COMPARATIVE BIOMEDICAL SCIENCES, M.S.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/#policiesandrequirementstext), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

<table>
<thead>
<tr>
<th>Face to Face</th>
<th>Evening/Weekend</th>
<th>Online</th>
<th>Hybrid</th>
<th>Accelerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Mode of Instruction Definitions

**Accelerated:** Accelerated programs are offered at a fast pace that condenses the time to completion. Students are able to complete a program with minimal disruptions to careers and other commitments.

**Evening/Weekend:** Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

**Face-to-Face:** Courses typically meet during weekdays on the UW-Madison Campus.

**Hybrid:** These programs combine face-to-face and online learning formats. Contact the program for more specific information.

**Online:** These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

CURRICULAR REQUIREMENTS

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Credit Requirement</td>
<td>30 credits</td>
</tr>
<tr>
<td>Minimum Residence Credit Requirement</td>
<td>16 credits</td>
</tr>
<tr>
<td>Minimum Graduate Coursework Requirement</td>
<td>15 credits must be graduate-level coursework. Details can be found in the Graduate School's Minimum Graduate Coursework (50%) policy (<a href="https://policy.wisc.edu/library/UW-1244">https://policy.wisc.edu/library/UW-1244</a>) and the Graduate School's Minimum Graduate Coursework (50%) policy (<a href="https://policy.wisc.edu/library/UW-1244/">https://policy.wisc.edu/library/UW-1244/</a>).</td>
</tr>
<tr>
<td>Overall Graduate GPA Requirement</td>
<td>3.00 GPA required. This program follows the Graduate School's policy. (<a href="https://policy.wisc.edu/library/UW-1203">https://policy.wisc.edu/library/UW-1203</a>)</td>
</tr>
</tbody>
</table>

Other Grade Requirements

Students must earn a B or above in all coursework.

Assessments and Examinations

After the committee is chosen, the student must submit certification paperwork that details the intended coursework plan, the committee members' names and signatures, a short explanation of why they were chosen and an appended research plan. Certification plans will be reviewed and approved by the program academic committee.

Candidates are required to author a thesis based on original work, or, at the option of the major professor and with the approval of the thesis committee, the equivalent in the form of a substantial paper suitable for publication. The thesis or paper must be must be submitted to the student's committee two weeks before the final exam. A final public presentation, followed by an oral exam in front of their committee are required. Official deposit of the thesis with the Graduate School is not required.

Language Requirements

No language requirements.

REQUIRED COURSES

- 9 didactic credits.
- Master's students must register for two semesters of PATH-BIO 930 Advanced Seminar and present once during their second semester. MS students will take the course P/S/U (Progress/Satisfactory/Unsatisfactory) if not presenting.
- 19 (minimum) research 990 credits

Approved and Recommended Courses

The following is a list of core courses taken by many students and recommended courses that are appropriate to specific research areas. These courses are suggestions only; the student and their committee ultimately decide the best coursework plan for each student's specific program, with final approval from the program's academic committee. Students are responsible for determining that the coursework chosen meets the Graduate School's criteria for graduate work.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURG SCI 812</td>
<td>Research Ethics and Career Development</td>
<td>2</td>
</tr>
<tr>
<td>Any other science-based ethics course</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Core Courses

These courses are chosen by many students to fulfill their major coursework plan

- GENETICS 466 Principles of Genetics 3
- PATH-BIO 500 3
- BIOCHEM 501 Introduction to Biochemistry 3
- BIOCHEM/GENETICS MICROBIO 612 3
- BIOCHEM/GENETICS/MD GENET 620 Eukaryotic Molecular Biology 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOCHEM/PHMCOL-M/ZOOLOGY 630</td>
<td>Cellular Signal Transduction Mechanisms</td>
<td>3</td>
</tr>
<tr>
<td>ZOOLOGY 570</td>
<td>Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>PATH 750</td>
<td>Cellular and Molecular Biology/Pathology</td>
<td>2-3</td>
</tr>
<tr>
<td>PATH 751</td>
<td>Biology of Aging</td>
<td>3</td>
</tr>
<tr>
<td>STAT/F&amp;W ECOL/HORT 571 &amp; STAT/F&amp;W ECOL/HORT 572</td>
<td>Statistical Methods for Bioscience I and Statistical Methods for Bioscience II</td>
<td>8</td>
</tr>
</tbody>
</table>

**Courses from which Students Build Disciplinary Strength**

**Epidemiology**
- PATH-BIO 512 Introduction to Veterinary Epidemiology 2
- POP HLTH/SOC 797 Introduction to Epidemiology 3

**Physiology**
- AN SCI/DY SCI 434 Reproductive Physiology 3
- COMP BIO 551 Veterinary Physiology A (fall) 4
- COMP BIO 506 Veterinary Physiology B (spring) 4
- ZOOLOGY 611 Comparative and Evolutionary Physiology 3
- ZOOLOGY/AN SCI/OBS&GYN 954 Seminar in Endocrinology-Reproductive Physiology 1

**Infectious Disease and Immunology**
- PATH-BIO 510 Veterinary Immunology 3
- PATH-BIO 514 Veterinary Parasitology 3
- PATH-BIO 517 Veterinary Bacteriology and Mycology 4
- PATH-BIO 513 Veterinary Virology 2
- PATH-BIO/M&M & I 528 Immunology 3
- PATH-BIO/M&M & I 750 Host-Parasite Relationships in Vertebrate Viral Disease 3
- M&M & I/PATH-BIO 720 Advanced Immunology, Critical Thinking 3
- M&M & I/PATH-BIO 790 Immunology of Infectious Disease 3

**Neuroscience**
- COMP BIO 505 Veterinary Neuroanatomy and Neurophysiology 3
- ZOOLOGY/PSYCH 523 Neurobiology 3
- NTP/NEURODPT 610 Cellular and Molecular Neuroscience 4
- NTP/NEURODPT/PSYCH 611 Systems Neuroscience 4

**Toxicology and Pharmacology**
- COMP BIO 555 Veterinary Toxicology 2

**Oncology**
- ONCOLOGY 675 Advanced or Special Topics in Cancer Research 1-3
- ONCOLOGY 703 Carcinogenesis and Tumor Cell Biology 3

**Virology**
- PATH-BIO 513 Veterinary Virology 2