

## Understanding Biomedicine— a vital subset of Healthcare

According to Wikipedia, biomedicine “applies biological and physiological principles to clinical practice.” In other words, the understanding of **biology and the human body allows individuals to create very strategic, research-supported practices and products to treat disease or medical concerns.** Biomedicine brings forth a tangible means of improving one’s health through drugs that treat or manage disease to rejuvenating organs to 3-D printing parts of a human skull—all things occurring here in Northeast Florida.

To demonstrate the full spectrum of biomedicine’s impact, consider this: biomedicine ranges from developing and commercializing medicine, to manufacturing the drugs, to studying the impact of drugs and medical techniques through clinical or independent research. Choosing this industry means you can commit to a long-term career pathway with the expectation of change and evolution. It can involve **earning a short-term workforce certificate or pursuing a medical degree.** Working in many different environments, such as laboratories, hospitals, pharmacies, or manufacturing plants, is an interesting aspect of biomedicine.

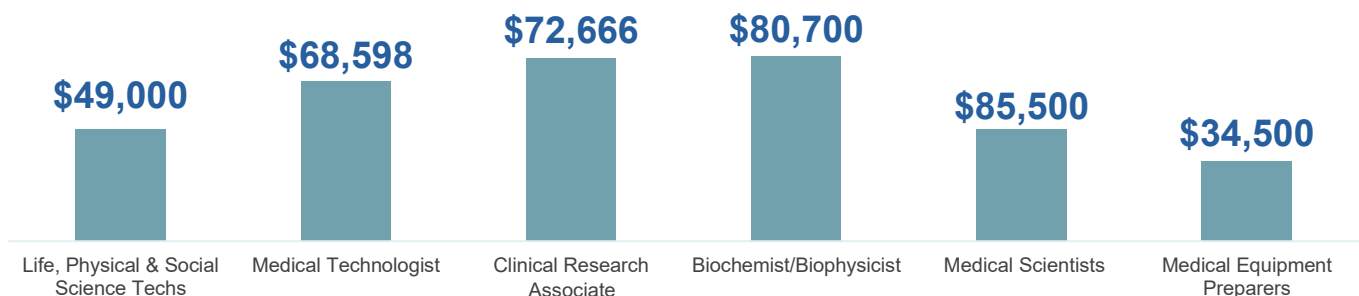
The industry involves constant innovation. *Brian Hultgren, Operations Administrator for Mayo Clinic’s Center of Regenerative Medicine and Pharmacy,* says, **“We’re always thinking about how we push the practice of medicine forward.”**

<b>FAST FACTS</b>	<b>93,922</b> EMPLOYED IN THE HEALTH & BIOMEDICAL SECTOR
<b>3,689</b> HEALTH & BIOMEDICAL ESTABLISHMENTS IN THE REGION.	<b>46,000</b> HEALTH & BIOMEDICAL ESTABLISHMENTS IN THE STATE.

## TOP INDUSTRY EMPLOYERS (2021)

Company	Number of Employees
Mayo Clinic	6,400
UF Health	4,200
Johnson & Johnson	2,600
McKesson	1,000
Medtronic	720

## AVERAGE WAGES



# Biomedical Pathway

## TALENT PIPELINE

# 5

Regional colleges and universities offer degree or certificate programs with Biomedical or related concentrations

# 19

Percent positive change in average annual earnings between 2018-2019  
Source: JobsEQ 2020

- Edward Waters College
- Florida State College at Jacksonville
- Jacksonville University
- Keiser University
- University of North Florida

### Graduate Level

- Biology, Biomedical Sciences Concentration, MS ●
- Biomedical Sciences, Accelerated BS-MS ●

ADVANCED DEGREE to PRE-MED

- **Medical Scientist** (Avg. Annual Wage: \$85,500)
- **Biochemist/Biophysicist** (\$80,700)
- **Clinical Research Associate** (\$72,666)

### Bachelor Level

- Biomedical Sciences, BS (Bachelor of Science) ●
- Biology, BS ● ●
- Biomedical Sciences (Pre-med), BS ●
- Biology (with optional certificate in Biomedical Sciences) ●

4-YEAR DEGREE

- **Bioengineer/Biomedical Engineer** (Avg. Annual Wage: \$93,000)
- **Research Protocol Specialist** (\$50,400)
- **Clinical Research Coordinator** (\$62,034)
- **Research Scientist** (\$71,782)

### Associate Level

- Biomedical Engineering Technology, AS (Associate of Science) ●

2-YEAR DEGREE

### Certificate Level

- Biotechnology Laboratory Specialist/Health Science, Technical Certificate (TC) ●
- Biotechnology Specialist/Manufacturing, TC ●
- Chemical Lab Specialist, TC ●

1-YEAR (OR LESS) CERTIFICATE

- **Medical and Clinical Laboratory Technicians** (Avg. Annual Wage: \$53,200)
- **Health Technologists & Technicians** (\$44,300)
- **Life, Physical and Social Science Technicians** (\$49,000)
- **Medical Equipment Preparers** (\$34,500)
- **Medical Equipment Repairers** (\$61,600)

### Entry Point

- High school students enrolled in related CTE academies or curriculum resulting in dual enrollment & credentials.

HIGH SCHOOL DIPLOMA

Academic Career Planning Awareness & Support, Workforce Advising, Faculty Mentoring  
On-the-job Training Hours, Internships, Related Work Experience

# Select Regional Employers Biomedical



Ascension St. Vincent's\*

Baptist MD Anderson  
Cancer Center \*

Brooks Rehabilitation\*

Florida Blue\*

Formativ Health

KLS Martin Group

Mayo Clinic \*

Meclabs Institute

Memorial Health \*

McKesson

Medtronic

Nemours Children's  
Health System

Orange Park Medical  
Center \*

UF Health Jacksonville \*

Zimmer Biomet

\*JAXUSA Partnership  
Investor

## Region attracts top scientists and companies

If you're interested in STEM and like to think critically about process, study outcomes, and make an impact on individual or global public health, consider the biomedical industry. It involves understanding the big picture consequences of processes that occur at the smallest cellular or molecular level.

According to BioFlorida.com, "Florida's bioscience industry is developing breakthrough discoveries and therapies that have the ability to propel the industry and improve the quality of life for Americans across the country."



Earn Up is powered by JAXUSA Partnership, the private, nonprofit division of JAX Chamber that is Jacksonville's regional economic development initiative overseeing the efforts of the seven counties of Northeast Florida. Earn Up also works closely with CareerSource Northeast Florida to ensure that employers have the best assistance or any pertinent workforce needs. For more information, please contact:

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