, Pune www.unipune.ernet.in

Dr. D.Y. Patil Biotechnology & Bioinformatics Institute, Pimpri, Pune

Indian Institute of Management Training , EL-39/5 MIDC, Bhosari, Pune www.iimtpune.com

MVJ College of Engg., Channasandra, White Field Bangalore www.mvjeducation.com

Acharya Institute of Technology , Jindal Nagar, Soladevanahalli, Bangalore

B.M.S. College of Engineering , Bull Temple Road, Bangalore

B.V.B. College of Engg. And Tech., Vidyanagar, Hubli, principal@bvbcet.net

Bapuji Institute of Engg. & Tech. Davanagere principal@bietdvg.edu

Basaveswara Engineering College, P.B. No. 53, Nijalingappa Nagar, Bagalkot (Kar.),

Bellary Engg. College , Jnana Gongathri Campus, Alipur, Hospet Road, Bellary (Kar.)

CMR Institute of Technology, I.T. Park Road, Kundalalli Village, Bangalore, cmredu.com

G.M. Institute of Technology P.B. No. 4, P.B. Road, Davanagere, info@set_gmit.org

K.L.E. Society's College of Engineering & Tech. Udyambag, Belgaum (Kar.)

Ansal Institute of Technology, Sector-55, Gurgaon (Haryana) www.aitgurgaon.org

KEY INSTITUTES IN USA, EUROPE AND AUSTRALIA

LEADING US COLLEGES

Stanford University, Department of Biology, Stanford, CA

Harvard University, Biological and Biomedical Sciences, MA

Massachusetts Institute of Technology, Department of Biology, Cambridge, MA

University of California – Berkeley, College of Letters and Science, CA

California Institute of Technology, Division of Biology, CA

Johns Hopkins University, Biology Department, Baltimore, MD

Princeton University, Department of Molecular Biology, Princeton, NJ

Scripps Research Institute, Kellogg School of Science and Technology, CA

University of California - San Francisco, San Francisco, CA

Yale University, Biological and Biomedical Sciences, New Haven, CT

Cornell University, Biochemistry, Molecular and Cell Biology, Ithaca, NY

Washington University in St. Louis, Division of Biology and Biomedical Sciences, MO

Duke University, Durham, NC

University of Chicago, Division of Biological Sciences, Chicago, IL
Columbia University, Department of Biological Sciences, New York
Rockefeller University, New York, NY
University of California - San Diego, Division of Biological Sciences, CA
University of Washington, Department of Biology, Seattle, WA
University of Wisconsin – Madison, Microbial Sciences, Madison, WI
University of California – Davis, College of Biological Sciences, Davis, CA
University of Michigan, Department of Ecology and Evolutionary Biology, Ann Arbor, MI
University of Pennsylvania, Department of Biology, Philadelphia, PA
University of Texas, Graduate School of Biomedical Sciences, Dallas, TX
University of California, Department of Ecology and Evolutionary Biology, Los Angeles, CA
University of North Carolina - Chapel Hill, Department of Biology, NC
Baylor College of Medicine, Verna-Marrs McLean Dept of Biochem & Molecular Bio, Houston
Cornell University (Weill), Weill Graduate School of Medical Sciences, New York, NY
Northwestern University, Interdepartmental Biological Sciences Program, IL
Brown University, Division of Biology and Medicine, RI
Case Western Reserve University, Department of Biology, Cleveland, OH
Dartmouth College, Department of Biological Sciences, Hanover, NH
Emory University, Graduate Division of Biological and Biomedical Sciences, Atlanta, GA
Indiana University - Bloomington, Department of Biology, Bloomington, IN
University of Alabama - Birmingham, Department of Biology, Birmingham, AL
University of Arizona, Department of Ecology and Evolutionary Biology, Tucson, AZ
University of California - Irvine, School of Biological Sciences, Irvine, CA
Mayo Medical School, Department of Biochemistry and Molecular Biology, Rochester, MN
Mount Sinai School of Medicine, Graduate School of Biological Sciences, New York, NY
Pennsylvania State University, Biology Department, University Park, PA
Rice University, Wiess School of Natural Sciences, Houston, TX
Carnegie Mellon University, Department of Biological Sciences, Pittsburgh, PA
Michigan State University, College of Natural Science, East Lansing, MI

Europe

University of Cambridge, biosci@biotech.cam.ac.uk
Imperial College London
University of York
University of Surrey
University of Birmingham
St. Andrews

University College London
University of Exeter
Cardiff University, www.cf.ac.uk
Delft University of Technology, Hagman@tudelft.nl

Australia

ANU (www.anu.edu.au)
Charles STurt University (www.csu.edu.au)
Flinders University (www.flinders.edu.au)
Griffith University (www.griffith.edu.au)
La Trobe University (www.latrobe.edu.au)
Murdoch University (www.murdoch.edu.au)
Swinburne University (www.swinburne.edu.au)

Singapore

National University, Singapore
Nanyang Technological Institute, Singapore