A Bright Future

Why Maryland?
Maryland is home to premiere bio-medical schools and facilities alongside nearly all of the nation’s most critical federal research agencies. It is a fertile breeding ground for new exciting start-ups as well as an established environment for biotechnology, pharmaceutical and research and tool providers.

Why Biotechnology?
Biotechnology is one of Maryland’s more exciting and faster growing industries. A job in biotechnology can lead to a career in biotechnology. The industry offers multiple career paths from entry level to senior level positions. Career paths may follow an emphasis on science or technology or any of several business functions.

Why Career Mapping?
Career mapping is a “grid map” that lists jobs within an industry and outlines their required qualifications for employment. This visual overview provides information about career opportunities available in Maryland’s biotechnology industry and the education and experience needed for career advancement or entry into a particular occupation.

Who Uses Career Maps?
Anyone can benefit from career mapping. Whether you have yet to attain your high school diploma/GED or have a college degree, career maps provide a pathway to rewarding careers in biotechnology. If you are already employed and want to advance or move into another biotechnology occupation, mapping will give you the basics—job duties and education requirements.

How do you Navigate Career Maps?
There are six career tracks—research and development, quality systems, regulatory affairs, manufacturing and operations, clinical studies, sales and technical support. Heavily emphasis is placed on hands-on experience in the biotechnology industry. Applicants that have relevant experience and less formal education may compete well with those with higher education levels and little experience.

Hands-on experience is highly valued in the biotechnology industry. Applicants that have relevant experience and less formal education may compete well with those with higher education levels and little experience.

For those with advanced training or experience in the biotechnology business, an expanded career map with more positions can be found on the online career map hosted by BioBuzz (www.biobuzz.net). Job titles, position descriptions and requirements may differ from employer to employer. For example, one company’s Research Associate position may have different requirements than another company. To create this career map, similar positions were compiled and a “typical” job title, position description and requirements were created.

For careers in health care, visit the Baltimore Alliance for Careers in Healthcare at www.baltimorealliance.org or call 443.931.3076.

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Training Resources
There are numerous training resources available to those seeking a career in biotechnology and to those looking to expand their career through new skills and experiences.

www.montgomerycollege.edu/biotech
Montgomery College biotechnology programs, located in the State of Maryland, prepare students for a career in biotechnology. Industry partners design curriculum and courses from local biotechnology/healthcare/chemical employers. Students may earn A.A.S., Biotechnology or two Certificates in Biotechnology in Biomanufacturing.

www.bio-trac.com
Bio-Trac, in partnership with Montgomery College offers one year to two year programs in biotechnology and biomanufacturing. Students can earn an A.A.S. degree or a Certificate in Biotechnology.

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There are a great number of job categories in the biotechnology industry.

Career Tracks

- **Technical Recruiter**
  - DUTIES: Responsible for recruiting, interviewing, and screening candidates for technical roles.
  - REQUIREMENTS: 2 yrs. related experience.

- **Laboratory Assistant**
  - DUTIES: Performs laboratory tasks, including data entry and analysis.
  - REQUIREMENTS: 0-2 yrs. related experience.

- **Production Planner & Scheduler**
  - DUTIES: Plans and schedules production activities, ensuring smooth operations.
  - REQUIREMENTS: 0-2 yrs. related experience.

- **Accountant**
  - DUTIES: Performs accounting tasks, including reconciling accounts and preparing financial reports.
  - REQUIREMENTS: 0-2 yrs. experience.

- **Plant Breeder**
  - DUTIES:Breeds plants to improve traits like drought resistance.
  - REQUIREMENTS: 0-2 yrs. experience in a research laboratory.

- **Programmer**
  - DUTIES: Develops software solutions for specific tasks.
  - REQUIREMENTS: Bachelor's degree (4 yr.) or associate degree. 2+ yrs. relevant experience.

- **Environmental Engineer**
  - DUTIES: Designs and implements environmental solutions for industries.
  - REQUIREMENTS: BS or MS in Environmental Science or a related field.

- **Chemical Engineer**
  - DUTIES: Designs and optimizes chemical processes.
  - REQUIREMENTS: BS or MS in Chemical Engineering.

- **Quality Assurance (QA) Specialist**
  - DUTIES: Ensures product quality meets regulatory standards.
  - REQUIREMENTS: Degree in a scientific discipline and 2 yrs. experience in quality control systems.

- **Bioinformatics Analyst**
  - DUTIES: Analyzes biological data using computational methods.
  - REQUIREMENTS: BS in Bioinformatics or a related field.

- **Pharmaceutical Salesperson**
  - DUTIES: Sells pharmaceutical products to healthcare providers.
  - REQUIREMENTS: Bachelor's degree. 2+ yrs. experience in healthcare and 1+ yrs. in sales.

- **Regulatory Affairs Coordinator**
  - DUTIES: Manages regulatory submissions and compliance.
  - REQUIREMENTS: Bachelor's degree. 2+ yrs. experience in regulatory affairs.

- **Marketing Manager**
  - DUTIES: Develops marketing strategies for products.
  - REQUIREMENTS: BS in Marketing or Business Administration.

- **Site Manager**
  - DUTIES: Manages day-to-day site operations.
  - REQUIREMENTS: BS in a related field with 10+ yrs. experience in a hospital setting.

- **Defect Analyst**
  - DUTIES: Identifies and reports defects in software.
  - REQUIREMENTS: A degree in a technical field is desired.

- **Patient Safety Engineer**
  - DUTIES: Ensures patient safety in healthcare settings.
  - REQUIREMENTS: BS in Engineering or a related field.

- **In-House Lawyer**
  - DUTIES: Provides legal advice to in-house clients.
  - REQUIREMENTS: JD degree with 2+ yrs. experience in biotechnology.

- **Pharmacovigilance Associate**
  - DUTIES: Monitors and reports adverse events.
  - REQUIREMENTS: BSc in Pharmacy or related field with 2+ yrs. experience.

- **Clinical Data Manager**
  - DUTIES: Manages clinical data throughout the study cycle.
  - REQUIREMENTS: BSc in Life Sciences.

- **Patent Agent**
  - DUTIES: Government registration and management of patents.
  - REQUIREMENTS: JD degree is desired.

- **IT Support Specialist**
  - DUTIES: Provides technical support to end-users.
  - REQUIREMENTS: Experience in IT support.

- **Biostatistician**
  - DUTIES: Analyzes biological data to support research.
  - REQUIREMENTS: PhD in Biostatistics or related field.

- **In-House Librarian**
  - DUTIES: Manages biotechnology-specific resources.
  - REQUIREMENTS: MLS degree.

- **Research Associate**
  - DUTIES: Conducts experiments and analyzes data.
  - REQUIREMENTS: BS in a scientific discipline.

- **Senior Development Strategist**
  - DUTIES: Develops and executes strategies for product development.
  - REQUIREMENTS: MS in Science or Medical field and 7+ yrs. experience in the pharmaceutical industry.

- **Technical Writer**
  - DUTIES: Writes technical documentation.
  - REQUIREMENTS: BS in Writing or a related field.

- **Information Technology Specialist**
  - DUTIES: Manages IT systems and infrastructure.
  - REQUIREMENTS: BS in Computer Science.

- **Customer Service Representative**
  - DUTIES: Assists customers with technical issues.
  - REQUIREMENTS: BS in Business Administration.

- **Senior Data Scientist**
  - DUTIES: Analyzes and interprets large datasets.
  - REQUIREMENTS: BS in Statistics or related field.

- **Business Analyst**
  - DUTIES: Analyzes business needs and recommends solutions.
  - REQUIREMENTS: MS in Business Administration.

- **Clinical Research Coordinator**
  - DUTIES: Coordinates clinical trial activities.
  - REQUIREMENTS: BSc in Health Sciences and 2+ yrs. experience in clinical research.

- **Product Manager**
  - DUTIES: Manages product lifecycle from conception to launch.
  - REQUIREMENTS: BS in Business Administration.

- **Biotechnologist**
  - DUTIES: Conducts research and development.
  - REQUIREMENTS: Master's degree in Biotechnology.

- **System Analyst**
  - DUTIES: Analyzes and modifies existing computer systems.
  - REQUIREMENTS: BS in Computer Science.

- **Laboratory Manager**
  - DUTIES: Manages laboratory operations.
  - REQUIREMENTS: BSc in Life Sciences.

- **Senior Technical Writer**
  - DUTIES: Writes technical documentation for complex systems.
  - REQUIREMENTS: MS in Science.

- **Quality Assurance Manager**
  - DUTIES: Manages quality assurance programs.
  - REQUIREMENTS: BSc in Chemistry.

- **Conferences Assistant**
  - DUTIES: Assists with conference planning and logistics.
  - REQUIREMENTS: BSc in Life Sciences.

- **Training Specialist**
  - DUTIES: Designs and delivers training programs.
  - REQUIREMENTS: MS in Education.

- **Document Control Specialist**
  - DUTIES: Manages documentation processes.
  - REQUIREMENTS: BS in Library Science.

- **Technical Recruiter**
  - DUTIES: Resumes and interviews job candidates.
  - REQUIREMENTS: 2 yrs. experience in technical recruitment.

- **Database Administrator**
  - DUTIES: Manages database systems.
  - REQUIREMENTS: BS in Computer Science.

- **Client Support Specialist**
  - DUTIES: Assists customers with software issues.
  - REQUIREMENTS: BSc in Life Sciences.

- **Plant Breeder**
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- **Chemical Engineer**
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  - REQUIREMENTS: BS or MS in Chemical Engineering.

- **Quality Assurance (QA) Specialist**
  - DUTIES: Ensures product quality meets regulatory standards.
  - REQUIREMENTS: BS or MS in Chemistry.

- **Analytical Chemist**
  - DUTIES: Conducts chemical analysis.
  - REQUIREMENTS: BS in Chemistry.

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