



Industrial Bioinformatics

Long-Term Internship (4.5 months)

For APSCHE Life Sciences Students



Andhra Pradesh State Council of Higher Education

(A Statutory Body of Government of Andhra Pradesh, Established under A.P. Act No. 16 of 1988)
3rd, 4th & 5th floors, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road, Atmakur(V),
Mangalagiri(M), Guntur-522503.



Shri. Y. S. Jagan Mohan Reddy
Hon'ble Chief Minister



**Prof. P. Uma
Maheswari Devi**
Vice-Chairperson of
APSCHE



**Dr. Deepshikha
Satish**
CEO & Founder of
DrOmics Labs

www.dromicslabs.com



With with
Department of Industrial Policy and Promotion
Ministry of Commerce and Industry
Government of India

DIPP21150
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सूक्ष्म , लघु एवं मध्यम उद्यम
MICRO, SMALL & MEDIUM ENTERPRISES



About Dr.Omics Labs

Dr.Omics Labs proudly stands as India's foremost Bioinformatics platform, a testament to its roots **incubated at the prestigious IIT Delhi**. With a legacy of trust, we have successfully **trained over 5000 students** hailing from diverse corners of the world. Our commitment to excellence extends to our **faculties, drawn from the top institutes across India**, ensuring that our learners receive guidance from accomplished experts in the field.

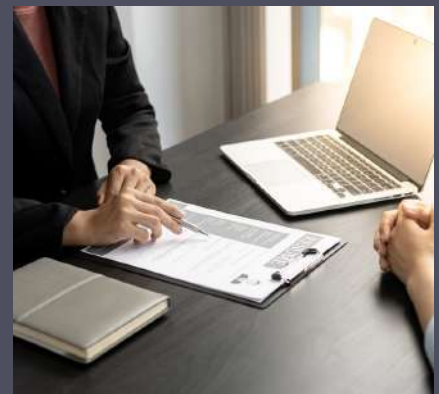


At Dr. Omics Labs, we strongly believe in the transformative power of education, unbound by geographical constraints, and fostering a community of knowledge seekers worldwide. Our meticulously crafted curriculum, delivered by experienced professionals, reflects the latest breakthroughs in Bioinformatics.



Welcome to a
**Transformative Journey in
Industrial Bioinformatics!**

This Long-Term Internship program offers hands-on experience in Industrial Bioinformatics, including opportunities to develop skills in data analysis, programming, and machine learning, and networking with industry experts. The program prepares interns for a career in the field, with a focus on personalized medicine and drug discovery.



Let's prepare Life Sciences Students For THE ERA OF BIOLOGICAL DATA SCIENCE



1. ENHANCED SKILL SET

for data analysis and computational biology.



2. INTERDISCIPLINARY SKILLS

and collaboration across fields.



3. ACCESS TO HIGH-PAYING JOBS

in Biotech, pharma, and research.



4. GATEWAY TO RESEARCH-ORIENTED CAREERS.



5. RELEVANCE

for biomedical and genetic engineering.



6. ALIGNMENT WITH INDUSTRY TRENDS

in precision medicine and drug discovery.



7. COMPETITIVE ADVANTAGE

in job market and research collaborations.



8. TECHNICAL ADVANCEMENT

Bioinformatics keeps biologists technologically ahead, incorporating AI, ML, and Big Data



9. REMOTE WORK CAPABILITY

With cloud computing, bioinformatics enables biologists to work from anywhere, fostering flexibility and adaptability (Foreign Job Market)



10. PROMOTING CAREER CONTINUITY

Bioinformatics supports career continuity for all, including women, by minimizing career gaps

PROGRAM OVERVIEW

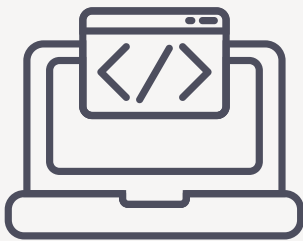
The long-term virtual internship is a **Live hands-on learning opportunity**, focusing on making students job-ready. With guidance from industry mentors, students work on projects, developing their profiles for specific job roles. The program equips students with technical and professional skills, tackling real-world challenges and fostering innovative solutions. Encouraging critical and creative thinking, this initiative offers industry-level training at the college level, ensuring students are well-prepared for future employment.



Live Training by instructors.



Learning at your own pace.



Project Development



Tools for enhancing productivity.



Career Development



Mentoring

PROGRAM STRUCTURE (240 HRS)



Technical Training

Participate in **70 hours** of live, hands-on technical training.



Self Learning

Complete **70 hours** of self-learning using examples from daily hands-on sessions.



Daily Assignment and Assessment

Attempt **70 Hrs** of Assignments including MCQs



Career Development Course

5-hour career development course for guidance.



Project Development

30 Hrs of Project Development assistance and Q & A sessions to clear the queries.



NEXT-GENERATION SEQUENCING (NGS)

Module	Live, hands-on technical training (Hrs)	Self-learning using examples from daily hands-on sessions. (Hrs)	Assignments including MCQs (Hrs)
Basics of Bioinformatics & NGS	15	15	15
Linux and its applications in NGS	5	5	5
NGS Techniques using Python	10	10	10
R and its application in NGS Techniques	10	10	10
RNA SEQUENCING (REFERENCE and DeNovo BASED)	15	15	15
DNA SEQ (VARIANT CALLING), ANNOTATION	10	10	10
Career Development course	5	5	5
Research Project 1.5 month = Development assistance and Q & A sessions	30	3 hrs on every Monday and Thursday	

COMPUTER-AIDED DRUG DESIGNING (CADD)

Module	Live, hands-on technical training (Hrs)	Self-learning using examples from daily hands-on sessions (Hrs)	Assignments including MCQs (Hrs)
Basics of Bioinformatics & CADD	10	10	10
Linux, Cloud Computing and its application in CADD	5	5	5
Python and its application in CADD Techniques	10	10	10
R and its application in CADD Techniques	10	10	10
COMPUTER AIDED DRUG DESIGNING	30	30	30
Career Development course	5	5	5
Research Project 1.5 month = Development assistance and Q & A sessions	30	3 hrs on every Monday and Thursday	

APPLIED AI AND MACHINE LEARNING FOR BIOLOGISTS

Module	Live, hands-on technical training (Hrs)	Self-learning using examples from daily hands-on sessions (Hrs)	Assignments including MCQs (Hrs)
Basics of Bioinformatics & application of AI and ML in Biosciences	15	15	15
Linux and its applications in AI and ML	5	5	5
Python and its application in AI and ML	20	20	20
Practical use of Machine Learning in Biosciences	25	25	25
Career Development course	5	5	5
Research Project 1.5 month = Development assistance and Q & A sessions	30	3 hrs on every Monday and Thursday	

ADVANCED R-PROGRAMMING

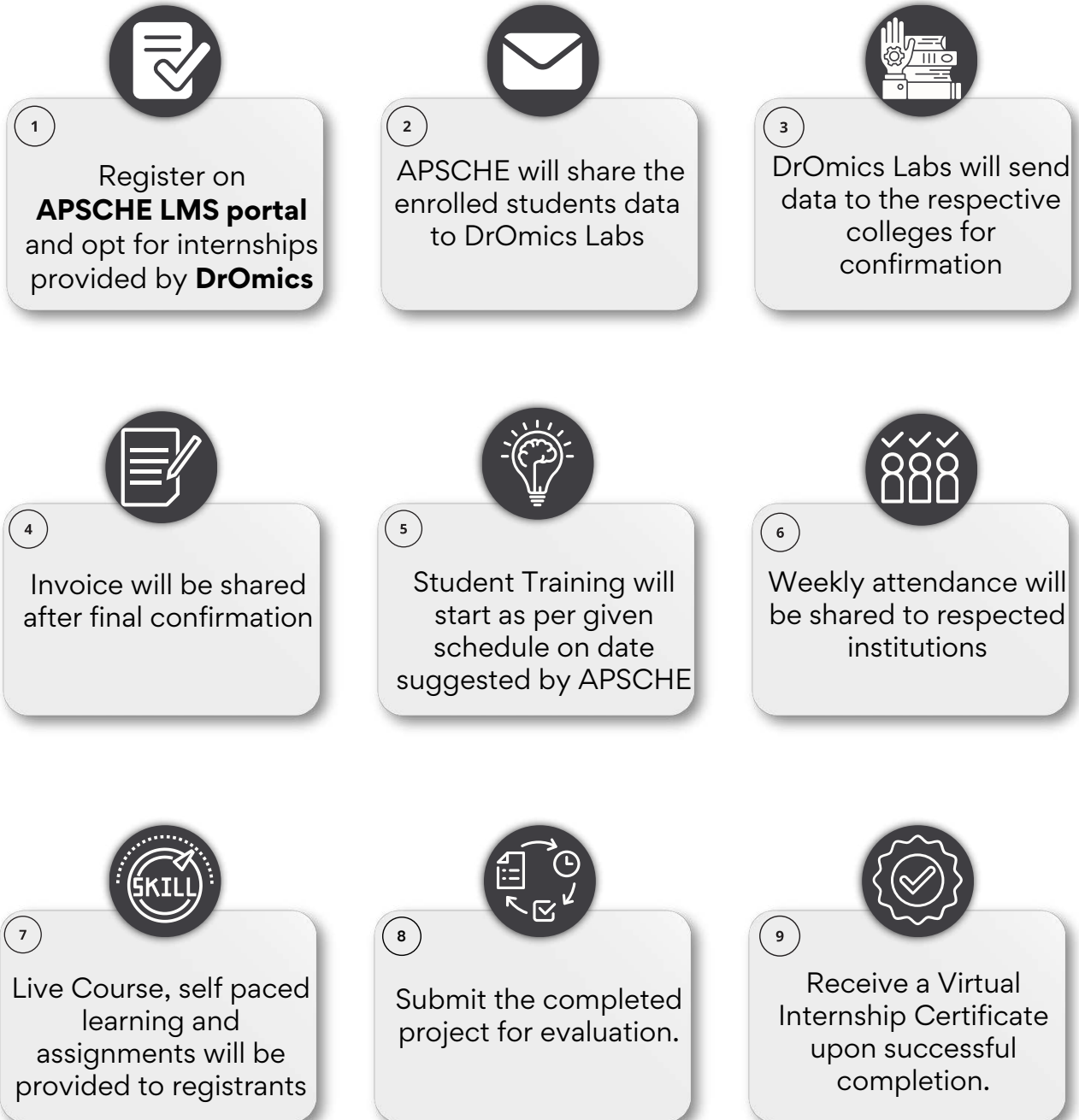
Module	Live, hands-on technical training (Hrs)	Self-learning using examples from daily hands-on sessions (Hrs)	Assignments including MCQs (Hrs)
Basics of Bioinformatics	15	15	15
Linux and its applications	5	5	5
R and its application in NGS Techniques	20	20	20
RNA SEQUENCING (REFERENCE and DeNovo BASED) using R	15	15	15
Data visualization using R	10	10	10
Career Development course	5	5	5
Research Project 1.5 month = Development assistance and Q & A sessions	30	3 hrs on every Monday and Thursday	

PYTHON FOR BIOLOGICAL RESEARCH


Module	Live, hands-on technical training (Hrs)	Self-learning using examples from daily hands-on sessions (Hrs)	Assignments including MCQs (Hrs)
Python and its application in NGS Techniques	30	30	30
Hands-on training on Biopython	10	10	10
RNA SEQUENCING (REFERENCE and DeNovo BASED) using Python	15	15	15
Automation of RNASeq pipeline using Python	10	10	10
Career Development course	5	5	5
Research Project 1.5 month = Development assistance and Q & A sessions	30	3 hrs on every Monday and Thursday	

PROCESS TO BE FOLLOWED

The flow of program execution is depicted below.



Need more insight & support? CONTACT US!

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Dr. Omics Labs
The Doctor of your DNA



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