

## **Molecular Biology- A branch of science**

The Molecular Biology Course is among the most sought-after courses today to learn which includes research, detection, assessment and analyzing the genes, genetic structure including DNA extraction, amplification, ligation etc.

This course is suitable for the candidates who wish to become an Molecular Biologist or pursue research in the future. Molecular Biology courses are available at Diploma, UG and PG level. Below given is detailed information about the same.

The Bachelors courses are of three to four years depending upon the degree. The Masters courses are of two years like any other courses.

The Certification courses mostly are from six months to one year.

The core areas of Molecular Biology course are Biotechnology, Microbiology, Genetics, Immunology etc. The course ranges from INR 1,50,000 to 3,00,000 Lac depending upon type of institution i.e., Government /Private.

The certification course in Molecular Biology is offered by Edx.org, Udacity, Codecademy, Udemy, Coursera etc.

⋮

## Molecular Biology Course Highlights

<p><b>Popular Courses</b></p>	<p>UG: BSc ,B.Tech PG : MSc, M.Tech Doctorate : PhD Diploma : Diploma in Molecular Biology Course,Diploma in Biotechnology. Certificate Course : Cell Biology,Molecular Biology.</p>
<p><b>Duration</b></p>	<p>UG : Three /Four years PG: Two years Doctorate: Three Years Diploma: One year Certification: Six Months</p>
<p><b>Eligibility</b></p>	<p>UG: 10+ 2 passed with Life Science Background PG: BSc or BTech completed PhD: MSc or MTech completed Diploma: 10+ 2 passed with Life Science Background Certificate Course: 10+ 2 passed with Life Science Background</p>
<p><b>Average Fees</b></p>	<p>UG: INR 30,000 – 2,50,000 PG: INR 10,000 – 1,50,000 PhD: INR 10,000 – 50,000 Diploma: INR 7000 – 80,000 Certificate Course: INR 500 – 20,000</p>
<p><b>Online Courses</b></p>	<p>Available</p>
<p><b>Type of Online Courses</b></p>	<p>Edx.org, Udacity, Codecademy, Udemy, Coursera.</p>
<p><b>Top Job Prospects</b></p>	<p>Molecular Biologist, Biotechnologist, Microbiologist, Immunologist, Medical Writer, Researcher, Customer Relation Associate, Technical Writer.</p>

## Molecular Biology Certificate Course

- There are a lot of online certificate courses available especially due to the increment of customized courses in Covid- 19 situation. Candidates get plenty of options to choose the certificate course according to their time and budget.
- Candidates who are keen on improving their resume or *curriculum vitae* can pursue this course as it requires a very short amount of time like six months.
- The average salary of the candidates who have a certificate in Molecular Biology is 2 LPA to 5 LPA.

## Molecular Biology Online Certificate Course

Course Name	Provider	Duration	Fees
Genomic Data Science	Coursera	14 hours	3659
Molecular Biology Techniques	BioTecNika	80 hours	1649
Whole Genome Sequencing of Bacterial Genomes - Tools and Application	Coursera	80 hours	800
Method of Molecular Biology	Coursera	29 days	Free

## Molecular Biology Offline Certificate Course

Course Name	Provider	Duration	Fees
Molecular Biology Training Course	RASA Life Science Informatics University of Illinois	3 months	10,000
DNA Decoded	McMaster University	3 months	5,000

## Molecular Biology Certificate Courses: Admission Process

Certification Courses are of short duration and can be pursued even in between professional work commitments.

- The admission criteria for Molecular Biology Certificate Courses is minimum school education completion i.e. Class 10 boards completed.
- Especially in offline certification courses, some basic information about the candidates and the 10+2 results is also taken into account.

College Name	Location	Average Fees
Madras Christian College	Chennai	INR 6,978
University of Madras	Chennai	INR 15,000
YCMOU	Nashik	INR 12,000
SPC Education Center	Jaipur	INR 12,000
Lovely Professional University	Jalandhar	INR 30,000

# Molecular Biology Certificate Courses Top Colleges

## Molecular Biology Diploma Course

Diploma courses are mostly an intermediate type course between Bachelors and Certification Courses. It is mainly beneficial for candidates who wish to seek opportunities in Biotech Companies but have time constraint due to certain issues.

· The students should have a proper knowledge in Genetics and Biotechnology beforehand joining the diploma course.

: The duration of the course is One to Two year depending upon the course work. The students can earn a salary of around 3,00,000 Lacs per annum.

## Molecular Biology Top Diploma Courses

Course Name	Colleges Offering	Duration	Average Fees
Diploma in Molecular Biology	<a href="#">GTU Ahmedabad</a>	6 months	INR 62,000

Executive Diploma in Molecular Biology and Biotechnology	Mewar University	6 months	INR 30,000
Post Graduate Diploma in Molecular Biology	Integral University Shri Ram Institute of Management and Technology	6 months	INR 25,000

## Molecular Biology Diploma Courses:

### Admission Process

Admission Process in Molecular Biology Diploma Course are generally offline but certain changes can be expected after this pandemic.

Candidates need to fill the application form on the particular college's website. Selection is done on the basis of 10+2 Score and certain other requirements.

There are also PG Diploma courses available in many institutions for more in-depth study.

## Molecular Biology Diploma Course: Top Colleges

College Name	Location	Average Fees
GLA University	Mathura	INR 70,000
Veermata Jijabai Technological Institute	Mumbai	INR 12,700
Dr. Babasaheb Ambedkar Technological University	Maharashtra	INR 13,500
Galgotias University	Noida	INR 45,000
Mewar University	Chittorgarh	INR 53,000

## Molecular Biology UG Courses

With more than 5000 campuses all around India of Technical and Engineering colleges offering Bachelor of Science and Bachelor of Technology preparing a strong foundation in the subject, Molecular Biology.

In Molecular Biology, the BSc/B Tech Courses opens the maximum number of job opportunities. The Bachelor of Science is of Three years while the duration of B Tech/BSc course is of Four years and Three Years respectively.

Students who have completed their Diploma have a provision to admit in the Bachelor Course later on(Second Year).

The course covers Cell Biology, Basic Biotechnology, Immunology, Genetics, Biostatistics and Bioinformatics.

The course fee is around 1,50,000 Lac and the average salary after Bachelor in Molecular Biology is 5,00,000 Lac.

Course Name	Top Colleges	Duration	Average Fees
B.Sc in Molecular Biology	Indian Institute of Technology Birla Institute of Technology and Science	3 years	INR 50,000 to INR 2,00,000
B.Tech in Molecular Biology	Indian Institute of Science Birla Institute of Technology and Science Indian Institute of Technology, Hyderabad	4 years	INR 80,000 to INR 4,50,000

## Molecular Biology Top UG Courses

Molecular Biology UG Courses: Admission Process  
Bachelor in Molecular Biology courses admission is done both in merit basis and entrance basis. Lateral admission is offered to candidates with Diploma in Molecular Biology. Candidates can get admission directly in the second year of Bachelor in Molecular Biology.

Students must complete 10+2 from a recognized board with minimum aggregate of 55%. Most of the colleges consider the entrance exam score during admission.

Candidates need to fill up the application form of the above-mentioned exam from the following websites.

The syllabus for these exams is mainly the 10+2 syllabus which includes Biology, Mathematics, Physics, Chemistry along with a few entrance exam guidance books.

## Molecular Biology UG Courses: Top Colleges

College Name	Location	Average Fees
<a href="#">IIT Madras</a>	Chennai	INR 2.50 Lacs
<a href="#">IIT Delhi</a>	New Delhi	INR 2 Lacs
<a href="#">IIT Mumbai</a>	Mumbai	INR 3.80 Lacs
<a href="#">IIT Kanpur</a>	Kanpur	INR 2 Lacs
<a href="#">IIT Roorkee</a>	Kharagpur	INR 3.20 Lac

## Molecular Biology PG Courses

PG Molecular Biology course is for those candidates who have an interest in the subject and want to learn about some advanced concepts in Oncology, Virology, Recombinant DNA Technology.



The duration of the Masters courses are two years.

Candidates need to qualify the GATE, PG CET, TANCET in order to get admission for Masters in most of the colleges.

The topics covered under this course are Advanced Process Control, R DNA Technology, Environmental and Agricultural Tech, Bioinformatics.

The average salary of a candidate after completing Master of Science or Master of Technology in Molecular Biology is 7,00,000 Lac.

### Molecular Biology Top PG Courses

Course Name	Top Colleges	Average Fees
M.Tech in Molecular Biology	IIT Kharagpur IIT Madras IIT Delhi IIT Bombay	INR 40,000 to INR 2,00,000
MSc in Molecular Biology	Guru Gobind Singh Indraprastha University Amity University	INR 8,000 to INR 1,30,000

### Molecular Biology PG Courses:

#### Admission Process

In order to get admission, candidates must clear the entrance examination and cross the cut off set by the conducting body and individual institutes.

Candidates need to prepare well for these entrance examinations by solving previous year question papers.

After qualifying the entrance exam, few institutions conduct their interview session.

College Name	Location	Average Fees
IIT Madras	Chennai	INR 1.50 Lac
IIT Delhi	New Delhi	INR 1 Lac
IIT Mumbai	Mumbai	INR 1.80 Lac
IIT Kanpur	Kanpur	INR 1 Lac
IIT Roorkee	Roorkee	INR 1 Lac

## Molecular Biology PG Courses: Top Colleges

### Molecular Biology Doctorate Course

The research-based studies are mainly designed in the Doctoral Level Course.

Doctorate in Molecular Biology is extremely relevant especially during and after this pandemic. The demand for skilled professionals will be rising drastically.

The course involves analysis, evaluation, casualty identification, processing of cases and regulatory affairs.

The duration of the course can be from three to five year depending upon the area of specialization.

After completion, candidates are recruited in high positions with a great pay package.

### Molecular Biology Doctorate Course: Admission Process

The admission to the doctorate courses is done on the basis of marks obtained in the entrance examination conducted nationally

Entrance exam like UGC NET is conducted online, this candidates need to keep on checking the website to get the information about notice

of commencement of filling the application, which will be in March next year.

Changes of question pattern is expected so candidates need to give as many mock tests as possible.

The examination centers can be changed due to the regulation of pandemic. The exam is expected to be conducted in the month of September.

### Molecular Biology Doctorate Course Top Colleges

College	Location	Average Fees
IIT Madras	Chennai	INR 1.50 Lac
IIT Delhi	New Delhi	INR 1 Lac
IIT Mumbai	Mumbai	INR 1.80 Lac
IIT Kanpur	Kanpur	INR 1 Lac
IIT Kharagpur	Kharagpur	INR 1.20 Lac

### Career Prospects and Job Scope for MSc Molecular Biology Graduate

MSc Molecular Biology students have a variety of opportunities available to them after graduation that may help them continue their education and seeking employment. Some of the MSc Molecular Biology careers include the following:

- Molecular Biologist
- Pathologist
- Research Associate
- Regulatory Affairs Executive
- Scientific Manager
- Technical Specialist
- Technical Application Scientist

### Areas of Recruitment for MSc Molecular Biology Graduate

After completing the MSc Molecular Biology course, students will have a variety of employment options. Following is a list of some

areas/sectors that offer employment opportunities to MSc Molecular Biology graduates:

- Colleges & Universities
- Government Hospitals
- Medical Labs
- Molecular Diagnostic Labs
- Molecular & Structural Biology Units
- Pharma Companies

## Molecular Biology Course: Job Profiles

Molecular Biology provides excellent job opportunities and prospect to the deserving candidates. Employers look for candidates with sound technical knowledge and skilled lab practices.

### Process Engineer

They are responsible for developing new Microbial processes and designing new process plants and equipment.

Starting salary: INR 5,20,000 to 7,00,000

### Production Engineer

They work on how the product will be manufactured and assembled on the production line like the right quantity of components and product packaging.

Starting Salary: INR 5,00,000-7,00,000

### Project Manager

They work on resource planning, researching for scope, overall supervision, cost estimation, time estimation and documentation.

Starting Salary: INR 8,00,000 – 10,00,000

### Head Plant Manager

They direct and coordinate daily operations of the manufacturing plant, in a Biotech Company developing processes to increase efficiency.

Starting Salary: INR 5,00,000–7,00,000

### Molecular Biology Course: Skills Required?

Recruiters are always in search of candidates who are up to date with the latest market trend and research in Molecular Biology. It is very essential to know the subject from every nook and corner.

#### Computer Skill

Beginner level computer knowledge in any way expected out of any candidate who wants to make a career in the Chemical Engineering Industry.

With proper knowledge of SQL, DBMS candidates will be more efficient in database management and data mining.

### **Job Opportunities Abroad for MSc Molecular Biology Graduates**

One of the most demanded degrees among Indian students looking to continue their studies abroad is the MSc in Molecular Biology. Additionally, students who pursue an MSc in Molecular Biology abroad develop a thorough understanding of the subject from worldwide perspective also.

## Top Companies for MSc Molecular Biology Graduates

The top employers for MSc Molecular Biology graduates are listed below:

- Cipla
- O2h
- Iosynth Labs
- TERI
- Molecular Connections
- Aurigene

## Best Countries for MSc Molecular Biology Graduates

Below is a list of the top countries offering job opportunities to MSc Molecular Biology graduates:

- USA
- UK
- Australia
- Canada
- Germany

## Various Career Designations Abroad for MSc Molecular Biology Graduates

The following list contains the career designations abroad for MSc Molecular Biology graduates:

- Marketing Associate
- Pathologist
- Regulatory Affairs Executive
- Scientific Manager
- Technical Specialist
- Technical Application Scientist

## Important Questions

Ques. What is the difference between normal life science graduates and molecular biologists?

Ans. They are more technically skilled in Laboratory Processes than normal graduates. Quality Control to Setting Laboratory Protocols is part of their regular work.

Ques. What makes Molecular Biology so popular?

Ans. Molecular Biology is a booming field and gives a very lucrative salary additionally the job satisfaction is immense.

Ques. What are the areas of work of Molecular Biology?

Ans. In the future the Molecular Biologist will work more in the Climate Change, Energy Storage, Zero Water Strategies, Landfill Reclaim.

Ques. Name some entrance tests for Masters in Molecular Biology.

Ans. Some of the entrance examinations for masters are CET, GATE.

Ques. What is the common job profile?

Ans. Head Plant Manager, Project Manager, Process Designer, Head Biotechnologist, R&D Expert are some of the common job profiles for B.Tech Industrial Design graduates.

Ques. Who are the popular recruiters in this field?

Ans. ONGC, Serum Institute of India, Biocon, Syngene are some of the top recruiters in this field.

Ques. What is the starting salary of a Molecular Biologist in an entry level job?

Ans. The salary for an entry level job is 38,000 INR and above per month.

Ques. What is the expected skill from a Molecular Biology graduate?

Ans. They should have a clear concept of Program Designing, 3D Printing, Statistical Methods, DNA Extraction, Identification, Amplification as well as Renewability.

Ques. Do M.Tech and MSc have the same value ?

Ans. M.Tech have a more technical insight while MSc focus more on the theoretical knowledge of Molecular Biology and Biotechnology.

Ques. What are the academic options after M.Tech in Molecular Biology?

Ans. Candidates may opt for PhD in Biotechnology, Immunology, Microbiology, Oncology are some of the popular choices.