



THE PATHWAY FROM EDUCATION TO VOCATION

Becoming a Difference Maker in
BIOCHEMISTRY

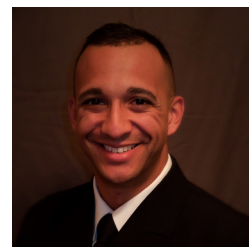
Why Study **Biochemistry** at Azusa Pacific University?

The health care industry in the United States is in the midst of historic, sustained growth. U.S. health care spending has increased to greater than \$3.2 trillion annually and accounts for 17.8% of the nation's Gross Domestic Product (U.S. Centers for Medicare and Medicaid Services). To meet the needs of the field, the U.S. Bureau of Labor and Statistics projects a much faster growth rate for biochemists compared to all other biological scientist careers during the 2014-2024 decade (USBLS Occupational Outlook Handbook). Study in biochemistry is especially appropriate for students seeking a career in these high demand laboratory research areas or graduate study in biochemistry, pharmacy, and other medical-related fields. Data from the Association of American Medical Colleges indicates that undergraduates majoring in biochemistry enjoy one of the highest acceptance rates for medical schools.

At APU, we seek to serve God through the integration of a Christian perspective into the discipline of biochemistry. In addition, the Department of Biology & Chemistry provides an environment where undergraduate students can develop a Christian worldview, learn to integrate their faith into their lives and their discipline, and mature into scientists prepared for graduate or professional studies and for success in leadership roles in their future careers.

YOU MIGHT CONSIDER A BIOCHEMISTRY MAJOR IF YOU:

- Enjoy science and math
- Like working independently as well as in a group setting
- Are interested in both biology and chemistry
- Are thorough, process oriented, and detail oriented
- Like to know how and why things work
- Enjoy experiment-based inquiry



LEITH STATES '05

Physician
United States Navy

On top of being board certified, some of Leith's many other achievements include getting unanimously selected as the Chief Resident in Preventive Medicine and receiving the Navy and Marines Corps Commendation Medal. He now serves as the Division Officer for Public Health and Disease Surveillance.

"Don't be afraid to fail, manage your time wisely, take time for yourself, and mature in your faith as much as you do in your studies."



LIESL PALMER '96

Owner and Landscape Designer
Plant Joy Landscape Design

Liesl started her business in 2006 specializing in a variety of plant material and making landscapes beautifully functional. Biochemistry prepared her to work hard for what she wanted and overcome obstacles.

"I have been really proud of my degree throughout my life and it has helped me persevere in other areas."

BIOCHEMISTRY MAJORS ARE PREPARED FOR:

- Critically thinking through complex processes
- Observation/data collection and data analysis
- Solving problems in a variety of situations
- Analyzing information from multiple sources
- Quantitative reasoning skills
- Communicating scientific findings verbally and through written media
- Laboratory based techniques and skills
- Understanding scientific terminology and nomenclature
- Considering the ethical implications of scientific and medical findings
- Research and using laboratory-based techniques and skills in laboratory settings

GRADUATES IN BIOCHEMISTRY WORK AS:

- Physicians
- Research scientists
- Dentists and other health professionals
- Veterinarians
- Environmental scientists
- Forensic scientists
- Educators
- Laboratory technicians
- Pharmacists and pharmaceutical researchers

**Many of these careers may require additional training and/or graduate education*



JACK HOUSTON '15

Research Associate
Celgene

Jack started as an intern in Celgene's Biochemistry Department and is now a contracted research associate with the Translational Development department. In this position, he investigates the mechanism of action of new compounds that Celgene is developing for multiple myeloma and other B cell malignancies.

"My course work at APU gave me a solid foundation in biology and chemistry, and helped give me the right mindset to work hard and ask good questions."

To connect with these and other APU alumni, email clasalumni@apu.edu

STEPS TO TAKE AS A MAJOR IN BIOCHEMISTRY

OPTIONS TO EXPLORE AROUND APU

BE CALLED.

EXPLORE. DEFINE. RESEARCH. LEARN.

- **TAKE GENERAL BIOLOGY I (BIOL 151) AND GENERAL CHEMISTRY (CHEM 151)**
Explore your interest in a science or medical related field.
- **ATTEND DEPARTMENTAL ADVISING SESSIONS**
Participate in advising each semester in order to discuss your progress through the courses and get feedback from a faculty advisor in regards to your career pursuits.
- **ATTEND PANELS AND EVENTS**
Hear from current students, alumni, and employers about careers in the Biochemistry field.

- **LEARN HOW TO APPLY YOUR STRENGTHS WITHIN YOUR ACADEMICS, LIFE, AND CAREER**
Meet with a Career Consultant* or Strengths Mentor.
- **CONSIDER CAREER OPTIONS FOR YOUR MAJOR**
Meet with a Career Consultant* or your faculty advisor to explore and discuss requirements for your career options.

BE PREPARED.

IDENTIFY. STRENGTHEN. PRACTICE.

- **ATTEND THE STUDENT-2-SCHOLAR PRESENTATION EVENT**
A Fall event showcasing student/faculty research over the previous year.
- **GAIN EXPERIENCE**
In Cell Biology (BIOL 280), Organic Chemistry (CHEM 251/261) and Biochemistry (BIOC 380/381), students use structured writing assignments to help them articulate knowledge of science and their use of scientific processes (scientific method) to address a scientific question.
- **BUILD YOUR RESEARCH SKILLS**
Upper division laboratory classes allow students to become knowledgeable about modern research techniques. Participation in directed research (BIOL 498/CHEM 498) allows students to work on a faculty mentored research project and present their findings at academic and professional meetings.
- **SECURE AN INTERNSHIP**
Utilize your connections to find an internship in an area related to your interests and career aspirations.
- **IF YOU'RE INTERESTED IN GRADUATE-LEVEL EDUCATION**
 - 1) Conduct Summer research with a professor.
 - 2) Meet with professors and the Center for Career and Calling to narrow your choices and apply.

- **RECEIVE FEEDBACK ON YOUR INTERVIEWING ABILITIES**
Complete a Mock Interview with a Career Consultant*
- **CREATE A RESUME TO APPLY FOR AN INTERNSHIP**
Meet with a Career Consultant* to review your resume and cover letter. Run them by your professors, too.
- **GROW YOUR SKILLS IN AN ON CAMPUS JOB OR STUDENT LEADERSHIP POSITION**
Talk to Student Employment or Student Life about the available opportunities.
- **VOLUNTEER LOCALLY AND GLOBALLY TO SHAPE YOUR PERSPECTIVE**
Talk to the Center for Student Action about how you can serve.
- **GAIN KNOWLEDGE ABOUT YOUR CAREER OPTIONS**
Do informational interviews or go to a career-related event to learn more about your career, degree, and experience requirements.

BE CONNECTED.

JOIN. NETWORK. BE ACTIVE.

- **JOIN THE BIOLOGY AND CHEMISTRY DEPARTMENT LINKEDIN GROUP**
Use LinkedIn to stay connected with the Department of Biology and Chemistry and with other professionals in your field.
- **EXPLORE SHADOWING OPPORTUNITIES**
Volunteer within your field of interest in order to establish connections.
- **ATTEND CONFERENCES**
Explore networking opportunities by attending conferences within your discipline.
- **FOLLOW APU DEPARTMENT OF BIOLOGY AND CHEMISTRY ON [FACEBOOK](#) AND [INSTAGRAM \(@APU BIOLOGY CHEMISTRY\)](#)**
Stay up-to-date on department activities.
- **JOIN APU CONNECT**
Use the exclusive online networking portal to connect with other alumni.

- **TALK TO ALUMNI FROM YOUR MAJOR**
Join APUConnect.com and start reaching out. You can also email clasalumni@apu.edu⁺ for help connecting with alumni.
- **GET ACTIVE ON LINKEDIN**
Meet with a Career Consultant* to review your profile and learn how to use LinkedIn.
- **ATTEND CAREER-RELATED EVENTS**
Keep an eye out for career events related to your major or that are happening around campus.
- **HAVE LETTERS OF RECOMMENDATION ON HAND**
Request them from professors and advisors at least a month before due.

* Visit apucareer.youcanbook.me/ to make an appointment with a Career Consultant

⁺ Use subject line: Connect me with APU alumni

APPLYING TO GRADUATE SCHOOL

EXPLORE.



Learn more at
www.apu.edu/career/graduateschool

SELECT.

ONLINE RESOURCES TO HELP IDENTIFY THE BEST PROGRAM FOR YOU

[Peterson's Guide](#)
[GradSchools.com](#)
[The Princeton Review](#)
[National Assoc. of Graduate Professional Students](#)
[The Council of Graduate Schools](#)
[APU Pew Society Graduate Guide](#)

EXAMPLES OF SCHOOLS ATTENDED BY APU **BIOCHEMISTRY** GRADUATES:

[Yale University](#)
[University of Southern California](#)
[Duke University](#)
[Drexel University of Medicine](#)
[University of Illinois College of Medicine](#)

APPLY.

- APPLICATION FORM AND FEES**
Follow instructions carefully and have one or more people check for errors.
- ENTRANCE ESSAY**
Provide a writing example that shows your personal objectives.
- TRANSCRIPT**
Ask APU to send it directly to the school you are applying to.
- LETTERS OF RECOMMENDATION**
Schools usually require three letters, so get them early.
- INTERVIEWS**
If your potential school requests an interview, treat it as a job interview.

FINDING YOUR CAREER

IDENTIFY.

- Search online job boards and professional associations in the Biochemistry field
- Regularly check-in with your organizations of interest and network with those who can inform you of opportunities
- Look on APU Career Network for possible opportunities

BIOCHEMISTRY ASSOCIATIONS:

[American Association for the Advancement of Science](#)
[American Chemical Society](#)
[American Dental Association](#)
[American Medical Association](#)
[American Pharmacists Association](#)
[American Society for Biochemistry and Molecular Biology](#)

PREPARE.

BRAINSTORM YOUR EXPERIENCE
What have you done? What is relevant?

▼
TAILOR YOUR RESUME
What does the job description say?

▼
WRITE GOOD BULLET POINTS
Do you focus on your accomplishments?

▼
FORMAT YOUR RESUME
Is it easy to read and follow?

▼
PRACTICE INTERVIEWING
Know yourself.
Know the position.
Know the organization.

RESEARCH OPTIONS

OCCUPATIONAL OUTLOOK HANDBOOK
www.bls.gov/ooh/

O*NET ONLINE
www.onetonline.org

PROFESSIONAL ASSOCIATION REFERENCE
www.weddles.com/associations

NETWORK.

WHO DO YOU KNOW?
WHO DO YOU NEED TO KNOW?



WHY NETWORK?

- Learn about different options in your field
- Research companies and positions of interest
- Find hidden opportunities that are not advertised
- Obtain referrals from those who have influence

EXAMPLES OF COMPANIES THAT HIRE APU **BIOCHEMISTRY** GRADUATES:

Celgene
University of Southern California
Vizio
Baxter Healthcare
EMD Millipore