UNLV *Ph.D. Biological Sciences, Microbiology (MB) Research Concentration: 2012-2013 Catalog

*BIOLOGICAL SCIENCES PhD DEGREE REQUIREMENTS*

60 total credits. The minimum number of semester credits required for a doctor of philosophy degree for a student graduating under the regulations of the 2012-2013 Graduate Catalog is 60.

Graduation GPA: 3.0. In order to graduate with a PhD, a student must have a minimum grade point average of 3.00 for the total of all graduate-level credit attempted at the University of Nevada-Las Vegas (UNLV GPA).

Students holding a MS degree may be eligible for a 30-credit reduction. Students entering the PhD program who already hold a MS degree from UNLV or another university may have up to 30 credits of that coursework applied toward a reduction in the 60 credit requirement. For prior graduate courses to be applied toward a reduction in the 60-credit requirement all of the following conditions must be satisfied: (1) the student earned a "B" or better in the course, (2) the course is unanimously approved by the student's Research Advisory Committee, and (3) the course cannot be comprised of research, thesis, or dissertation credits.

Students enrolling graduate credit not culminating in a degree may be eligible for a 15-credit reduction. Students entering the PhD program who have successfully completed graduate courses at UNLV or another university that did not culminate in an advanced degree, may have up to 15 credits of that coursework applied toward a reduction in the 60 credit requirements. For prior graduate courses to be applied toward a reduction in the 60-credit requirement all of the following conditions must be satisfied: (1) the student earned a "B" or better in the course, (2) the course is unanimously approved by the student’s Research Advisory Committee, and (3) the course cannot be comprised of research, thesis, or dissertation credits.

36 credits must be earned at the 700 level. For students in the PhD Program, a minimum of 36 credits must be earned in courses at the 700 level. A minimum of 18 credits must be earned at the 700 level if a student is eligible for degree credit reduction (see above).

Students must be mentored by a Research Advisor. In order to remain in good standing in the PhD program, a graduate student must be associated with a Research Advisor for his/her entire graduate career at UNLV.

Students must formulate a Research Advisory Committee. All PhD students must formulate a Research Advisory Committee comprised of five Graduate College approved members. The committee must consist of a Research Advisor with a primary appointment in the School of Life Sciences (SoLS), a Graduate College representative with grad faculty status in an academic unit at UNLV but outside SoLS, and three additional members holding full or associate grad faculty status within SoLS. Students are required to meet with their Research Advisory Committee at least once per calendar year every year they are in the program.

Students must teach for 2 semesters. All PhD students must demonstrate teaching proficiency by formally participating in the undergraduate curriculum for two semesters that need not be consecutive. During this time the student will receive a Graduate Teaching Assistantship.

Students must pass a comprehensive Candidacy Exam. All PhD students must take a comprehensive exam before the start of their sixth semester in the program. The exam must consist of oral and written components with a format determined by the specific Research Section to which the student is affiliated (see below).

Students must submit a Prospectus. Within one year after being admitted to candidacy, PhD students must submit a written Prospectus to the Graduate College. The Prospectus will consist of a formal “plan of action” for completing the research project in the form of a Dissertation. The Prospectus must be approved by the student’s Research Advisory Committee using a format specific to each Research Section (see below).

Students must complete a Dissertation. PhD students must submit a written Dissertation documenting their unique, innovative, and scholarly research. The Dissertation must be approved by their Research Advisory Committee and be successfully defended in a public forum before the end of their eighth year in the program.

*COURSEWORK REQUIREMENTS FOR BIOLOGICAL SCIENCES Ph.D. *

**Biol 701:** Ethics in Scientific Research. PhD students are encouraged to take this course during their first year in the Program. 1 credit

**Biol 790:** Research Colloquium in the Life Sciences. All PhD students are required to participate in this Research Forum each semester even if they are not taking the class for credit. The course may be repeated, but only 9 credits can count toward the degree. 9 credits

**Biol 793 and/or Biol 796** Seminar Credits. Biol 793=Advanced Topics in Life Sciences. Biol 796=Graduate Seminar. PhD students may take all six credits in one or they may take any combination of the two courses. They may take seminar credits in any of the four Research Sections: EEB (793A; 796A), IP (793B; 796B), CMB (793C; 796C), or MB (793D; 796D). Students are encouraged to enroll in seminar classes throughout their careers in the program, but only six credits can be applied toward the 60-credit minimum. 6 credits

**Biol 799:** Dissertation. Students must repeat the class as needed, but only 18 credits can be applied toward the degree and at least 12 credits are required. 12-18 credits

**ADDITIONAL COURSEWORK ACCEPTED FOR BIOLOGICAL SCIENCES Ph.D.**

**Biol 789:** Independent Graduate Study in Life Sciences. PhD students may take Biol 789 to receive credit for independent research projects prior to enrolling in Biol 799. The course may be repeated, but only 9 credits can apply toward the degree. Up to 9 credits

**Biol 791:** Research Laboratory Discussion in Life Sciences. PhD students may take Biol 791 to receive credit for attending and presenting at formal laboratory group meetings. The course may be repeated, but only 9 credits can apply toward the degree. Up to 9 credits

**SPECIFIC REQUIREMENTS FOR BIOLOGICAL SCIENCES Ph.D. IN THE MB RESEARCH CONCENTRATION**

Core Courses: MB-PhD students must take 1 Core Course chosen from the following list: Biol 609, Biol 618, Biol 653, Biol 660, Biol 664, Biol 685. Which specific Core Course a student should take will be determined by his/her Research Advisory Committee. 3 credits

Elective Courses: MB-PhD students must take 5 Elective Courses chosen from the following list: Biol 607, Biol 730D, Biol 794, Chem 770, Chem 771, Chem 772, Eoh 747, Geol 720, Stat 691, Stat 692. Core Classes not used to satisfy Core requirements may also count as Electives. Which specific Elective Courses a student should take will be determined by his/her Research Advisory Committee. 15 credits

Comprehensive Exam Format: All MB faculty except the MB-PhD student’s Research Advisor will participate in the Comprehensive exam to the extent that each will submit an exam question. A committee of the participating faculty will then select 5 questions and present them to the student, who has must choose 4 of the questions for the written part of the exam. Questions may have several parts, and cover broad topics, some of which may be related to the student's general field, others of which will be on topics unrelated to the field of his/her study. An oral defense will be held 7-14 days later. The faculty whose questions were selected attend the exam along with a Graduate College Representative with full grad faculty status at UNLV but not within the SoLS academic unit. Detailed written instructions concerning page limits, bibliographies, timetables, policies regarding possible outcomes and consequences will be provided to the student two weeks prior to the start of the exam.

Prospectus Format: MB-PhD students must submit a Prospectus in the form of a research grant proposal on their Dissertation work that is suitable for submission to a national funding agency. The Prospectus must be submitted within one year of passing the Comprehensive Exam. The Prospectus must be orally defended and accepted by the student’s Research Advisory Committee.