

WHAT CAN I DO WITH MY BIOINFORMATICS/ COMPUTATIONAL BIOLOGY DEGREE?



Using the Major Sheet:

- Large headings indicate **industry** area and subheadings indicate **employers** within that area.
- Use the titles to search for careers and related careers in order to explore your options within different areas of industry. Note that some career titles have multiple names for similar positions.
- An asterisk (*) notes that additional training (certification, graduate school, high level of experience) may be needed in order to obtain this career. Make sure to thoroughly research career pathways.

COMPUTER SCIENCE/ENGINEERING

Computer Service Co., Large Corp. / Organizations, Software Development Firms, Biotechnology Companies

- | | | |
|-------------------------------------|-------------------------|----------------------|
| • Computational Biologist | • Computer Programmer | • Data Analyst |
| • Molecular Modeling Researcher | • Database Management | • Digestion of Data |
| • Software Engineer | • Computational Analyst | • Sequence Assembler |
| • Software Engineer | • Software Developer | • Technical Support |
| • Bioinformatics Software Developer | • Web Developer | |

INFORMATION TECHNOLOGY

Computer Service Corp. / Organizations, Software Development Firms, Biotechnology Companies

- | | | |
|--------------------------|--|--------------------------|
| • Bioinformatics Analyst | • Biostatistician | • Database Programmer |
| • Network Administrator | • Data Visualization Specialist | • Data Mining Specialist |
| • Clinical Data Manager | • Laboratory Information Systems Analyst | |

APPLIED SCIENCE

Medical and Hospital Clinics, Pharmaceutical Companies, Industrial Firms, Bioengineering Companies, Private or Hospital Diagnostic Laboratories, Agricultural Institutions

Biotechnology

- | | | |
|---------------------------------|----------------------------|----------------------|
| • Forensic Biological Scientist | • Molecular Microbiologist | • Biotechnologist |
| • Biostatistician | • Chemistry Technologist | • Product Researcher |
| • Biologist | • Research Scientist | • Protein Matching |
| • Biomedical Chemist | • Bioinformatician | • Product Developer |

Medical/Pharmaceutical/Genetics

- | | | |
|-----------------------------------|------------------------|----------------------|
| • Biomedical Engineer | • Biomedical Scientist | • Genetic Researcher |
| • Public Health/Infection Control | • Medical Writer | • Geneticist |
| • Healthcare Scientist | • Proteomic Specialist | • Pharmacogenomicist |
| • Phylogenitist | • Pharmacologist | • Anatomist |
| • Gene Analyst | • Protein Analyst | • Scientific Curator |
| • Pathologist | • Cheminformatician | • Pharmacogenetician |
| • Cytotechnologist | • Medical Technologist | • Virologist |

EDUCATION/PUBLISHING

Colleges and Universities, Industrial Firms, Research Institutes, Government Labs

- Research Scientist
- Educational Programs Manager
- Public Health Educator
- Bioinformatics Professor
- Mathematician

GOVERNMENT/INDUSTRY

Bioengineering Companies, Public Health Service, Department of Health and Human Services, Environmental Protection Agencies, Food and Drug Administration, etc.

- Systems Engineer
- Operations Research Analyst
- Environmental Engineer
- Consultant
- Statistician
- Environmental Scientist
- Agricultural Analyst
- Plant Breeder
- Market Analyst

PREPROFESSIONAL PREPARATION

Prepares for Graduate Programs in:

- Management
- Math
- Dentistry
- Business
- Science
- Nursing
- Law
- Medicine

Preparation for a Competitive Job Market:

- **Focus on transferable skill sets**, as you pursue a degree in Bioinformatics/Computational Biology.
- **Obtain relevant internship, co-op, or volunteer experiences.**
- **Supplement Bioinformatics/Computational Biology course work** with **classes** that are **relevant** to your career.
- **Meet with a Career Specialist** to explore options, make decisions, and prepare for career choices.

Additional Career Center Resources:

- **Major Sheets (BIOL, BIOC, BTEC, MATH, MOCB):** <http://careers.umbc.edu/tools/major-sheets/>
- **Links by Major:** <http://careers2.umbc.edu/tools/links.php>
- **Vault:** <http://careers.umbc.edu/students/discover/explore-careers-majors/>

-Click on Vault Career Insider portal link and provide UMBC user ID and password

-Select "Guides" to view relevant guides such as:

"Vault Guide to Pharmaceuticals and Biotechnology Jobs"

"Vault Guide to Biology and Life Sciences Jobs"

"Vault Guide to Government Agency Careers"

"Vault Guide to Health Care Provider Jobs"

"Vault Guide to Dental Care Jobs"

"Career Launcher: Health Care Management"

"Vault Career Guide to Pharmaceuticals and Biotech"

- **Professional Associations:**

The International Society for Computational Biology: www.iscb.org

Society for Industrial Microbiology and Biotechnology: <http://www.simhq.org/>

American Institute for Biological Sciences: <https://www.aibs.org/home/index.html>

National Association of Science Writers: <https://www.nasw.org/>

Association of Clinical Research Professionals: <http://www.acrpnet.org/>

- **Additional Resources:**

Insight Data Science Fellows Program: <http://insightdatascience.com/>

Virology Journal: <http://www.virology.net/>

Bioinformatics.org: <http://www.bioinformatics.org/>

Health eCareers: <https://www.healthcareers.com/>

- **Professional/Graduate School Resources:**

UMBC PreMedical and PreDental Advising Office: <http://premed.umbc.edu/>

Graduate Guide: <http://www.graduateguide.com/>

National Association of Graduate and Professional Students: <http://nagps.org/>