Doctor of Philosophy in Neurosciences

The KU-L/KUMC bicampus Neuroscience Graduate Program (http://www.neuroscience.ku.edu) is designed to prepare the student for a research and/or teaching career with concentrations in neuroscience. The program emphasizes research and the skills and knowledge required to perform and communicate the results of research. Modern neuroscience researchers/educators must be versed in a number of areas of neural research, spanning from molecular neuroscience to systems neuroscience. As such, the course of study in the program is broadly based; you are encouraged to enroll in courses offered by other programs or departments. The research opportunities in the program are widely varied and will accommodate many interests.

Nearly all Ph.D. students in the Neuroscience Graduate Program at the KU School of Medicine are admitted into the Interdisciplinary Graduate Program in the Biomedical Sciences (IGPBS). After the initial year of course work, students choose a neuroscience research mentor and then join the laboratory of the mentor. Coursework for the Neuroscience Graduate Program is offered at the KU Medical Center campus in Kansas City, Kansas as well as the University of Kansas in Lawrence. Several courses are taught on both campuses via videoconferencing.

Comprehensive Exams for all students must be completed by the fall of the 3rd year in Graduate School. The program on the KUMC campus is directed by the KUMC Neuroscience Graduate Studies Committee consisting of the following faculty:

KUMC Graduate Studies Committee Members:

Douglas Wright, PhD
Dianne Durham, PhD
John Stanford, PhD

Applications may be made online at: Interdisciplinary Graduate Program in Biomedical Sciences (IGPBS) (http://www.kumc.edu/igpbs.html). Inquiries related to the KUMC portion of the program may be directed to the Program Director:

Douglas Wright, Ph.D.
Professor
Director, Neuroscience Graduate Program, KUMC Campus
Department of Anatomy & Cell Biology
University of Kansas Medical Center
Kansas City, KS 66160
913-588-2713 (office)
913-588-2710 (fax)
dwright@kumc.edu (mpetroff@kumc.edu)

Admission requirements:

• Successful completion of the University's Research Skills and Responsible Scholarship (http://catalog.ku.edu/graduate-studies/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.

• Interview - the most qualified applicants will receive an invitation for an interview.

Applicants will be assessed based on a combination of GPA, research experience, interview 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 ».

The program consists of coursework, research experience, and the successful completion of a doctoral dissertation. Dissertation research culminates in a final dissertation examination consisting of an oral presentation by the candidate and an examination by the faculty. Relevant prior graduate work is taken into consideration in setting up individual programs of study leading to the Ph.D.

Degree Requirements:

• Degree requirements normally are completed within 5 years of admission to the program although a maximum of 8 years is allowed.

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

• Successful completion of the University’s Research Skills and Responsible Scholarship (http://catalog.ku.edu/graduate-studies/degree-requirements).
**Doctor of Philosophy in Neurosciences**

kumc/#programstext) requirement prior to the semester the Oral Comprehensive Examination is scheduled.

- Successful completion of GSMC 857 Biographics, GSMC 852 Introduction to Biomedical Research I and GSMC 855 Introduction to Biomedical Research II (or equivalent) meets the Research Skills requirement.
- Successful completion of GSMC 856 Introduction to Research Ethics (or equivalent) meets the Responsible Scholarship requirement.
- Successful completion of the Residence Requirement (http://catalog.ku.edu/graduate-studies/kumc/#programstext) prior to the semester the Oral Comprehensive Examination is scheduled. The requirement is met by enrollment in full-time status a minimum of two semesters.
- Successful completion of the Oral Comprehensive Examination (http://catalog.ku.edu/graduate-studies/kumc/#programstext). Students are recognized as formal doctoral candidates after they have passed the comprehensive examination.
- Successful completion of Post-Comprehensive Enrollment (http://catalog.ku.edu/graduate-studies/kumc/#programstext) requirement.
- Enrollment in a minimum of one (1) credit hour of dissertation NEUS 999 Neuroscience Doctoral Dissertation the semester the student will defend dissertation and graduate.
- Successful completion of the Final Oral Examination (http://catalog.ku.edu/graduate-studies/kumc/#programstext) (dissertation defense.)
- Successful Dissertation 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):
  - GSMC 850 Proteins and Metabolism 2
  - GSMC 851 Molecular Genetics 2
  - GSMC 852 Introduction to Biomedical Research I 2
  - GSMC 853 Cellular Structure 2
  - GSMC 854 Cell Communication 2
  - GSMC 855 Introduction to Biomedical Research II 2
  - GSMC 856 Introduction to Research Ethics 1
  - GSMC 857 Biographics 1
  - GSMC 858 Introduction to Faculty Research 1
  - GSMC 859 Research Rotations 1-4

- Successful completion of the following Neuroscience courses:
  - NEUS 799 Neuroscience Seminar Series 2
  - NEUS 900 Scientific Papers in Neuroscience 1
  - NEUS 999 Neuroscience Doctoral Dissertation 1-11

- Successful completion of neuroscience related elective coursework as determined in consultation with the student's advisor and the graduate director. Options include the courses listed below as well as several neuroscience courses offered on the Lawrence campus.
  - NEUS 844 Neurophysiology 3
  - NEUS 846 Advanced Neuroscience 5

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  - GSMC 854 Cell Communication 2
  - GSMC 855 Introduction to Biomedical Research II 2
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  - GSMC 857 Biographics 1
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  - NEUS 846 Advanced Neuroscience 5

**Typical Plan of Study**

### Year 1

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

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<th>Summer</th>
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<tr>
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<td>NEUS 799</td>
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<td>Oral</td>
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<td>Comprehensive Exam may be scheduled as early as this semester if approved by committee to proceed.</td>
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<td>ANAT 990</td>
<td>1-12</td>
<td>ANAT 990</td>
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### Year 3

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<th>Summer</th>
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<td>ANAT 990</td>
<td>1-12</td>
<td>ANAT 990</td>
<td>1-12</td>
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Students enrolled in the MD-PhD Physician Scientist Training Program should review the Degree Requirements (http://catalog.ku.edu/medicine/combined-md-phd/#degreerequirementstext) section of this catalog for that program.

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. Other years' catalogs».
<table>
<thead>
<tr>
<th>Year 4</th>
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<th>Hours Summer</th>
<th>Hours</th>
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<th>Year 5</th>
<th>Hours Spring</th>
<th>Hours Summer</th>
<th>Hours</th>
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<tr>
<td>Fall</td>
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<td>NEUS 999</td>
<td>1-11</td>
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<td></td>
<td>1-11 NEUS 999</td>
<td>1-11 NEUS 999</td>
<td>1-11</td>
</tr>
<tr>
<td>Final Oral Exam (dissertation defense) scheduled semester approved by committee to defend and graduate.</td>
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<td>Total Hours: 23-152</td>
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