Is a Career in the Pharmaceutical Sciences Right for Me?

Check out our online Student Center to find out more:
www.aaps.org/ForStudents
How Do I Know If a Career in the Pharmaceutical Sciences is Right for Me?

- Do you enjoy science and want to pursue a science-based career?
- Do you like to work hands-on in a laboratory setting?
- Do you have a desire to contribute to the health and well-being of society through the development of medicines and therapies?

If so, a career in pharmaceutical sciences may be a good choice for you!

What are the Pharmaceutical Sciences?

The pharmaceutical sciences combine a broad range of scientific disciplines that are critical to the discovery and development of new drugs and therapies. Pharmaceutical sciences can be broadly classified into the following main categories, with many specialized fields within each category:

- **Formulation Design & Development** - formulation design, research and development - a multidisciplinary field drawing upon the physical, chemical, biological and engineering sciences.

- **Physical Pharmacy and Biopharmaceutics** - focuses on preformulation, biopharmaceutics, drug absorption, nanotechnology, and drug delivery systems design and performance including targeted drug delivery.

- **Manufacturing Science and Engineering** - the application and advancement of science and technology as it relates to process development and manufacture of pharmaceutical and pharmaceutically related products including medical devices and active pharmaceutical ingredients.

- **Pharmacokinetics, Pharmacodynamics and Drug Metabolism** - the effect of drugs and metabolites on the body and the effect of the body on drugs.

- **Regulatory Sciences** - the strategic compilation of multidisciplinary information on product performance as it pertains to safety, efficacy, and quality.

- **Analysis and Pharmaceutical Quality** - analytical techniques, quality control and quality assurance.

- **Biotechnology** - research, development and commercialization of biotechnology-based pharmaceuticals, including genes and gene delivery.

- **Clinical Pharmacology & Translational Research** - the clinical research dimension within the pharmaceutical sciences, focused on the therapeutic benefits and clinical assessment of drugs and biologicals.

- **Drug Discovery and Development Interface** - medicinal, natural products, molecular and structural chemistry and drug design and discovery.
What is the Difference Between a Pharmaceutical Scientist and a Pharmacist?

Pharmaceutical scientists are typically involved in the development of new drugs: discovery, drug delivery systems, drug absorption, distribution, metabolism, and elimination characteristics. They spend most of their time doing research in a laboratory or office setting.

On the other hand, pharmacists work with existing drugs, patients, and other healthcare practitioners to optimize patient care and drug use. They often work face-to-face with physicians (drug selection and use) and patients (best use of medications).

“The pharmaceutical sciences provide individuals the ability to engage in exciting projects that will either save or improve the quality of lives. The breadth of science used in this industry ensures you will continue to learn throughout your career. As an engineer, I find this field to be incredibly rewarding and challenging.”

— Tarik Khan, Student
The University of Texas at Austin

“Young education doesn’t stop when you graduate. It is a life long pursuit.”

— Ronald R. Bowsher, Ph.D.
Millipore Corporation
Career Opportunities in the Pharmaceutical Sciences

Over the years, pharmaceutical scientists have been instrumental in discovering and developing innovative drugs that save thousands of lives and improve countless others. Pharmaceutical scientists can pursue a variety of career opportunities/jobs. They are employed by pharmaceutical and biotechnology companies, they work as researchers, scientists and professors at universities, for agencies like the Food and Drug Administration (FDA), U.S. Pharmacopeia (USP), and at national laboratories such as the National Institutes of Health (NIH).

A recent salary and employment status survey* of AAPS Members reported the following key findings:

The current average starting salary for individuals beginning their career in 2011 was $84,500.

The mean base salaries of Ph.D. respondents with 0-5 years of experience was $90,000.

The average salaries were:

**INDUSTRY**
- Ph.D. $135,000
- M.S. $107,000
- B.S. $99,200

**ACADEMIA**
- $100,000

**GOVERNMENT**
- $102,500

Approximately one half of survey respondents with 0-5 years of experience were female.

*2011 AAPS Salary Survey

“There is a great degree of professional satisfaction and enjoyment that I experience when I encourage students to consider a career in our field.”

— Gregory Knipp, Ph.D.
Purdue University
How Can I Become a Pharmaceutical Scientist?

There are many ways to pursue a career in the pharmaceutical sciences. You can obtain an undergraduate or advanced degree in pharmaceutical sciences, pharmacy, biology, chemistry, medicine, or engineering. Conversely, you can also find a rewarding position with degrees in economics, marketing, or business. It takes a multi-disciplinary effort and a variety of skills to develop new and effective medicines.

Career Network

The American Association of Pharmaceutical Scientists (AAPS) also has an online Career Network to help our members with their career needs.


- Search internship programs
- Network with employers/recruiters in the pharmaceutical field at area career fairs
- Online Résumé/CV Submission
- Attend career development seminars and workshops
- Receive career counseling onsite and online

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[www.aaps.org/ForStudents](http://www.aaps.org/ForStudents)
About The American Association of Pharmaceutical Scientists

The American Association of Pharmaceutical Scientists (AAPS) is a professional, scientific society of more than 12,000 members employed in academia, industry, government and other research institutes worldwide. Founded in 1986, AAPS provides a dynamic international forum for the exchange of knowledge among scientists to enhance their contributions to health. We offer timely scientific programs, ongoing education, opportunities for networking, and professional development. For more information about AAPS, visit www.aaps.org.

Where Can I get More Information About the Pharmaceutical Sciences?

Visit these sites to learn more:

- www.aaps.org/ForStudents
  Online Student Center: The AAPS Student Center provides a wealth of information and resources specifically targeted to students and post-docs.

  Career Network: The AAPS Career Network provides members with career and networking opportunities, and resources for professional development both online and onsite at AAPS meetings and expositions.

- www.aaps.org/primers
  AAPS Primers: Learn more about the day-to-day lives of pharmaceutical scientists working in industry, academia and government.

- www.aaps.org/vsp
  Visiting Scientist Program: Through this program, AAPS matches scientific speakers with schools interested in hosting educational speaking engagements.