

University of South Carolina School of Medicine Columbia  
Biomedical Sciences Master's Program  
Applied Biotechnology Concentration Checklist

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#### Degree Requirements

- ✓ 36+ credit hours
- ✓ Research-based thesis
- ✓ One Professional Presentation
- ✓ Demonstrate understanding of molecular and microscopic techniques
- ✓ USC Graduate School Website:
  - [https://www.sc.edu/study/colleges\\_schools/graduate\\_school/graduate-studies/progress\\_to\\_degree/index.php](https://www.sc.edu/study/colleges_schools/graduate_school/graduate-studies/progress_to_degree/index.php)

#### Course Requirements

##### Fall Semester (Year 1)

- ❖ \*MCBA 740- 3 hours- Biological Microscopic Imaging I
- ❖ \*MCBA 741- 3 hours- Molecular Imaging Methods of Biomedical Research I
- ❖ \*BMSC 700- 1 hour- Intro Biomedical Research; pass/fail
- ❖ \*BMSC 706- 2 hours- Responsible Conduct of Biomedical Research; pass/fail
- ❖ \*BMSC 702- 4 hours- Medical Cell Biology I
- ✦ Housekeeping: You should begin talking to labs so that you can choose your major professor by the middle of the semester.
  - Students may choose to complete two 1-month long rotations through labs, but it is not required.
  - Once you identify your major professor/thesis advisor, submit a Selection of Major Professor form to SOMC Graduate Office (Hope Bursac).

##### Spring Semester (Year 1)

- ❖ \*MCBA 742- 3 hours- Biological Microscopic Imaging II
- ❖ \*MCBA 743- 3 hours- Molecular Imaging Methods of Biomedical Research II
- ❖ \*BMSC 801- 2 hours- Seminar; pass/fail
- ❖ Elective (student's choice)- *consult with Dr. Austin Worden or Dr. Jay Potts*
- ✦ Housekeeping: You should be getting your thesis committee together. Committee members should be:
  - Dr. Austin Worden
  - Dr. Jay Potts
  - Major Professor/PI of the lab you are working in.

##### Summer Semester (Year 1)

- ❖ \*BIOS 700- 3 hours- Intro to Biostatistics (offered online)
  - *This is a perfect time to take this course*
- ❖ Conduct research in lab or internship- *consult with Dr. Worden or Dr. Potts*
- ✦ Housekeeping: Submit your master's Program of Study (MPOS) to SOMC Graduate Office (Hope Bursac) AND USC Graduate School.

##### Fall Semester (Year 2)

- ❖ \*MCBA 720- 3 hours- Special Topics Microscopic Anatomy

- ❖ \*BMSC 754 – 4 hour – Biomedical Biochemistry OR BIOL 717- 4 hours- Biological Chemistry (on the main campus)
- ❖ \*Research-780-(take up to 5 hours)
  - *with lab -consult with Dr. Worden*
- ❖ \*BIOS 700- 3 hours- Introduction to Biostatistics (offered online), *if not previously taken.*
  - OR graduate elective course level 500 or above.
- ✦ Housekeeping:
  - Submit a copy of your approved thesis proposal to SOMC Graduate Office (Hope Bursac)
  - Give a poster presentation at a local or regional conference

### Spring Semester (Year 2)

- ❖ \*BMSC 780- up to 5 hours- Research in Anatomy
- ❖ \*BMSC 799- at least 1 hour- Thesis Prep
- ✦ Housekeeping:
  - Last chance to give a poster presentation at a local or regional conference
  - Check USC Graduate School website for thesis submission and defense deadlines for spring graduation ([https://www.sc.edu/study/colleges\\_schools/graduate\\_school/graduate-studies/dates-deadlines/index.php](https://www.sc.edu/study/colleges_schools/graduate_school/graduate-studies/dates-deadlines/index.php)).
  - Write your thesis
  - Submit your thesis paper for format check prior to deadline
  - Successfully defend your thesis
  - Submit final revised thesis prior to deadline
  - Submit G-TSF-Thesis Signature & Approval form, and if needed, your embargo memo.

### Example of Elective courses (consult with Dr. Worden or Dr. Potts)

- ❖ PATH 711- Experimental Pathology (SOMC)
- ❖ MBIM 710- Basic and Clinical Immunobiology (SOMC)
- ❖ BMEN 572-Tissue Engineering
- ❖ BMEN 723-Anatomy & Physiology for Biomedical Engineers
- ❖ BIOL 530-J50-Histology {offered online}
- ❖ BIOL 610-Hallmarks of Cancer

\*Required classes



**Instrumentation Resource Facility**

School of Medicine Columbia

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