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The Auburn University Harrison School of Pharmacy offers MS and PhD degrees in Pharmaceutical Sciences. Those pursuing these degrees must select one of four curricular options: 1) Medicinal Chemistry, 2) Pharmaceutics, 3) Pharmacology, or 4) Health Outcomes Research and Policy.

The Medicinal Chemistry, Pharmaceutics, and Pharmacology options are designed for students interested in the drug discovery or development processes, and are offered by the Department of Drug Discovery and Development. Areas of interest include neurodegenerative diseases, cardiovascular diseases, infectious diseases, cancer, diabetes and other metabolic diseases, synthetic organic chemistry, forensic analytical chemistry, and drug delivery, disposition and formulation.

The Health Outcomes Research and Policy option is designed for students interested in analyses of pharmaceutical care outcomes and the management and optimization of pharmaceutical care organizations, and is offered by the Department of Health Outcomes Research and Policy.

A limited number of graduate assistantships are available to students pursuing a graduate degree in pharmaceutical sciences. These assistantships are awarded on a competitive basis. Students with a qualifying assistantship will automatically receive a full graduate tuition waiver.

Auburn University offers a diverse, interdisciplinary environment for pursuing graduate study. Graduate students in the Harrison School of Pharmacy utilize shared research infrastructure in the Samuel Ginn College of Engineering, the College of Sciences and Mathematics, the College of Veterinary Medicine, and the Auburn University Research Park. These resources include supercomputing and e-data storage services; confocal, electron, and atomic force microscopes; mass spectrometry; research NMR; clinical and research MRI; DNA sequencing; peptide synthesis; transgenic mice; small animal imaging; and research animal care facilities. Our graduate students pursue collaborative research projects with investigators in virtually every academic unit at Auburn, including agriculture, business, engineering, human sciences, liberal arts, nursing, veterinary medicine, and sciences and mathematics. These studies are supported by approximately $125 million in extramural grants and contracts annually.

Auburn University offers a wealth of cultural and entertainment events, including live music, theater, museums, and college sports. Auburn, Ala., home of Auburn University, features a low cost of living, assorted housing options, outstanding public schools, and a wide array of dining and shopping opportunities. Auburn University graduate students also benefit from close proximity to diverse shopping, dining, cultural, entertainment, and professional sports experiences in Atlanta, Birmingham, and Montgomery. Finally, Auburn University graduate students have easy access to a variety of outdoor activities, including camping, hiking, rock climbing, caving, hunting, fishing, boating, and kayaking.
The Department of Health Outcomes Research and Policy seeks to improve medication-related outcomes, considering the perspective of patients, providers, and policymakers. This includes research of social and behavioral aspects of pharmaceutical care, research to maximize medication-related outcomes, comparative effectiveness research, drug safety research, and optimization of pharmaceutical care practices. The overall goal is to improve effectiveness of pharmacotherapy and pharmacy practice through research.

Some research is focused on understanding how factors such as costs, patient behavior, provider behavior, and health system organization influence medication use. Much of this research assesses how these factors interact to affect medication adherence, focusing largely on the interaction of patients and providers. Others approach patient behavior from an economics perspective, including behavioral economics and the study of how health policy affects health behavior and outcomes.

Faculty members are involved with the development, implementation, and assessment of medication-related technologies in order to maximize medication-related outcomes and improve efficiency in healthcare delivery. The work focuses on pharmacy-based technology and tools that may be used to improve patient medication use. It also assists pharmacists in the efficient and effective management of their practice, and provides new mechanisms for communicating with patients and other healthcare professionals. Others approach practice-based research from the organizational perspective, focusing on implementation and adoption of new programs, including recent studies on pharmacy-based immunization programs.

Comparative effectiveness research evaluates the benefits and harms of treatments and interventions in real-world settings. Faculty synthesize existing evidence and use real-world data sources including administrative claims data and electronic medical records to conduct observational comparative effectiveness studies. The department as a whole, along with the Department of Pharmacy Practice, is engaged in a nationwide collaboration to develop new tools for evidence-based prescribing. This effort uses secondary comparative effectiveness research as a mechanism for interpreting clinical evidence.

Students applying for admission to the MS or PhD program in Pharmaceutical Sciences who wish to pursue graduate studies in the areas outlined above would select the Health Outcomes Research and Policy option.
The Department of Drug Discovery and Development offers dynamic opportunities for cutting-edge graduate education in all aspects of drug discovery and development. The objective is to prepare students for careers as independent scientists by providing them with a strong basic science background and the ability to translate basic scientific discoveries into therapeutics.

Students can utilize approaches from a variety of disciplines. Prospective graduate students (MS and PhD) interested in drug design and synthesis, natural products isolation and characterization, or forensic analytical chemistry should designate the Medicinal Chemistry option in their application for admission. Prospective graduate students interested in formulation chemistry, drug delivery, or pharmacokinetics should designate the Pharmaceutics option in their application for admission. Prospective graduate students interested in mechanisms of drug action, disease state physiology, toxicology, molecular biology, biochemistry, or microbiology should designate the Pharmacology option in their application for admission. Interdisciplinary graduate certificates are offered through collaborations with other Auburn University units. However, it is not necessary for applicants to indicate their interest in these programs at the time of application for admission.
AREAS OF FOCUS INCLUDE:

- Neuroscience and neurodegenerative diseases
- Cardiovascular biology and disease
- Diabetes and other metabolic diseases
- Cancer
- Infectious diseases
- Forensic analytical chemistry
- Synthetic organic chemistry
- Drug delivery, disposition and formulation
FACILITIES AND EQUIPMENT

Harrison School of Pharmacy faculty and graduate students benefit from extensive research infrastructure on the Auburn University campus. Shared microscopy resources include atomic force, confocal, scanning electron, and transmission electron microscopes. In vivo imaging resources include clinical and research (7 T) MRIs and a co-axial luminescence, fluorescence and X-ray small animal imager. Animal care and use resources include a transgenic animal facility, multiple AAALAC-accredited animal care facilities, and research animal surgery, pathology, and histology support. Campus facilities provide access to a wealth of analytical and preparative tools, including DNA sequencing, peptide synthesis, flow cytometry, live cell fluorescence-activated cell sorting, mass spectrometry, nuclear magnetic resonance, and circular dichroism. Infrastructure is in place to monitor and ensure compliance with safety and regulatory standards, including standards regulating human subjects research, recombinant DNA or radiotopes. Investigators have access to rich IT resources, including campus-wide WiFi, an extensive collection of scientific e-journals, personal web and blog pages, centralized data storage facilities, and the Alabama Supercomputer Center.
GRADUATE SCHOOL ADMISSION REQUIREMENTS

Admission to the graduate program is granted by the Dean of the Graduate School upon the recommendation of the Harrison School of Pharmacy. Only the Dean of the Graduate School is authorized to admit students, refuse admission, or waive any requirement. Applications and supplemental material must be received by the Graduate School at least 45 days before the first day of class of the semester in which the student wishes to begin graduate study. International applicants should submit all required materials at least 90 days before the first day of class. However, most academic units make admission decisions several months in advance. Thus, applicants should check with the Harrison School of Pharmacy to determine when materials should be submitted.

GRADUATE SCHOOL APPLICATION INSTRUCTIONS:

• To apply, please go to http://www.grad.auburn.edu/ and click on “Apply Online”

• Applicants must have earned a PharmD degree or a bachelor’s degree in a relevant major from an accredited college or university.

• Applicants to the Health Outcomes Research and Policy, Medicinal Chemistry, Pharmacology, or Pharmaceutics option must forward recent Graduate Record Exam (GRE) General Test scores to Auburn University (ETS institution code is 1005).

• International applicants must score at least 550 on the Test of English as a Foreign Language (TOEFL) paper version (pBT), 213 on the computer version (cBT), and 79 on the Internet version (iBT). International applicants must also score a minimum of 16 on the listening, reading, speaking, and writing components of the iBT. (ETS institution code is 1005.) A score of 6.5 or greater on the International English Language Testing System (IELTS) exam is acceptable.
• Applicants must provide an official transcript from all previous undergraduate and graduate institutions. If an applicant is a former or current Auburn University student, the Graduate School will acquire the transcript for the applicant.

• Applicants must pay the Application Processing Fee of $60/Domestic and $70/International. This fee will not be waived and an application will not be processed or reviewed until it is paid.

• International applicants must submit an Official Statement of Financing for International Students Form. Additional information regarding international admissions and this form can be found by accessing the links below.
  http://www.grad.auburn.edu/forms/intl_finances_2013_to_2014
  http://www.grad.auburn.edu/forms/intl_instruct.html

PHARMACEUTICAL SCIENCES GRADUATE PROGRAM APPLICATION INSTRUCTIONS:

• Please provide three letters of recommendation that address your academic qualifications, research experience and potential for success mailed directly to the appropriate unit. Each letter should be sent individually in a sealed envelope with the author’s signature over the seal. Alternatively, letters may be uploaded to the application site or sent by electronic mail, so long as each is sent directly from the writer of the letter. Each letter should be typed on official letterhead and sent individually as an attachment in PDF format.

• Please provide a resume or CV.

• Please provide a Statement of Purpose essay of up to 1,000 words. Applicants should indicate why they are interested in the specific option for graduate study. Applicants to the Health Outcomes Research and Policy option should indicate a specific area of study (management, pharmacy communications, counseling and patient education, informatics, automation, facilities design, medication errors, pharmaceutical care outcomes research) and why this area interests them. All applicants should indicate the strengths they bring to the graduate program.

• After submitting the online application, complete the request for assistantship form by accessing the departmental admissions web page and click on the assistantship form link.

• The application deadline for the Health Outcomes Research and Policy option is January 15. Offers of admission to that option must be accepted by April 15. The Medicinal Chemistry, Pharmaceutics and Pharmacology options have a February 15 deadline for priority admission and all international student applications.

• Applications to the Health Outcomes Research and Policy option should be directed as follows:
  Graduate Admissions
  Department of Health Outcomes Research and Policy
  Harrison School of Pharmacy
  20 Foy Hall
  Auburn, AL 36849
  http://www.pharmacy.auburn.edu/horp/admission_information.htm
  Email Contact: kbl0005@auburn.edu

• Applications to the Medicinal Chemistry, Pharmaceutics, and Pharmacology options should be directed as follows:
  Graduate Admissions
  Department of Drug Discovery and Development
  Harrison School of Pharmacy
  4306 Walker Building
  Auburn, AL 36849
  http://www.pharmacy.auburn.edu/ddd/admission_information.htm
  Email Contact: hsopps@exmail.auburn.edu
THE CITY OF AUBURN

The City of Auburn, founded in 1836, is home to Auburn University and much more. It offers many of the amenities of a large city, with the feel of a small town. Between Auburn’s campus, downtown shops and restaurants, new retail opportunities, or outstanding recreational facilities, the city has something for everyone.

Downtown Auburn is lively with thriving retail that includes unique shops, fine and casual dining, quaint coffee shops, bookstores, banks, and hot night spots. The corner of South College Street and Magnolia Avenue, better known as Toomer’s Corner, is considered a gateway from the community to Auburn University. The beloved drug store is home to the famous Toomer’s lemonade, fresh-squeezed daily. Auburn’s downtown sidewalks feature the Tiger Trail in honor of Auburn University’s greatest athletes, coaches and administrators.

The city features a number of recreational opportunities such as Kiesel Park, Hickory Dickory Park, Dean Road Recreation Center, Frank Brown Recreation Center, and the Jan Dempsey Community Arts Center.

For a number of years, the city has earned national recognition as a fastest growing small metro, best place to live, or a best place for a small business. In 2011, Southern Living magazine named Auburn one of the South’s best college towns and Bloomberg Businessweek called Auburn the best affordable place in Alabama.

The relationship between the city and Auburn University enhances the quality of life for its residents. The spirit of partnership and mutual commitment to the betterment of the Auburn community is shared through cultural and recreational opportunities such as the City of Auburn/Auburn University Yarbrough Tennis Center or joint ventures that strengthen Auburn’s economic stability, such as the Auburn University Regional Airport or the Auburn Research Park.

The real estate market in Auburn-Opelika is diverse and growing. Updated homes built in the 1950s and ’60s are successfully fused with new construction featuring elegantly appointed estates. The community’s residential areas are developing more and more each day.
ABOUT AUBURN UNIVERSITY

Auburn University has provided instruction, research, and outreach to benefit the state and nation for more than 155 years, and is among a distinctive group of universities designated as land-, sea-, and space-grant institutions. Auburn makes a nearly $5-billion economic contribution to the state each year, has more than 250,000 graduates and provides 140 degree programs to more than 25,000 students.

Auburn University’s humble beginnings started as the East Alabama Male College in 1856, a private liberal arts institution affiliated with the Methodist Church. The Civil War forced the temporary closure of the college from 1861 to 1866. With the Methodist Church transferring legal control of East Alabama Male College to the state and Congress passing the Morrill Act, the first land-grant college in the South was formed in 1872 and called the Agricultural and Mechanical College of Alabama.

Under the Morrill Act of 1862, the mission of land-grant colleges or universities was to teach agriculture, military tactics, and the mechanical arts, as well as classical studies, so that members of the working classes could obtain a liberal, practical education.

Women were admitted in 1892, making Auburn the oldest four-year, co-educational school in the state and the second-oldest in the Southeast. The name was changed again in 1899 to the Alabama Polytechnic Institute and finally in 1960 to Auburn University.

Auburn University has developed into one of the largest universities in the South, remaining in the educational forefront with its traditional blend of arts and applied science, and changing with the needs of today while living with a respect for the traditions and spirit that are Auburn.

A separately administered branch campus was established in Montgomery, Ala., in 1967. With its 500-acre campus east of the capital city, Auburn University Montgomery addresses a need in the state, serving traditional and non-traditional students seeking educational opportunities.
When Emerson R. Miller was named the first assistant professor of pharmacy at the Agricultural and Mechanical College of Alabama in 1895, pharmacy became a four-year course of study. To be admitted, a student was required to be at least 15 years of age, of good moral character, and able to pass courses in geography, U.S. history, English, math, and Latin. After four years, a student was awarded a bachelor of science in pharmacy. A postgraduate degree could be earned with an additional year of residency.

The first pharmacy courses were offered in Old Main (where Samford Hall now stands), Langdon Hall, and Hargis Hall. By 1897, a new annex was constructed and used by the departments of pharmacy, analytical chemistry, and mechanical engineering. In 1930, the Department of Pharmacy was moved to the new Ross Chemical Laboratory, one of the few campus buildings built during the Great Depression.

In 1941, the School of Pharmacy was established with Lynn S. Blake serving as dean, and enrolled 57 students, three of whom were women. Enrollment grew with the establishment of the G.I. Bill, creating a need for additional classroom, lab, and office space. In 1952, the first building designed and built exclusively for pharmacy was occupied. Miller Hall was considered to be one of the most modern pharmacy teaching facilities in the country.

The 1,000th pharmacy degree at API was awarded in 1956. The first master’s degree was conferred the following year. In 1960, when API became Auburn University, Samuel T. Coker was appointed dean of the School of Pharmacy. He was followed as dean by Ben F. Cooper Jr. in 1973, William Campbell in 1988, and R. Lee Evans in 1994.
A new building, four times the size of Miller Hall, was dedicated in 1976, providing new classrooms, a Learning Resource Center, auditorium, as well as much-needed office and lab space. In 2000, the building was named in honor of W.W. Walker, founder of the Birmingham-based Walker Drug Company, and in 2002, the School of Pharmacy was named for James I. Harrison, an icon to the field of pharmacy in Alabama.

A $15 million construction project added a new education and clinic wing to the Walker Building and renovated the existing building to provide state-of-the-art learning environments, including 44 student-centered team rooms, two auditoriums, student lounge, seminar rooms, and a pharmaceutical care clinic with 10 exam rooms and a dispensary. The new wing was dedicated in 2006.

Also, in 2006, as a way of addressing the shortage of pharmacists in the state, Gulf Coast, and nation, an agreement was reached between Auburn University and the University of South Alabama in Mobile to combine expertise and create a regional satellite campus at USA. The first students to attend the Harrison School of Pharmacy Mobile campus graduated in May 2011.

The next construction project under Evans’ leadership will focus on the growing research and graduate education missions of the Harrison School of Pharmacy.

Source: The School of Pharmacy: Auburn University, A History, by George M. Hocking, PhD