Master of Science in Pharmacogenomics and Personalized Medicine

ADMISSION REQUIREMENTS

- Completion of the Shenandoah University Graduate Application
- Final degree transcripts – Unofficial transcripts are acceptable for initial admissions and if a student plans to matriculate, official transcripts must be sent prior to the start of classes to the Admissions Office
  - All transcripts from non-U.S. institutions must also be submitted for an academic credential evaluation to obtain equivalency information regarding courses, credits, grades, and degrees earned. A complete list of qualified companies may be found at www.naces.org
- Resume/C.V.
- Personal statement (maximum of 2-pages), that answers one of the following two questions:
  - What are your career goals and/or plans with this master’s degree?
  - Which aspect of Pharmacogenomics and Personalized Medicine is most interesting to you and you hope to focus on? (e.g. Clinical Practice, Research, Drug Development, Regulatory Science, Data Science, Academia, Entrepreneurial, other)
    Note: Your personal statement will be processed using a plagiarism detection software
- Two recommendation letters from professional references (instructor/faculty member, supervisor, etc.)

PROGRAM PREREQUISITES

Admissions to the Master of Science in Pharmacogenomics and Personalized Medicine (PGPM) degree program will consist of two admissions tracks:

1. Students who have at least a bachelor’s level health professions degree – in which there are no pre-requisites for admissions
   - MD or DO
   - PharmD or BS in Pharmacy
   - MS in Physician Assistant Studies

2. Students with a 4-year bachelor’s degree in any subject area who completed the following:

   Required Courses
   - Anatomy and Physiology I (with or without lab)
   - Anatomy and Physiology II (with or without lab)
   - Organic Chemistry (with or without lab)
   - Two of the following four courses: Biochemistry, Cell Biology, Molecular Biology, or Genetics

   Courses taken more than 10 years ago will be considered on a case-by-case basis.

ADMISSION & APPLICATION

Fall 2019 Admission
APPLICATION PRIORITY DEADLINE: March 15
(After the March 15 deadline, space is not guaranteed)

PREREQUISITES: Bachelor’s Degree
GPA above 3.0 is preferred

LOCATION: Online

Applying to Shenandoah
Begin the online application process by going to www.su.edu/pharmacy/programs/ms-pharmacogenomics-precision-medicine/

Required Tests
- Non-native English speakers must satisfy English Language Proficiency requirements by taking the TOEFL or IELTS

Foreign Transcripts
International transcript evaluation by an accredited agency is an admission requirement. Approved services are listed at www.naces.org
- International students seeking F-1 visas are not eligible for this program due to visa requirements

Contact US
PGxMasters@su.edu | (540) 542-6241
sugradadmissions@su.edu | (540) 665-4581
Office of Graduate Admissions
1460 University Drive
Winchester, VA 22601
Program Description

The human genome is the key to the personalized health care of the future. Shenandoah University and Inova have partnered to offer a master’s degree in pharmacogenomics and precision medicine for health care professionals and individuals with undergraduate science degrees, interested in exploring this fascinating field of study and applying knowledge of the human genome to clinical practice. This degree prepares you for career opportunities in biologic technology, at genetic testing laboratories, or within the pharmaceutical industry. It also provides you with the skill set needed to pursue specialized fields in health care that are poised for growth.

Some of the areas covered include:

- Genetic predictors of disease
- Applying genetic principles to guide therapeutic decisions
- Mastering genetic interpretation tools
- Ethical, legal and social implications of the human genome

Faculty Research

The research interests of our teaching faculty in this program include:

- Oncogenes and tumor suppressor genes
- Chemoprevention of cancer by natural and synthetic agents
- Pharmacokinetics/pharmacodynamics (PK/PD) modeling and simulation
- Cardiovascular health in African-Americans
- The effect of genomic variability and regulation of hypoxia inducible factor 1 in pathogenesis of Cardio-Renal syndrome
- The impact of female mentorship on women in STEM disciplines.
- The state of Pharmacogenomic education in US professional schools
- Genomic Data Science

Degree Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PGPM 503</td>
<td>Genomic Technology and Data Science</td>
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<tr>
<td>PGPM 501</td>
<td>Genetic Foundations for Personalized Medicine</td>
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<td>PGPM 602</td>
<td>Pharmacogenomic Literature Evaluation</td>
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<td>PGPM 615</td>
<td>Ethics in Genomic Science</td>
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<td>PGPM 611</td>
<td>Clinical Applications of Pharmacogenomics I</td>
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<tr>
<td>PGPM 605</td>
<td>Clinical Applications of Pharmacogenomics II</td>
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<td>PGPM 604</td>
<td>Analytical Techniques in Pharmacogenomics</td>
<td>2</td>
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<tr>
<td>PGPM 607</td>
<td>Epigenetics</td>
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<td>PHAR 534</td>
<td>Essentials of Pharmacogenomics</td>
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<td>Applied Pharmacokinetics and Pharmacogenomics III</td>
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