



NEUROLOGY REQUIRED CLERKSHIP

NEUR 701-XXX CRNXXXX

COURSE SYLLABUS

8 Credit Hours

CONTACT INFORMATION

Clerkship Director



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Clerkship Associate Director



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Clerkship Coordinator



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Clerkship Office: Neurosciences Center, Suite 201, 2130 W. Central Ave, Toledo **419-291-6590**

Hours: 8:00 a.m. – 4:30 p.m. Monday-Friday

COURSE DESCRIPTION

The goal of this course is to develop a correct approach to diagnosis and management of neurological disorders. The primary objectives are to:

- Record a complete neurological history and perform a comprehensive neurologic physical exam
- Generate a differential diagnosis and pick the most likely diagnosis based on history and exam
- Localize lesions to a very basic level (central vs peripheral, nerve vs. muscle, cortex vs brain stem, etc.)
- Formulate an assessment and treatment plan for common neurological disorders

This course follows the Third-Year Medical Student Academic Calendar, for key dates please follow this link:

<http://www.utoledo.edu/med/md/curriculum/curriculum3/>

PREREQUISITES AND COREQUISITES

Students must have successfully completed the foundational science curriculum, bridge course and any other requirements per COMLS policy.

ROTATION OVERVIEW

The students' time, during the 5 week rotation, is divided between the three Neurology Inpatient Services: Primary, Consult and Stroke at ProMedica Toledo Hospital and the outpatient Neurology clinics at the Neurosciences Center. The expectation is students will work diligently to obtain the maximum benefit from the limited time on the rotation.

COURSE OBJECTIVES, Including Core Competencies, Instructional Methods & Outcome Measures

Core Comp	Clerkship Objective <i>At the end of the Neuro Required Clerkship the student will be able to:</i>	Instructional Method	Outcome Measure
PC-1	1. Obtain and present a complete neurological history including all relevant components.	-Patient Care in Outpatient and Inpatient Settings -Medical Student didactic session -Standardized Patient Exercise	Clinical Competency Evaluation Skills exam
PC-2 MK-1	2. Conduct a comprehensive and complete neurological exam. The student should also be able to describe the anatomic and physiologic basis of the neurological examination as it relates to the clinical problem.	-Patient Care in Outpatient and Inpatient Settings -Medical Student didactic session -Standardized Patient Exercise	Clinical Competency Evaluation Skills exam
PC-4 IPC-1	3. Present and document a succinct and accurate neurological history and examination.	-Patient Care in Outpatient and Inpatient Settings -Medical Student didactic session	Clinical Competency Evaluation Skills exam
PC-8	4. Appropriately apply diagnostic studies to the evaluation of neurological patients.	-Patient Care in Outpatient and Inpatient Settings -Medical Student didactic session	-Clinical Competency Evaluation -Neurology Case Studies - (Vignettes) -NBME subject exam
MK-3 MK-5	5. Develop a differential diagnosis based primarily on history and examination.	-Patient Care in Outpatient and Inpatient Settings -Medical Student didactic session	Clinical Competency Evaluation Neurology Case Studies (Vignettes)
MK-1 MK-3 MK-4 MK-5	6. Demonstrate knowledge of the major categories of neurological disease and their primary modes of presentation.	-Patient Care in Outpatient and Inpatient Settings -Medical Student didactic session	Clinical Competency Evaluation NBME Subject Exam Medical student morning report(Case presentation) Neurology Case Studies (Vignettes)
PC-9	7. Recognize neurological emergencies and the need for immediate management and requirements for appropriate intervention.	-Patient Care in Outpatient Settings and Inpatient Settings -Medical Student didactic session	Clinical Competency Evaluation
PC-8	8. Demonstrate knowledge of the standard methods of care for the major neurological disorders and form a rational plan of management.	-Patient Care in Outpatient and Inpatient Settings -Medical Student didactic session	Clinical Competency Evaluation NBME Subject Exam.Medical student morning report (Case presentation) Neurology Case Studies (Vignettes)
MK-1 PBL-7	9. Apply knowledge of neuroscience to the understanding of mechanisms of neurological disease and their treatment.	-Patient Care in Outpatient and Inpatient Settings -Medical Student didactic session	Clinical Competency Evaluation NBME Subject Exam
IPC-4 MK-4 MK-13 MK-15	10. Recognize neurological issues specifically related to aging.	-Patient Care in Outpatient and Inpatient Settings -Medical Student didactic session -End of Life online videos	-Clinical Competency Evaluation -NBME Subject Exam -Multiple choice quizzes

MK-7 PC-10 PBL-4 PBL-5	11. Review relevant clinical literature as it pertains to specific neurological problems encountered and utilize evidence-based guidelines in diagnosis and management of patients (i.e. demonstrate lifelong learning).	Patient Care in Outpatient and Inpatient Settings	-Clinical Competency Evaluation
SBP-1 SBP-2 IPC-3 IPC-4	12. Identify and discuss ethical issues relevant to care of the patient with neurological disorders.	-Online Videos -Medical Student didactic session	Multiple choice quizzes
PB1-PB8	13. All students participating in this clerkship will meet or exceed the institutional standards for professional behaviors.	Patient Care in Outpatient and Inpatient settings	Clinical Competency Evaluation

EDUCATIONAL RESOURCES, TEXTBOOKS and OTHER MATERIALS

1. College of Medicine and Life Sciences Library Website is filled with Neurology study resources <https://libguides.utoledo.edu/md/neurology>
2. Copies of Clinical Neurology by David Greenberg and High Yield Neuroanatomy by Gould and Bruechner-Collins is available to borrow from the department
3. Access Medicine CASE FILES: www.utoledo.edu/library/mulford Click on Access Medicine > Cases > Casefiles > Clinical Medicine > Neurology > select topic/case of interest

<https://blackboard.utdl.edu> The NEUR 701 black board course contains rotation-specific information and resources. If you have trouble accessing your account, contact Jeff Perry 419-383-8835 or send requests to UTLV@utoledo.edu

REQUIRED ACTIVITIES

During the clerkship, students are expected to:

- Evaluate new and returning outpatients, document findings and present to a Neurology faculty member
- Perform a neurological history and physical on 5 new patients
- Evaluate assigned inpatients, review lab and test results and present on rounds
- Round on one weekend day usually following the inpatient primary rotation
- Actively participate as a member of the treatment team
- Be prepared by reading about patient cases, diseases, diagnoses, etc.
- Log patient cases and work hours accurately and timely
- Attend and participate in the student lecture series, Neurology Grand Rounds and Neurovascular Case Conferences
- With your rotational team, present a case at a morning report session
- Participate in the Observation of Clinical Skills Session
- Participate the Team Based Learning Session and complete the prerequisite assignment
- Participate in Lumbar Puncture and Fundoscopic examination simulation training
- Complete the American Academy of Neurology on-line Self-Assessment Examination
- Complete the NIH Stroke Scale Training
- Watch on-line End of Life video presentations and complete the post-tests
- Secure the completion of Formative Feedback forms from faculty
- Participate in the Mid-Clerkship Formative Feedback Session
- Complete the NBME Neurology Subject Exam
- Complete two neurology Vignettes following the Neurology Subject Examination
- Follow UT polices, including but not limited to professional behavior, work hours, absences, etc.
- Report on time; be prepared, in professional attire with a clean, pressed white coat.
- At the end of the clerkship, complete evaluations of preceptors and sites.

CLINICAL EXPERIENCES

Students must log cases and educational hours and be at 100% completion at the end of the clerkship for each diagnosis. It is imperative that this be maintained with diligence. For a case to count toward the requirement, the patient encounter should meet the minimum level of involvement and should include all of the following 5 items:

- Independently gathered history information
- Independently performed physical/mental status
- Presented patient case
- Opportunity to offer and discuss differential diagnosis
- Opportunity of offer and discuss management options

Students are expected to perform a neurological history and physical on five new patients during the clerkship.

Diagnostic category	Minimum # of patients to be seen	Comments/Explanation
Cerebrovascular Disease	3	On inpatient or outpatient, evaluate at least 2 patients with cerebrovascular disease (cerebral infarct, intracerebral hemorrhage, subarachnoid hemorrhage)
Cognitive Impairment in the Elderly	1	Evaluate dementia or delirium in outpatient or inpatient setting
Epilepsy	3	Either in inpatient or outpatient setting
Headache and Facial Pain	3	Evaluate at least three patients with headaches in either outpatient or inpatient setting
Movement Disorders	2	Includes Parkinson's, Huntington's, and drug induced movement disorder on either inpatient or outpatient
Multiple Sclerosis/ Demyelinating Disorders	1	Evaluate one patient with demyelinating disease in outpatient or inpatient setting
Neuropathy	1	Evaluate at least one patient with peripheral neuropathy in outpatient or inpatient setting
Acute or chronic pain	1	Either inpatient or outpatient

MID-CLERKSHIP FORMATIVE FEEDBACK

Students are required to ask two faculty members to complete a Formative feedback form evaluating skills they observed during a student-patient clinical encounter. The forms should be completed by the mid-clerkship Formative Feedback Session.

Half way through the clerkship, students will meet with the Clerkship Associate Director for a Mid-Clerkship Formative Feedback session. This purpose of the feedback session is to discuss the student's progress and any areas of concern, as well as review case logs, feedback forms, and a patient note. Students are required to bring to the session the completed formative feedback forms and the written patient note to review.

GRADING

According to UT COM&LS policy, calculation of clerkship grades is as follows:

Clinical Competency Score (evaluations)	50%
NBME Subject Exam	30%
Departmental Score	20%

1. Clinical Competency Score – 50%

The Clinical Competency portion of the grade is a composite of evaluations received from attending physicians, residents and fellows whom the student had worked with at the various clinical sites. The weight of each evaluations is determined by the number of evaluators per rotation and the ‘time spent’ teaching each evaluator marks on their evaluation.

Evaluations are based on:

- Medical Knowledge
- Patient Care; History, Physical and Clinical Reasoning
- Practice Based Learning
- Interpersonal and Communication Skills
- Professionalism
- Systems Based Practice

Evaluations are completed using a 5-point scale as follows:

5 =	Significantly above expected competency
4 =	Above expected competency
3 =	At expected competency
2 =	Below expected competency
1 =	Significantly below expected competency

Any questions the students have regarding evaluations or their final grade should be directed to the Clerkship Director or Coordinator.

2. National Board of Medical Examiners (NBME) Subject Examination – 30%

The NBME exam is created and administered electronically by the National Board of Medical Examiners (NBME). According to institutional protocol, all students must start the exam at the same time; therefore, if any student is late and the exam has started, they will be unable to sit for the exam at that time. Students will need to reschedule the exam through the Office of Student Affairs.

The Subject Exam is scheduled on the last day of the clerkship; for date, time and location of the NBME Neurology Subject Exam; please refer to the clerkship calendar on Black Board. You will also receive a confirmation email from the testing center and a reminder email from the Clerkship Coordinator.

For the 2021 - 2022 academic year, students must earn a passing score equal to or higher than the 5th percentile based on the prior years’ national performance data.

If a student receives a score of less than the 5th percentile on their initial attempt of the Neurology NBME Subject Exam, a final grade of “DF” (Defer) will be placed on the students’ record and the student will be granted a second attempt at the exam. The highest final clerkship score a student will be eligible to receive if

they pass the exam on the second attempt is a Pass. If the student fails the exam on the second attempt, they will be required to remediate the clerkship before they will be allowed to sit for the exam a third time.

3. Departmental Grade – 20% (20 Total Points Possible)

The Departmental portion of the grade is broken down as follows:

- Up to 10 points on two short **Clinical Vignettes** given following the subject exam
- Up to 5 Points on the **Team Based Learning Session** scheduled during the clerkship
- Up to 2 Points on completing the **American Academy of Neurology Student Self-Assessment**
- Up to 2 Points on completing **Dr. Elmer's on-line lectures and post-tests**
- Up to 1 Point for completing the **NIH Stroke Scale Training**

The Neurology Clerkship final grade scale is as follows:

Honors	High Pass	Academic Year
87-100	83-86	2021 - 2022

If a student wishes to dispute their final clerkship grade, they must notify the Clerkship Director or Coordinator within 30 days of the grade being posted as per policy.

ACADEMIC POLICIES/UT COMLS POLICIES

Students are responsible for following the UT COMLS policies, which can be located here:

http://www.utoledo.edu/policies/academic/college_of_medicine/ this link includes, but is not limited to:

- **COMLS Policy Supervision of Medical Students**

Excerpts from policy:

When performing any procedures or clinical activity which poses *any* risk to patient safety, students must be *directly* supervised by a faculty member or resident or fellow at the hospital or other clinical facility.

In certain clinical situations, Advanced Practice Providers (APP) such as Physician Assistants, Nurse Practitioners and Midwives may provide supervision, if noted to be within their scope of practice.

***Direct** Observation/Supervision: the observing/supervising physician is physically present with the student and patient.

****Indirect** Observation/Supervision: Once student assessed to be appropriate for indirect supervision, direct observation/supervision remains immediately available--the supervising physician is either physically within the hospital or other site of patient care or is immediately available by a reliable and rapid method of communication to provide direct observation.

- **Institutional Classroom Attendance Policy**

Please be aware that the university has implemented an attendance policy, which requires faculty to verify student participation in every class a student is registered at the start of each new semester/course. If you have not attended/participated in class (completed any course activities or assignments) within this period, I am required by federal law to report you as having not attended class. This date varies by the part of term, in which your course started, these dates can be found here: <https://www.utoledo.edu/offices/provost/mandatory-attendance-tracking.html>. Unfortunately, not attending/participating in class impacts your eligibility to receive financial aid, so it is VERY important that you attend class and complete course work early. Please contact me as soon as possible to discuss options and/or possible accommodations if you have any difficulty completing assignments.

- **Clerkship Excused Absences**

Students must submit an absence request form to the Clerkship Coordinator for all absences. Unexcused absences may result in a Professional Behavior Report.

Policy:

[Excused Absences from Required Academic Activities in the M.D. Program - 3364-81-17](#)

- **Learning Environment & Faculty Development**

If there is a faculty or staff member who has demonstrated outstanding professionalism and contributed to your learning environment or has detracted from your experience, complete the Learning Environment Assessment and Event Report. This report is accessible from an icon in this course Black Board home page or you can go directly to the site at <http://utmc.utoledo.edu/learningenvironment> All responses are anonymous. If you indicate that the event is of a serious nature and warrants immediate follow up, you will receive a prompt to enter a contact name and phone number.

- **Professionalism**

Students and physicians should maintain the highest standards of professional and have a number of professional responsibilities that they are obligated to uphold. Breach of a professionalism standard will result in a professionalism behavior report based on the institutional policy. Policy:

[3364-81-04-017-02 - Professionalism and Related Standards of Conduct for MD Students](#)

- **Conflict of Interest – Separation of Roles**

The health professionals who provide sensitive medical and healthcare services to medical students will have no involvement in the academic, professionalism, or disciplinary evaluation, promotion, or dismissal of students receiving those services. If you are comfortable you may work with the provider, however they may not evaluate you. Inform the Coordinator of any such relationships with the department prior the start of the clerkship. Policy:

[3364-81-04-016-05 - Separation of Roles to Assure Confidentiality in the Provision of Health and Counseling Services to Medical Students and Absence](#)

- **Assigned Educational Hours**

To ensure that there is an appropriate balance of assigned educational activities and self-directed learning, students' scheduled activities should:

- Not exceed 80 hours per week, with no more than 30 consecutive hours,
- Have at least 24 consecutive hours (1 day) of non-scheduled time per week.
- Notify the clerkship coordinator if they are approaching 70 hrs/week.

https://www.utoledo.edu/policies/academic/college_of_medicine/pdfs/3364-81-04-004-00%20%20Assined%20education%20hours%20for%20medical%20students%20during%20clinical%20clerkships.pdf

AMERICANS WITH DISABILITIES ACT

- **[Policy Statement on Non-Discrimination on the Basis of Disability \(ADA\)*](#)** The University is an equal opportunity educational institution. Please read [The University's Policy Statement on Nondiscrimination on the Basis of Disability Americans with Disability Act Compliance](#). Students can find this policy along with other university policies listed by audience on the [University Policy webpage](#) (<http://www.utoledo.edu/policies/audience.html/#students>).

- **Academic Accommodations**

The University of Toledo embraces the inclusion of students with disabilities. We are committed to ensuring equal opportunity and seamless access for full participation in all courses. For students who have an Accommodations Memo from the Office of Accessibility and Disability Resources, I invite you to correspond with me as soon as possible so that we can communicate confidentially about implementing accommodations in this course. For students who have not established accommodations with the Office of Accessibility and Disability Resources and are experiencing disability access barriers or are interested in a referral to health care resources for a potential disability, please connect with the office by calling 419.530.4981 or sending an email to StudentDisability@utoledo.edu.

- **Academic and support services**

Please follow this link to view a comprehensive list of [Student Academic and Support Services](#) (<http://www.utoledo.edu/studentaffairs/departments.html>) available to you as a student.

- **Safety and Health services for UT students**

Please use the following link to view a comprehensive list [Campus Health and Safety Services](#) available to you as a student.

- **Blood Borne Pathogen Exposure Protocols**

Follow this link: https://www.utoledo.edu/policies/academic/college_of_medicine/pdfs/3364-81-04-016-04.pdf

In the event of blood or body fluid exposure:

When at The University of Toledo Health Science Campus:

1. Flush area thoroughly for 15 minutes; wash with soap if applicable.
2. Notify supervising faculty member or preceptor.
3. Always report to UTMC Emergency Department for initial assessment of injury and exposure.
4. Immediately obtain and submit all lab results from both you and the primary source of contact to Ruppert Health Center, Family Medicine.
5. Complete a UTMC employee injury report at utoledo.edu/depts/safety/Forms.html and send to Safety and Health.
6. After hours/weekends, call UT Emergency Department at 419.383.3888 to address questions or concerns.
7. Notify clerkship director of incident.

Whenever exposure occurs at a non-UTMC site:

Contact the supervisor or preceptor at site to find out individual protocol. Follow up treatment after initial treatment may be obtained at occupational health which is located in the Emergency Department of University of Toledo. Exposed medical student needs to bring appropriate records from outside facility to avoid delays in treatment. Occupational health can be reached at 419-383-5598. Also inform the clerkship office.

- **Inclusive Classroom Statement**

In this class, we will work together to develop a learning community that is inclusive and respectful. Our diversity may be reflected by differences in race, culture, age, religion, sexual orientation, gender identity/expression, socioeconomic background, and a myriad of other social identities and life experiences. We will encourage and appreciate expressions of different ideas, opinions, and beliefs so that conversations and interactions that could potentially be divisive turn, instead, into opportunities for intellectual and personal development.

Course Offered: Required M3 Year • **Class Location:** Varies • **Class Day/Time:** Varies
• **Lab Location:** N/A • **Lab Day/Time:** N/A.

SPECIAL COURSE EXPECTATIONS DURING COVID-19

Maintaining a safe campus during the ongoing COVID-19 pandemic remains a top priority. UToledo continues to follow the guidance of the U.S. Centers for Disease Control and Prevention and Ohio Department of Health to keep our campus safe.

ATTENDANCE

The University of Toledo has a missed class policy. It is important that students and instructors discuss attendance requirements for the course. Before coming to campus each day, students should take their temperature and complete a self-assessment for symptoms of COVID-19, such as cough, chills, fatigue or shortness of breath. Anyone with a temperature at or above 100.0 degrees Fahrenheit or who is experiencing symptoms consistent with COVID-19 should not come to campus and contact their primary care physician or the University Health Center at 419.530.5549. For more information on the symptoms of COVID-19, please go to <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>

COVID-19 testing for sick students is available on both Main Campus and Health Science Campus. Call 419.383.4545 for an appointment. Absences due to COVID-19 quarantine or isolation requirements **are** considered excused absences.

Students should notify their instructors and follow the protocols summarized in this document on [Navigating COVID-Related Course Concerns](#).

In the event that you have tested positive for COVID-19 or have been diagnosed as a probable case, please review the [CDC guidance](#) on self-isolation and symptom monitoring, and report the disclosure to the Division of Student Affairs by emailing StudentAffairs@utoledo.edu or by connecting with their on-call representative at 419.343.9946. Disclosure is voluntary and will only be shared on a need to know basis with staff such as in the Office of Student Advocacy and Support, The Office of Residence Life, and/or the Office of Accessibility and Disability Resources to coordinate supportive measures and meet contact tracing requirements.

FACE COVERINGS

Face coverings are required while on campus, except while eating, alone in an enclosed space, or outdoors practicing social distancing. Students will not be permitted in class without a face covering. If you have a medical reason preventing you from wearing a face covering due to a health condition deemed high-risk by the CDC, submit an [online application](#) to request an accommodation through the Office of Accessibility and Disability Resources. Students will need to provide documentation that verifies their health condition or disability and supports the need for accommodations. Students already affiliated with the Office of Accessibility and Disability Resources who would like to request additional accommodations due to the impact of COVID-19, should contact their accessibility specialist to discuss their specific needs. You may connect with the office by calling 419.530.4981 or sending an email to StudentDisability@utoledo.edu.

VACCINATION

Doctors and other health care professionals agree that the best way to protect ourselves and each other is to get vaccinated. Case data clearly show that vaccines remain highly effective at preventing serious illness from COVID, including the highly contagious delta variant. If you have not yet received your COVID vaccine, the University encourages you do so as soon as possible. No appointment is needed to get the shot at the UTMC Outpatient Pharmacy, University Health Clinic or Main Campus Pharmacy. Once you receive the COVID vaccination, please register on the COVID Vaccine Registry site at: <https://utvaccinereg.utoledo.edu/>.

SPECIAL NOTES

It's important to note, that based on the unpredictability of the COVID-19 virus, things can change at any time. So please be patient and understanding as we move through the semester. I also ask that you keep me informed of concerns you may have about class, completing course work/assignments timely and/or health concerns related to COVID.