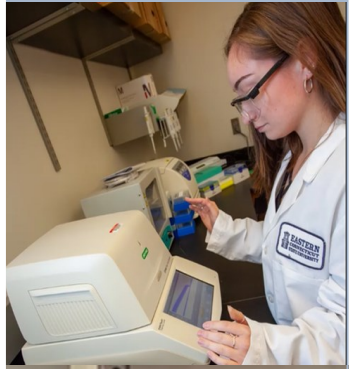



# Biochemistry Program

## Employability Handbook



Physical Sciences Department  
Eastern Connecticut State University  
83 Windham Street, Willimantic, CT 06226



*Welcome to the Biochemistry Major and the scientific programs at Eastern Connecticut State University. As the Chair of the Department of Physical Sciences, and coordinator and creator of the Biochemistry Major at Eastern I have been able to partake in every stage and aspect of the curriculum development, student advising, student outcomes, and success assessment. When I consider “Student Success” I believe we must take into consideration several aspects. Obviously, we all want success for your future lives, successful employment, completion of graduate or professional schools, but I believe that your development as an educated individual who is self-confident and able to examine any situation critically is a vital characteristic of “a successful future.”*

*This handbook has been assembled to help current students and those interested in learning more about the department’s program as it relates specifically to employability. It includes information about what biochemists do in the modern workforce, the current job market for biochemists, our alumni, and much more about our program and the employability initiatives at Eastern.*

*We hope this guide provides you with the help and answers you seek about the program and the life of a young scientist. We also want to ensure that everyone has the information to directly contact the appropriate faculty and staff to assist you with any questions. We are a small close-knit group, and our university as a whole is committed to providing direct interaction between our faculty and all our students.*

*Dr. John Toedt*



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# 1.

## Why have an employability handbook for Biochemistry?

- ➔ To raise your awareness of what employability is
- ➔ To explain how your employability is enhanced by majoring in Biochemistry
- ➔ To draw your attention to the many complementary opportunities beyond the major that can help you further enhance your employability
- ➔ To introduce you to the wide range of employment options for Biochemistry graduates
- ➔ Provide information on resources available for you on your career journey

### Justin Piro, Ph.D.

ECSU Alumnus '05

Justin is currently Director of Neuroinflammation & Glial Biology, CNS Disorders, Cambridge, MA.

He is a great example of how an under-graduate degree from Eastern, combined with a graduate degree in a specialized field, can lead to unlimited possibilities.

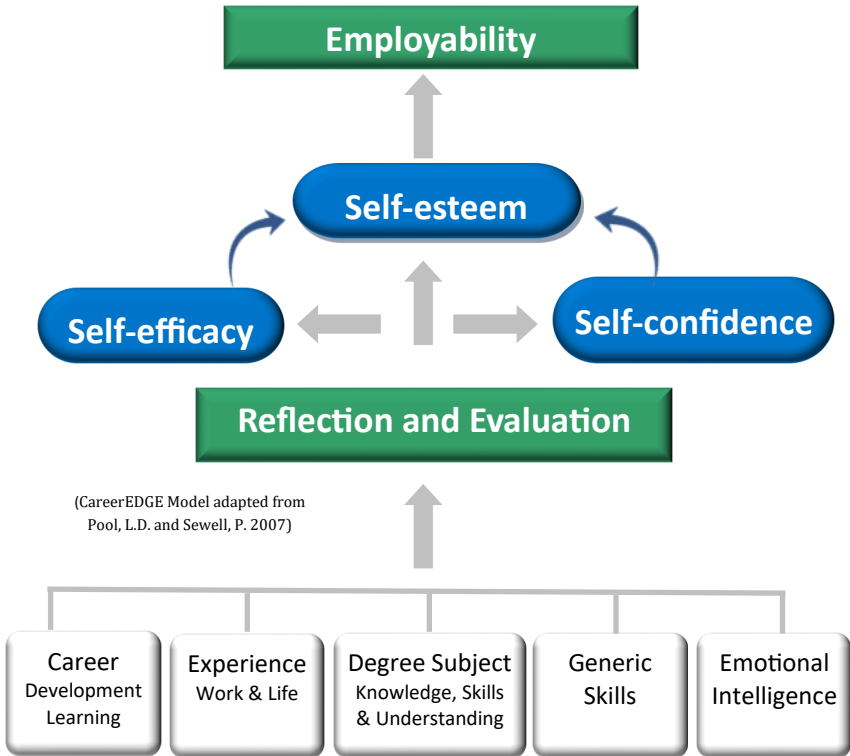


## 2.

## What is Employability?

Employability is a set of achievements, skills, understandings and personal attributes that makes graduates more likely to gain employment and be successful throughout their working life.

Taken from "Pedagogy for Employability",  
Higher Education Academy, 2012



### Program Goals:

1. To give students a solid foundation in biology and chemistry
2. To develop analytical and critical-thinking skills that allow independent exploration of biological facts through the scientific method
3. To introduce students to modern methods of biochemical experimentation within the disciplines of biology and chemistry

# 3.

## Knowledge and Skills you will Acquire

### KNOWLEDGE:

Students majoring in biochemistry obtain a broad background in Biochemistry from Chemistry and Biology courses, preparing them for the ever-evolving scientific world. The discipline provides an in-depth introduction to the chemistry of living organisms, and the experimental techniques used to investigate the structures and functions of biological important molecules.

### SKILLS:

1. In-depth knowledge of molecular biology techniques
2. Practical laboratory skills
3. The ability to understand complex biological processes
4. Observation skills
5. Research and data analysis
6. Critical thinking and problem solving

### OTHER GENERAL SKILLS:

1. Math Skills
2. Communication and presentation
3. Report writing
4. Perseverance
5. Time Management



# 4.

## Benefits of a Biochemistry Major

Biochemistry majors get a strong education in both biology and chemistry and explore life at the molecular level. This major is the right grouping for students who can't decide between a biology or a chemistry major, as a biochemistry major combines them both. The major provides a good overview for the Medical College Admission Test or Dental Admission Test, the entrance exams for medical or dental school. Students who enjoy both chemistry and biology and are comfortable with quantitative approaches to problem solving will find biochemistry a rewarding field of study.

A biochemistry degree opens up a range of careers in industry and research in areas such as health, agriculture and the environment.

### Some advantages enjoyed by our students include:

- One-on-one contact with professors
- Hands-on experience with research grade equipment in undergraduate laboratories
- Project-based laboratories emphasizing critical thinking and trouble shooting skills
- Individual advising



## 5.

## Educational Opportunities

After completing an undergraduate degree in Biochemistry many of our graduates enter the work force immediately. We also have many students that pursue advanced degrees after graduation or after some time working in various scientific positions. The Biochemistry Major is also the only Eastern major that requires all of the core scientific courses that are required pre-requisites for admission into most professional schools including, medical, dental, pharmacy and other related allied health programs.

### Graduate and Professional Schools Attended by Eastern Biochemistry Alumni

- Boston University
- Central CT State University
- Poznan Univ. of Medical Sciences
- Ross Univ. School of Medicine
- University of Chicago
- UConn School of Medicine
- Yale University
- Saint Joseph Univ. School of Pharmacy
- Virginia Tech
- Univ. of Maryland School of Pharmacy
- Western New England College of Pharmacy and Health Sciences
- Dartmouth College
- New York University
- Quinnipiac University
- Tufts University
- University of Connecticut
- University of Florida
- Univ. of New Hampshire
- Virginia Polytechnic Institute
- Wesleyan University
- Univ. of Virginia School of Medicine
- Washington Univ. School of Medicine



# 6.

## Where do Biochemistry graduates work?

Positions for biochemists are available in biomedical, biotechnological, pharmaceutical, university-affiliated research laboratories, hospital laboratories, along with governmental research laboratories. Within the first year of graduation with a biochemistry degree, over 98% of our students are employed in the field or enrolled in a graduate or professional school. A number of our students also pursue care outside pure lab work.

### Companies and Research Institutions Employing Eastern Biochemistry Alumni



# 7.

## How Can I Get More Experience and Skills?

### 1. Volunteer with the Center for Community Engagement

<http://www.easternct.edu/cce/>

Volunteer your time in the Windham/Willimantic community.



CCE offers semester-long opportunities and one time events in a variety of fields, including schools and non-profit organizations such as the No Freeze Shelter, Big Brothers and Big Sisters, and Jumpstart.

### 2. Do an Independent Study CHE 480

### 3. Internship CHE 490

Provides opportunity to gain experience in teaching laboratory and discussion section of general chemistry.

### 4. Directed Research CHE 492

For students who wish to work under supervision of a chemistry faculty member on a current research project. Students should have had advanced chemistry courses and a “B” average in their courses.

### 5. Study Abroad for a semester

<http://www.easternct.edu/internationalstudyabroad/>

Individual students study for a semester or full year off campus in another country, earning credits while exploring a new culture and meeting new friends.



### 6. Summer Research Experiences for Undergraduates (REU) for Eastern and Abroad

# 8.

## What's Next?

Eastern's Center for Internships and Career Development (CICD) is ready to guide and support students on their career journey. Through programs, networking events and direct communication, the staff encourages students to engage in Eastern's services and develop career readiness skills in demand by employers. Whether an internship, graduate school or employment is the next stop for you, the center's staff is here to help.



Use ECN to build your brand, search for internships and jobs, upload your resume, and so much more!

[Login Here](#)



A skills and interests inventory tool you can use to explore majors and occupations based on your results. Use your Eastern e-mail and the **ACCESS CODE: warrior** and

[Register Here](#)



Explore hundreds of on-line videos and discover employment opportunities available to you based on your major or industry of choice.

[Click Here to Start](#)

**Explore all the wonderful resources, on-line tools and in-person career support that the CICD provides!**

### *Career Studio*

PEER TO PEER CAREER COACHING

The Career Studio is located in Room 215 of Wood Support services and has several computers and a printer for students to use in their career readiness activities. Additionally, students can receive advice and assistance from our Career Peer Coaches related to resumes, cover letters, internship searches, LinkedIn and all of our on-line tools.



<https://www.easternct.edu/career/index.html>

# 9.

## Biochemistry Major Student Success

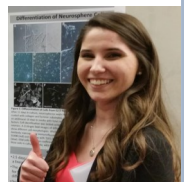
Since graduating the first class of Biochemistry majors in 2005, 51% of the students with a BS in Biochemistry have gone on to pursue professional and/or graduate degrees. While additional education is prevalent, numerous students have also obtained quality employment in the demanding technical fields associated with this degree. Within the first year of graduation with a degree in biochemistry, over 98 % of all our students are employed in the field or enrolled in a graduate or professional schools.

Your success in the program with your determination and effort will in turn prepare you to work in the fields of biomedical, biotechnological, pharmaceutical, university-affiliated research laboratories, hospital laboratories, and government sponsored research facilities as a well prepared, self-confident resilient young scientist.

### *Partial List of Biochemistry Major Alumni*

- **Patrick Conner '05** is a Quality Control Supervisor, Thermo Fisher Scientific
- **Christopher Jensen '05** Product Owner, Informatics
- **Muhammad Mahamoon '05** Microbiology Researcher at Cubist Pharmaceuticals
- **Brenna Traver '06** is an assistant professor of Biology at Penn State Schuylkill, PA
- **James Jarvis '07** Territory Manager at Takara Bio USA, Inc. Pharmaceuticals
- **Sarah Levy '07** is a performance Analytics Manager, Amazon Robotics
- **Claire Price '07** Chemist at Lawrence & Memorial Hospital
- **Christopher Carmean '08** Research Assistant at the University of Chicago, Illinois
- **Nicole (Bates) Paradise '09** Quality Manager at Microbac Labs, Inc. Dayville, CT

- **Brisa Palikuqi** '09 Works at Ansary Stem Cell Institute, Weill Cornell Medicine, NY
- **Nidia Gonzalez Lopez** '09 Development Associate III, Alexion Pharmaceuticals, Inc.
- **Kari Hernandez** '10 is a Staff Pharmacist at Walgreens in Manchester, CT
- **Gregory Buonocore** '10 Senior Scientific Associate at Vertex Pharmaceuticals
- **Nicholas Shoенfelt** '11 is an MES Engineer II at Rubius Therapeutics, Providence RI
- **Keith Knight** '11 Technical Expert at Pfizer, Framingham, MA
- **Christopher Lesure** '11 Employed as a science teacher in CT
- **Jacob St. Germain** '12 is a Scientist at Eurofins Lancaster Labs
- **Lindsey Maxwell** '13 is a Quality Control Microbiology Mngr., Berkshire Sterile Mfg.
- **Jacqueline Lagasse** '14 is a Quality Control Scientist at Tolmar, Windsor CO
- **Kirby Madden-Hennessey** '15 is a PhD candidate at UConn Health
- **Hassan Qureshi** '15 Field Service Engineer Beckman Coulter Life Sciences, CA
- **Zane Lombardo** '16 is a grad student who teaches at Wesleyan Univ. in Middletown
- **Kailey Pisko** '17 is a Pharmacy Technician at CVS in Plantsville, CT
- **Justyna Poznanski** '17 Medical Scribe, Scribe America
- **Scott Scheirey** '17 Northeastern Sales Representative, Rainin Instruments, MA
- **Samuel Meskill** '18 is a lab technician, PerkinElmer Genomics in Willimantic, CT
- **Michael Galarza** '19 is an Analytical Chemist at Watson Inc., Newington, CT
- **Justin Kmetz** '19 is an Analytical Chemist at Eurofins, CT
- **Assefa Milyard** '19 Pursuing MD at the University of Virginia School of Medicine
- **Isabel Orbe** '20 is a Research Assistant at UConn Health Center
- **Haley Bensley** '20 is a Lab Technician at Eurofins, MA
- **Andrew Erickson** '20 is a Chemist at Eurofins, Lancaster Lab in Pennsylvania
- **Madison Leary** '21 is attending the University of Saint Joseph School of Pharmacy
- **Avery Ketchale** '21 is a Medical Technologist, at the Center for Advanced Reproductive Services in Enfield, CT







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<https://www.easternct.edu/physical-sciences/index.html>





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