

**NEUROLOGY/NEUROSURGERY RESEARCH  
NEU805**

**Course Department, Title, Department & Number:** NEU805, Neurology Research

**Course credit or length:** Two to four weeks

**Course director and contact information (office phone and e-mail):** Justin Nolte nolte1@marshall.edu  
304.526.6387-Course Director.

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**Course location:** Cabell Huntington Hospital; Marshall Medical Center, Department of Neurology; Medical Education Building, Marshall University

**Brief Course Description:**

**Key Responsibilities of the student while on Elective:**

1. Plan a research project in conjunction with a research mentor member in the neuroscience department.
2. Take the lead role in submitting the project to the appropriate regulatory committee (IRB, IACUC).
3. Carry out the research plan under supervision.
4. Present data orally to the rest of the research team on a regular basis.
5. Perform appropriate literature review to determine the current understanding of the problem.
6. Write up the research results in a form suitable for publication and presentation at MU research day

**Course Grade Mode:** This is a Pass/Fail Course

**Institutional Objective**

**Patient Care - Students must demonstrate the ability to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.**

**Basic Science Objective**

The student will know and apply the connections between scientific research and problems in clinical medicine.

**Outcome Measure**

The student will incorporate a section in the final project write-up that discusses the relevance of the particular research project to real clinical problems.

**Institutional Objective**

**Medical Knowledge- Students must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.**

**Basic Science Objective**

The student will demonstrate the ability to apply evolving biomedical, clinical, epidemiological and social-behavioral sciences to neurological patient care.

**Outcome Measure**

The student will identify a specific research topic in neurology, discuss it and obtain approval from the research mentor to plan and complete this specific project. The student shall perform an extensive literature search to

determine the past research done on the topic to be studied and to understand the relevance of the proposed research to clinical practice. The student will conduct independent research for discussion with the research mentor and shall orally present the literature search findings to the research mentor. The research findings shall be incorporated in a section in the final project write-up. The research mentor shall assess the quality of the student's literature search in both the oral and written presentations. The student will also meet and discuss the topic with appropriate faculty and participate at appropriate conferences.

### **Institutional Objective**

**Interpersonal and Communication Skills-** *Students must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.*

### **Course Objective**

The student must work effectively as part of the research team to accomplish the research goals.

### **Outcome Measure**

The student will orally present to a research mentor member on a regular basis as described above. The research mentor will observe the effectiveness of the student's communication skills, ability to elicit and to provide information and to answer questions. The research mentor will assess the student's written communication skills by evaluating the submitted paper. Ongoing observation of interpersonal interactions during the course of the research project will also be documented.

### **Institutional Objective**

**Professionalism-** *Students must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.*

### **Course Objective**

Students must obtain approval by the appropriate regulatory bodies before participating in research. The student must learn about the principles that regulate research, including animal research protocols if applicable.

### **Outcome Measure**

The quality of any regulatory proposals written by the student will be assessed by the research mentor. For students involved in research on animals, the student's research on animal protocol and respect for the animal's well-being will be assessed.

### **Course Objective**

The student will interact with research mentor in a professional manner and complete required responsibilities (meeting with research mentor, readings, and paper) as assigned in a timely manner. The student is also expected to attend and participate in the Department's grand rounds, journal club, EEG conference, epilepsy conference and other regularly scheduled conferences as the research schedule permits.

### **Outcome Measure**

Professionalism will be observed and monitored by the research mentor. This includes evaluation on the timely completion of all assignments, preparedness for oral presentations and attendance and participation in the Department's conference and journal club activities.

## **ASSESSMENT METHODS**

### **Mid Point Evaluation**

The student will be assessed regularly regarding the project with regular research presentations which will be at least once a week. Oral feedback will be given to the student after each presentation.

### **Weekly Oral Research Presentations- 25%**

The student will be graded on the quality of his/her weekly oral research presentations. The research mentor's evaluation will be based upon, but are not limited to, upon the following factors:

- Timely completion of reading assignments and other assignments
- Regular meetings with supervising research mentor
- Demonstration of knowledge of topics of study
- Maturity and Professionalism

### **Written Description of the Project/ Project Paper- 75%**

The student will be required to submit a full description of the project in a form that would be suitable for publication in a peer reviewed journal. This write-up must be completed by the end of the course. The final paper shall be evaluated on the organization and presentation of hypotheses based on current literature, project plan, and conclusions and the components as outlined in the above objectives and outcome measures. If the project involves patients or animals, the appropriate regulatory consents must be obtained before research can begin (IRB or IACUC). Because of this, it is important for the student interested in this rotation to apply as far as possible in advance of beginning so that the regulatory work can be completed if necessary.

The research mentor's evaluation will be based upon, but are not limited to, upon the following factors:

- Timely completion of timely reading assignments and other assignments
- Preparedness for regular meetings with research mentor
- Demonstration of knowledge of topics of study
- Maturity and Professionalism
- Ability to organize and convey findings in writing suitable for publication in a peer reviewed journal.

**Remediation is at the discretion of the course director**

**This course will be graded on a "Pass/Fail" basis.**

**Grading                      P=100 - 70%      F= below 70%**

### **Evaluation of Course and Faculty Requirement**

Completion of evaluations of Course and Faculty members (research mentor) by students is a required component of this course. Students will be issued an "Incomplete" until the course and faculty evaluations have been submitted.

### **ATTENDANCE**

If at any time the medical student is unable to meet their clinical responsibilities they must notify the Course Director directly during working hours Monday-Friday, 8:00 am - 5:00 pm. All absenteeism will be required to be made up and will be at a rate of two days make up for every day missed.

If a student misses two or more unexcused days, the student will be required to reschedule the entire rotation. Request for an excused absence must be submitted in writing at least one week in advance via the Student Scheduler to the course coordinator. The request will be reviewed by the research mentor who will either grant or deny the request. Excused absences will not be retroactively granted.

**Attendance at Grand Rounds is strongly encouraged when such does not interfere with the research being undertaken.**

**MUJCESOM Policies:** All medical students taking this course will comply with School of Medicine policies given at <http://musom.marshall.edu/students/policies>.

Individual policies can be found at the following websites:

**Student Infectious Material Exposure:**

<http://musom.marshall.edu/ups/postexposure.asp>

MS-IV Attendance:

<https://musom.marshall.edu/students/documents/policies/Yr4attendance.pdf>

Academic Dishonesty Policy:

<https://musom.marshall.edu/students/documents/policies/Standards-of-Professionalism-and-Honor-Code.pdf>

Academic Standards Policy:

<https://musom.marshall.edu/students/documents/Policies/ASC-FINAL-POLICY.pdf>

Policy for Students with Disabilities:

<https://musom.marshall.edu/students/documents/Guidelines.pdf>

University Computing Services' Acceptable Use Policy:

<http://www.marshall.edu/ucs/CS/acptuse.asp>

Affirmative Action Policy:

pp. 16-17

[http://www.marshall.edu/catalog/Graduate/S2008/gr\\_sp08.pdf](http://www.marshall.edu/catalog/Graduate/S2008/gr_sp08.pdf)

Inclement Weather Policy:

<https://musom.marshall.edu/students/documents/policies/MUSOM-Inclement-Weather-Policy.pdf>

Notification of delays and cancellations of classes are posted on the Medical Education Home Page when Marshall University Main Campus is not in session

<https://musom.marshall.edu/weather>

**Required Readings: To be assigned by Course Director depending upon research topic.**