

DEPARTMENT OF BASIC SCIENCES

Mercer University School of Medicine
1550 College Street
Macon, Georgia 31207
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Memorial University Medical Center (MUMC)
4700 Waters Avenue
Savannah, GA 31404
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Course Number	Course Name
BAS.M01	Anatomy for Surgeons
BAS.M02	Biochemistry Research
BAS.M03	Special Topics – An Interdisciplinary Approach
BAS.M04	Advanced Genetics Research
BAS.M05	Cancer Genetics
BAS.M06	Molecular Genetics
BAS.S07	Neuroscience Research

ANATOMY FOR SURGEONS

BAS.M01

DURATION:

2 weeks – Course is not available during May and June

ENROLLMENT: Maximum 4 students
VISITING STUDENTS: No
PCR MAJORITY: No

PREREQUISITE: Passing score – USMLE Step I (Anatomy Section)
FACULTY: Asa Black, Ph.D.
REPORT: MUSM, Macon, Georgia, by arrangement with Dr. Black
****Note: Enrolled students must contact Dr. Black two weeks prior to the first day of the rotation to arrange course times.**
CONTACT: Students should contact Dr. Asa Black, 301-4013,
email:black_ac@mercer.edu, two weeks prior to the first day of the rotation to arrange course times.

DESCRIPTION:

This elective will provide a full-time dissection/reading course individually designed to fit the student's learning or career needs. Designate area of interest at enrollment. This course is Monday – Friday 9am-5pm.

OBJECTIVES:

- To provide the interested student with learning opportunities not otherwise available to dissect selected regions or systems.

EVALUATION:

Final grade is dependent upon:

1. Number and quality of dissected specimens.
2. A paper and/or presentation on a topic of interest to the student.

BIOCHEMISTRY RESEARCH

BAS.M02

DURATION: 2 weeks
ENROLLMENT: Maximum 2 students
VISITING STUDENTS: No
PCR MAJORITY: No

PREREQUISITE: Successful completion of BMP Program.

FACULTY: Michael Horst, Ph.D.

REPORT: Medical School Building, Macon, Georgia
Note: Course will meet for 5 hours per day. Student must contact Dr. Horst **two weeks prior** to the first day of the elective to arrange course times.

CONTACT: Dr. Michael Horst 301-2558 E-mail: Horst_MN@mercer.edu

DESCRIPTION:

A few students who have been majors in biochemistry may wish to work in the laboratory because they enjoy the experience. Alternately, a student may actually wish to explore a particular aspect out of curiosity. Faculty guidance is required in selection of topic and in the actual lab work.

OBJECTIVES:

- To introduce interested, motivated students to biochemical methods of experimentation.
- To attempt to solve, through experimentation, a specific problem which either the student or faculty member wishes to explore.

EVALUATION:

Subjective evaluation of student's performance.

SPECIAL TOPICS – AN INTERDISCIPLINARY APPROACH

BAS.M03

DURATION: 2 weeks
ENROLLMENT: Maximum 2 students
VISITING STUDENTS: No
PCR MAJORITY: No

PREREQUISITE: Successful completion of BMP Program.
FACULTY: Michael Horst, Ph.D.
REPORT: Medical School Building, Macon, Georgia
Note: Course will meet for 3 hours per WEEK. Student must contact Dr. Horst **two weeks prior** to the first day of the elective to arrange course times.
CONTACT: Dr. Michael Horst 301-2558 E-mail: Horst_MN@mercer.edu

DESCRIPTION:

An area, which will have had relatively little exposure, is inborn errors of metabolism. The topics included in this subject area lend themselves well to an interdisciplinary approach between genetics, pathology, physiology, and biochemistry. One example is cystic fibrosis, a relatively common disease which will not have been discussed in the first two years.

Because the title is so broad, the topic(s) to be presented could be those requested by the student.

This course will require outside research and reading.

OBJECTIVES:

- To present topics which have an interdisciplinary basis that will not have been discussed in the BMP tutorials.

EVALUATION:

Oral and/or written examination (term paper).

ADVANCED GENETICS REVIEW

BAS.M04

DURATION: 2 weeks
ENROLLMENT: Maximum 4 students
***Must be Pre-approved**
VISITING STUDENTS: No
PCR MAJORITY: No

PREREQUISITE: Successful completion of BMP Program.

FACULTY:

REPORT: MUSM, Macon, Georgia

CONTACT:

DESCRIPTION:

Resources will include library materials, videos, internet search vehicles, and handouts. This elective will require independent study and discussions with the preceptor. Specific primary care specialties will be the focus of each individualized review. Designate area of interest at enrollment.

OBJECTIVES:

- To provide a more comprehensive study of genetic conditions which the practicing physician may encounter.

EVALUATION:

Student will complete two written assignments. This elective is divided into areas of interest for students interested in reviewing genetics associated with a particular specialty. Areas include: pediatric, ob/gyn, internal medicine, family practice, and bone dysmorphologies.

CANCER GENETICS**BAS.M05****DURATION:** 2 weeks**ENROLLMENT:** *Must be Pre-Approved**VISITING STUDENTS:** No**PCR MAJORITY:** No

PREREQUISITE: Successful completion of BMP Program.**FACULTY:****REPORT:** MUSM, Macon, Georgia**CONTACT:**

DESCRIPTION:

This elective will provide a detailed review of cancer genetics. Topics covered will include clinical laboratory methods for cancer genetic susceptibility testing, risk analysis, hereditary colorectal cancer syndromes, breast and ovarian cancers, pediatric cancers, multiple endocrine neoplasia type II, and familial melanoma. Resources will include slides and handouts. Students will meet Monday, Wednesday, and Friday morning. Intersession readings will be provided. An interactive format will be encouraged.

OBJECTIVES:

- To provide a comprehensive study of genetics and known cancers.

EVALUATION:

Student will complete two written assignments.

MOLECULAR GENETICS**BAS.M06**

DURATION: 2 weeks
ENROLLMENT: Maximum 4 students
***Must be Pre-approved**
VISITING STUDENTS: No
PCR MAJORITY: No

PREREQUISITE: Successful completion of the first year of medical school.

FACULTY:

REPORT: MUSM, Macon, Georgia

CONTACT:

DESCRIPTION:

This elective will provide hands-on experience in a laboratory actively using molecular genetic techniques. Such experience will be individualized to the interests of the student and may include any of the following techniques along with interpretations of results using these techniques: gel electrophoresis, Southern or Northern blot analyses, polymerase chain reaction, RFLP analysis, etc. Special requests by a student will be considered.

OBJECTIVES:

- To provide an actual laboratory experience for better understanding the techniques now being used in both preclinical and clinical diagnostics in the area of genetics.

EVALUATION:

An oral examination during the process of completing techniques and analyzing results will be conducted throughout the elective.

NEUROSCIENCE RESEARCH

BAS.S07

DURATION: 2–4 weeks
ENROLLMENT: Maximum 2 students
VISITING STUDENTS: Yes
PCR MAJORITY: No

PREREQUISITE: Successful completion of BMP Program.

FACULTY: Tina Thompson, Ph.D.

REPORT: MUMC labs, Savannah, Georgia
Note: Report 8:00 a.m. the day of the rotation. Contact Dr. Thompson two weeks prior to the start of the rotation to arrange schedule and to discuss topic.

CONTACT: Tina Thompson, Ph.D. 912-350-0392

DESCRIPTION:

The student will have the opportunity to explore through laboratory and/or literature research, an area of interest in the field of neuroscience. This course is designed to expose the student to state-of-the-art research techniques and to broaden his/her appreciation for the role of biomedical research in the advancement and practice of medicine. The area of research is less important than the process although it is expected that the student will decide on a project, which is within the expertise of the preceptor(s).

Mission compliance is indirect: the course is designed to enhance the student's ability to think critically and to effectively evaluate the ever-expanding medical literature, which heavily emphasizes the basic sciences.

OBJECTIVES:

- To provide students with hands-on research experience.
- To educate the student in the basic principles of hypothesis testing including experimental design, data analysis, and manuscript preparation, and or evaluation.

EVALUATION:

The student's progress will be evaluated through daily interactions with the preceptor. Final evaluation will be based on the completion of a research paper. All work must be completed within three months from the start of the elective or a grade of Unsatisfactory will be assigned.

NUTRITION & DIETETICS IN CLINICAL MEDICINE

BAS.M08

DURATION: 2-4 weeks
ENROLLMENT: Maximum 1 student
VISITING STUDENTS: No
PCR MAJORITY: No

PREREQUISITE: Successful completion of BMP Program.

FACULTY:

REPORT: MUSM and MCCG, Macon, Georgia

CONTACT:

DESCRIPTION:

This clerkship is designed to give fourth year senior medical students the opportunity to pursue, in-depth, a contemporary issue in clinical nutrition. The student will refine their basic science knowledge on the topic, present their knowledge in paper, seminar, or patient rounds format, and learn appropriate strategies for implementing scientifically justified principles of nutrition science and dietetics in clinical medicine. Three specific areas are covered in this clerkship:

- **Identifying knowledge gaps:** reviewing nutrition research and dietetics principles in the basic and clinical sciences.
- **Personal knowledge development:** refinement and presentation of knowledge base in an area selected by the student.
- **Clinical application:** applying evidence based principles of nutrition and dietetics in clinical practice.

EVALUATION:

Evaluations are based on the ratings provided on the Elective Clerkship Evaluation form. The categories of **student performance, medical knowledge, independent learning, and problem-solving abilities** will be stressed. A numerical score is assigned to each category and an overall grade is then recorded as Honors, Satisfactory, Unsatisfactory, or Incomplete.

RESEARCH IN BASIC SCIENCE

BAS.M09

DURATION:	2–4 weeks
ENROLLMENT:	up to 4 (depending on faculty availability)
VISITING STUDENTS:	No
PCR MAJORITY:	No

PREREQUISITE: Successful completion of Year 1 Curriculum.

FACULTY:

CONTACT: MUSM Basic Science Dept. 478-301-4026

DESCRIPTION:

The student will participate in at basic science research in as many aspects as possible in the allotted time, including research idea generation, literature search, hypothesis generation, project planning, bench research, data analysis, and presentation of results. Inclusion of the student as a contributing author in any presentation/publication is possible.

Students may choose between the available faculty and work with the selected faculty on a current research topic of mutual interest. The DBMS Chair will take responsibility for linking students with faculty, assuring adequate faculty-student interaction, and providing the necessary resources to achieve the agreed upon goals of the particular experience.

Each student experience will be individually tailored based upon student interest, faculty availability, and the length of the elective experience.

OBJECTIVES:

1. To expose and involve students in state-of-the-art research techniques and methods.
2. To promote to the student the link between basic science research and clinical practice.
3. To facilitate, through hands on application, the student's appreciation for and knowledge of sound research methodology.
4. To facilitate involvement of students in active medical research.

EVALUATION: Evaluation will consist of the faculty assessment of daily interactions with the student through the use of the standard elective evaluation form. Contribution toward publication or presentation of results is encouraged, but not required.