MICROBIOLOGY AND CELL SCIENCE

Program Information

The Department of Microbiology and Cell Science offers a top-10 education for students who wish to earn their M.S. or Ph.D. in Microbiology and Cell Science. Graduates are well prepared to pursue careers in government, industry, research and teaching in microbiology, cell biology, cellular biochemistry, and molecular genetics. For more information on how to apply for these programs, please visit our Microbiology and Cell Science Graduate Program Website – http://microcell.ufl.edu/graduate-program/.

Currently there are 25 tenure eligible faculty positions staffed, 2 emeritus faculty, 5 non-tenure eligible faculty, 16 post-doctoral fellows, over 56 graduate students, and 2 full time academic advisors. Most faculty are involved in both teaching and research programs that complement one another. The faculty’s research programs span areas of broad interest in the cellular and molecular aspects bacterial, plant and animal life functions. Areas of research include:

- Microbial Biochemistry, Physiology, Metabolism and Regulation
- Molecular Biology
- Molecular Genetics
- Immunology
- Virology
- Host-pathogen Interactions
- Environmental Microbiology
- Bioinformatics
- Functional and Comparative Genomics
- Astrobiology
- Human Parasitology
- Cellular Ultrastructure and Function
- Microbial Communities
- Microbial Processing of Plant Biomass

For more information, please see our website: http://microcell.ufl.edu. For Microbiology and Cell Science Academic Advising, contact Jacqueline Lee at 352-846-1330 or jlee9@ufl.edu.

Degrees Offered

Degrees Offered with a Major in Microbiology and Cell Science

- Doctor of Philosophy
  - without a concentration
  - concentration in Toxicology
- Master of Science
  - without a concentration
  - concentration in Medical Microbiology and Biochemistry
  - concentration in Microbiome in Health & Disease

Requirements for these degrees are given in the Graduate Degrees (http://gradcatalog.ufl.edu/graduate/degrees/) section of this catalog.
MCB 6457 Metabolic Regulation 1
MCB 6458 Post Translational Modifications of Proteins 2
in Microbiology
MCB 6465 Microbial Metabolic Engineering 1
MCB 6485 Advanced Techniques in Microbiology and 2-4
Cell Science
MCB 6656 Environmental Microbiology 3
MCB 6670C The Microbiome 3
MCB 6772 Advanced Topics in Cell Biology 1
MCB 6781 Extremophiles 3
MCB 6796 Analysis, Interpretation, and Visualization of 3
Microbiological Data
MCB 6905 Experimental Microbiology 1-8
MCB 6930 Seminar 1
MCB 6937 Special Topics in Microbiology 1-4
MCB 6940 Supervised Teaching 1-5
MCB 6971 Research for Master’s Thesis 1-15
MCB 7922 Journal Colloquium 1
MCB 7979 Advanced Research 1-12
PCB 5136L Techniques in Microbial and Cell Biology 3
PCB 5235 Immunology 3
PCB 6667 Human Genomics 3

**College of Agricultural and Life Sciences Courses**

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>ALS 5156</td>
<td>Agricultural Ecology Principles and Applications</td>
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<td>ALS 5905</td>
<td>Individual Study</td>
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<td>ALS 5932</td>
<td>Special Topics</td>
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<td>ALS 6046</td>
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<td>ALS 6166</td>
<td>Exotic Species and Biosecurity Issues</td>
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<td>ALS 6921</td>
<td>Colloquium on Plant Pests of Regulatory Significance</td>
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<td>ALS 6925</td>
<td>Integrated Plant Medicine</td>
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<td>ALS 6931</td>
<td>Plant Medicine Program Seminar</td>
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<td>ALS 6935</td>
<td>Topics in Biological Invasions</td>
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<td>ALS 6942</td>
<td>Principles of Plant Pest Risk Assessment and Management</td>
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<td>ALS 6943</td>
<td>Internship in Plant Pest Risk Assessment and Management</td>
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<td>ANS 6936</td>
<td>Graduate Seminar in Animal Molecular and Cell Biology</td>
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<td>BCH 5045</td>
<td>Graduate Survey of Biochemistry</td>
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<td>STA 6093</td>
<td>Introduction to Applied Statistics for Agricultural and Life Sciences</td>
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<td>STA 6329</td>
<td>Matrix Algebra and Statistical Computing</td>
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**Student Learning Outcomes**

**Microbiology & Cell science (PHD)**

**SLO 1  Knowledge**
Describe orally and in writing, the molecular genetic, biochemical and cellular basis of life

**SLO 2  Skills**
Discuss orally and in writing, research methodologies for applying the scientific method to the generation of new knowledge

**SLO 3  Professional Behavior**
Interact with professional peers with honesty, ethical behavior, cultural sensitivity, teamwork, and effective communication.

**Microbiology & Cell science (MS)**

**SLO 1  Knowledge**
Describe in writing and orally, the molecular genetic, biochemical and cellular basis of life

**SLO 2  Skills**
Discuss orally and in writing, research methodologies for applying the scientific method to the generation of new knowledge.

**SLO 3  Professional Behavior**
Interact with professional peers with honesty, ethical behavior, cultural sensitivity, teamwork, and effective communication.