

Bioinformatics Curriculum

From biological databases and sequence alignment to genomics, protein structure, and drug discovery — a hands-on, project-driven program built to turn biology into data-driven discovery.



35+

Industry Certifications

5+

Live Projects

11.7k+

Students Trained

WHO WE ARE

Our Mission & Vision

Skillumni is a leading edtech platform focused on transforming careers through high-quality upskilling and training across diverse industries. We connect learners with cutting-edge courses, expert mentors, and practical projects to bridge the gap between education and real-world careers.



Our Vision

To empower every learner through accessible, inclusive, and impactful education — creating equal opportunities for all, regardless of background or geography.



Our Mission

To deliver quality education through career-driven courses that empower success — equipping learners with the skills, tools, and confidence to thrive in today's job market.

WHY CHOOSE US

Why Choose Skillumni for Smarter Learning?

Participate in Skillumni's comprehensive training program designed to elevate your skill set and equip you with practical tools to effectively solve real-world problems.



Industry-Driven Learning Paths

Curriculum built around what employers actually need — not textbooks.



Lifetime LMS Portal Access

Revisit lessons, access new content, and keep growing at your own pace.



Hands-On Domain Based Projects

Build real projects that showcase your skills to future employers.



Earn 2+ Industry Certifications

Globally recognized certificates to validate your expertise.

HOW IT WORKS

Your Learning Journey with Skillumni

1

Enrol

Pick your domain — no
prior experience
needed.

2

Learn

Access recorded
sessions & lifetime
LMS portal.

3

Build Projects

Complete 1 minor & 1
major industry project.

4

Get Certified

Earn course &
internship completion
certificates.

5

Launch Career

Resume help, mock
interviews &
placement support.

Training Spotlight

- Content developed by experienced industry mentors for real-world application.
- 35+ Hours of Learning, Comprehensive video lessons, exercises, and guided modules.
- Lifetime LMS Access to Revisit all learning materials, updates, and resources—forever.
- Access the program anytime, anywhere through our online platform.
- Build practical skills with real-world project work.
- Certification Showcase your achievement and boost your career profile.
- Regular Assessments to Evaluate your progress and strengthen your understanding.

Curriculum:

Module 1: Introduction to Bioinformatics

- Definition & scope of bioinformatics
- Role in biology and medicine
- Career opportunities

Module 2: Biological Databases & Data Retrieval

- NCBI, UniProt & PDB
- Accessing & navigating public databases
- Data formats: FASTA, GenBank, PDB

Curriculum:

Module 3: Molecular Biology Fundamentals

- DNA, RNA & protein structure basics
- Central dogma of molecular biology
- Intro to genomics & proteomics

Module 4: Sequence Alignment and Analysis

- Pairwise & multiple sequence alignment
- BLAST, ClustalW & MUSCLE
- Interpreting alignment results

Curriculum:

Module 5: Introduction to Bioinformatics Tools

- Biopython, R & Galaxy
- Command-line & GUI-based tools
- Setting up your bioinformatics workspace

Module 6: Genomic Data Analysis

- Genome sequencing & assembly
- Next-Generation Sequencing (NGS)
- Variant calling & annotation

Curriculum:

Module 7: Protein Structure and Function Analysis

- Protein structure prediction basics
- PyMOL & SWISS-MODEL
- Protein domains & motifs

Module 8: Introduction to Computational Biology

- Algorithms in bioinformatics
- Phylogenetic analysis
- Machine learning in bioinformatics

Curriculum:

Module 9: Bioinformatics in Drug Discovery

- Target identification & validation
- Molecular docking & virtual screening
- Case studies in drug discovery

Module 10: Data Visualization and Interpretation

- Visualization principles for biological data
- R, Python & Tableau
- Heatmaps & phylogenetic trees

Curriculum:

Module 11: Career Preparation and Next Steps

- Certifications & degree pathways
- Job roles: bioinformatician, analyst, researcher
- Building a project portfolio

Skills You Get:

- Biological Databases & Data Formats
- Molecular Biology & Sequence Alignment
- Genomics & NGS Analysis
- Protein Structure & Computational Biology
- Drug Discovery & Docking
- Data Visualization & Career Prep

Training Program Outline



Before Training

- No prior experience required
- Beginner friendly — any domain
- Start fresh, choose your specialization



Training

- Recorded sessions + study materials
- Lifetime LMS access
- Flexible, self-paced learning



Industrial Projects

- Complete 1 Minor Project
- Complete 1 Major Project
- Real-world business problems



Certification

- Course Completion Certificate
- Internship Completion Certificate
- Letter of Recommendation (optional)



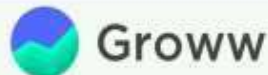
Placement Support

- Resume Building Assistance
- Mock Interview Preparation
- Dedicated Placement Assistance

OUR EXPERTS

Our Mentors Are From:

Learn directly from working professionals at India's top companies — real experience, real insights.



Earn 2+ Industry-Led Certifications

Upon successful completion, receive industry-recognized certificates that validate your skills and boost your career prospects — whether you're aiming for a new job or a promotion.



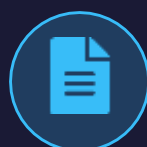
Course Completion Certificate

Awarded upon finishing all course modules and assessments successfully.



Internship Completion Certificate

Issued after completing both the minor and major industry projects.



Letter of Recommendation

Optional — for outstanding performers, signed by Skillumni co-founder.



Outstanding Performance Certificate

Optional — recognises exceptional dedication and achievement.

Accreditations & Recognitions

Skillumni is proudly recognized under key Government of India initiatives — reflecting our compliance, credibility, and commitment to student success.



Startup India (DPIIT)

Dept. for Promotion of Industry &
Internal Trade, Govt. of India



MSME Certified

Ministry of Micro, Small & Medium
Enterprises, Govt. of India



Ministry of Corporate Affairs

Registered Private Limited Company,
Govt. of India

THANK YOU

We'd love to be part of your learning journey.

Need more insights? Our counsellors are here to guide you through every step.



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