The Master of Science in Pathology provides comprehensive training in understanding the molecular basis of disease and the fundamental mechanisms of cell growth and differentiation. It prepares the student for either a career in advanced academia or lays the base for continued terminal education. It may also lead to teaching positions at the secondary or junior college level.

The application process is an online process. Application to this graduate program is facilitated through the Interdisciplinary Graduate Program in Biomedical Sciences (IGPBS). Detailed instructions on how to apply and the application deadlines are posted on the Interdisciplinary Graduate Program in Biomedical Sciences website http://www.kumc.edu/gpbs/how-to-apply.html.

Admission Requirements:

- Bachelor's degree from a regionally accredited institution documented by submission of official transcript indicating the degree has been conferred before entering the program. Official transcripts from institutions attended post-baccalaureate are also required.
  Students with degrees from outside the U.S. may be subject to transcript evaluation indicating the degree is equivalent to a U.S. degree and meets the minimum cumulative GPA requirements.

- A cumulative grade-point average (GPA) of at least 3.0 on a 4.0 scale for the bachelor's degree.

- Applicants who are not native speakers of English, whether domestic or international, must demonstrate they meet the Minimum English Proficiency Requirement (http://catalog.ku.edu/graduate-studies/kumc/#admissiontext).

- A background check (http://catalog.ku.edu/graduate-studies/kumc/#admissiontext) is required during the admission process; it may affect the student's eligibility to enter the program.

- An official copy of the Graduate Record Examination (GRE) score sent from Educational Testing Service (ETS) to University of Kansas Medical Center - ETS institutional code 6895.

- Three letters of recommendation.

- Prerequisite coursework:
  - One year of general chemistry
  - One year of organic chemistry or one semester of organic chemistry and one semester of biochemistry
  - One year of biological sciences
  - One semester of calculus
  - One semester of physics

- Research experience (beyond labs associated with lecture courses) is strongly suggested.

Applicants will be assessed based on a combination of GPA, research experience, and GRE scores. Students not meeting the above requirements may be eligible for provisional admission. After an applicant has been admitted, a program may defer an applicant's admission for one year after which time the applicant must submit a new application.

Admission requirements are subject to change. In most cases, use the catalog of the year student entered the program. Other years' catalogs.

Degree requirements:

- Degree requirements are normally completed within 3 years of admission to the degree program although a maximum of 7 years is allowed.

- Cumulative grade-point average (GPA) of at least a 3.0 for all KU graduate coursework.

- Completion of a minimum of 30 credit hours.

- Enrollment in a minimum of one (1) credit hour of PATH 899 Master's Thesis the semester the student will defend and graduate.

- Successful completion of a thesis defense (http://catalog.ku.edu/graduate-studies/kumc/#programstext).

- Successful thesis submission and publication (http://catalog.ku.edu/graduate-studies/kumc/#programstext) (according to Office of Graduate Studies policy.)

- Successful completion of the following Interdisciplinary Graduate Program in Biomedical Science (IGPBS) (http://catalog.ku.edu/medicine/graduate-program-biomedical-sciences) courses (or their equivalent):
  - GSMA 850 Proteins and Metabolism 2
  - GSMA 851 Molecular Genetics 2
  - GSMA 852 Introduction to Biomedical Research I 2
  - GSMA 853 Cellular Genetics 2
  - GSMA 854 Cell Communication 2
  - GSMA 855 Introduction to Biomedical Research II 2
  - GSMA 856 Introduction to Research Ethics 1
  - GSMA 857 Biographics 1
  - GSMA 858 Introduction to Faculty Research 1
  - GSMA 859 Research Rotations 1-4

- Successful completion of the following Pathology courses:
  - PATH 804 Selected Topics in Signal Transduction 1
  - PATH 805 Seminars in Pathology 1
  - PATH 811 Research in Pathology 1-10
  - PATH 899 Master's Thesis 1-7

- Successful completion of a minimum of four (4) credit hours of advanced graduate coursework in fields related to molecular and cellular biology and experimental pathology. Specific courses determined in consultation with the student's mentor. Recommended courses include but are not limited to:
  - PATH 803 Stem Cell Biology 2
  - PATH 806 Epigenetics 2
  - PATH 912 Advanced Topics 1-3
  - PATH 913 Introduction to Grant Proposal Writing 1
  - ANAT 868 Advanced Developmental Biology 2
  - BCHM 922 Advanced Molecular Genetics 3
  - CBIO 900 Carcinogenesis and Cancer Biology 3
  - PHSL 807 Reproductive Physiology 5

Degree requirements and course descriptions are subject to change. Any courses taken as an equivalent must be approved by the Graduate Director and the Office of Graduate Studies. In most cases, use the catalog of the year student entered the program.
## Typical Plan of Study

### Year 1

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours Spring</th>
<th>Hours Summer</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSMC 850</td>
<td>2 GSMC 853</td>
<td>2 GSMC 859</td>
<td>1-4</td>
</tr>
<tr>
<td>GSMC 851</td>
<td>2 GSMC 854</td>
<td>2</td>
<td>1-3</td>
</tr>
<tr>
<td>May take an elective course from the student's chosen degree program in consultation with the student's advisor.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GSMC 852</td>
<td>2 GSMC 855</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>GSMC 856</td>
<td>1 GSMC 859</td>
<td>1-4</td>
<td></td>
</tr>
<tr>
<td>GSMC 857</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GSMC 858</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GSMC 859</td>
<td>1-4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Hours: 19-30

### Year 2

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours Spring</th>
<th>Hours Summer</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATH 804</td>
<td>1 PATH 805</td>
<td>1 PATH 911</td>
<td>1-3</td>
</tr>
<tr>
<td>(required)</td>
<td>(required)</td>
<td>(required)</td>
<td></td>
</tr>
<tr>
<td>PATH 911</td>
<td>1-6 PATH 911</td>
<td>1-10 PATH 912</td>
<td>1-3</td>
</tr>
<tr>
<td>(required)</td>
<td>(required)</td>
<td>(elective)</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>1-3 Electives</td>
<td>1-3</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours: 3-10 3-14 2-6

### Year 3

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATH 804</td>
<td>1 PATH 805</td>
<td>1</td>
</tr>
<tr>
<td>(required)</td>
<td>(required)</td>
<td></td>
</tr>
<tr>
<td>PATH 899 or 911</td>
<td>1-6 PATH 899</td>
<td>1-6</td>
</tr>
<tr>
<td>(required)</td>
<td>(required)</td>
<td></td>
</tr>
<tr>
<td>Electives (if requirement not met during second year)</td>
<td>1-3</td>
<td></td>
</tr>
<tr>
<td>Thesis defense scheduled semester approved by committee to graduate. Enroll in PATH 899 semester defend thesis.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Hours: 3-10 2-7

Total Hours: 13-47