BMED 8843 Syllabus
Clinical Experience for Engineers, 3.0 hours (1 lecture, 2 lab credits)
Summer 2026

Instructor Information

Instructor: Prof Lena Ting
Email: lting@emory.edu

Office hours: Tuesdays 5:05-6:00pm, and by appointment
Administrator: Sherry Sam; email sherry.sam@emory.edu

Course Information

- Start date May 19; last date July 30
- Tuesdays 3:45-5:05 pm
- Assignments due August 4
- Location: Emory HSRB-II, N100 seminar room

Clinical Experience Hours (self-directed)

- Seminars and grand rounds (about one hour per week plus travel time)
- Clinical observation (about four hours per week plus travel time)

Course Prerequisites

Graduate standing AND permission from the instructor. ENROLLMENT IS LIMITED. Priority will be given to students in doctoral programs, and according to alignment of research and career plans. This course fulfills the Computational Neural-engineering Training Program clinical course requirement.

General Course Information

Course Description

This is a graduate level course that provides students with clinical experience to motivate the use of technology in healthcare, as well as the need for basic science and engineering research that will eventually have clinical applications. Students will receive clinical credentialing and basic training in patient interactions, and privacy concerns. There will be a few lectures from experts, working at the interface of technology and clinical research and clinical care. Students will spend a significant amount of time outside of the classroom observing and interacting with clinical researchers, clinicians, and patients. The course focuses primarily on neuro-related disorders.

Course Format and Materials

Format

This course meets once per week, in person at Emory. Students are also responsible for about 4-5 hours of clinical experiences throughout the week. The time it will take depends on the availability of particular experience and the availability of the student. There are also group field trips that students are expected to participate in. While there is some flexibility with when students can complete most of their clinical experience hours, a consistent effort throughout the semester is expected.

Materials

Most of the materials or information about required materials will be available on class OneNote Notebook. Scheduling for clinical experience opportunities will be available in Canvas.

Learning Goals and Outcomes

The goal is for students to gain a better appreciation of the need for clinical translation of science and technology to help for patients, clinicians, and caregivers, as well as the associated challenges. Students will gain appreciation for the many ways in which neurological impairments affect patient and caregivers' lives. Students will become more familiar with the complexities of the healthcare system, and the many stakeholders involved, including patients, clinicians, administrators, caregivers, insurance, and regulatory agencies. Students will gain skills in interacting with patients and clinicians. At the end of the course, it is expected that students will gain experience that will enable them to seek appropriate information and engage with clinicians, patients and other agencies as needed in their future research endeavors.

Instructor Expectations

Achieving the goals of this course requires not only your effort, but mine. I am committed to fostering your learning by identifying various resources for you to gain clinical experiences. I will provide schedules of clinical experiences as they become available and preferably with at least a week in advanced notice. I will also provide class materials and assignment details with adequate advance notice for you to go over them. I will maintain a classroom environment in which everybody feels able to contribute. I will also respond to your inquiries in a timely manner within 48 hours and provide feedback and assessment of your assignments in a timely manner.

Student Expectations and Support for Student Success

Success in this course depends on students being organized, self-directed, and actively engaged. There is a substantial amount of time-sensitive credentialing and certification activities that must be met in order to participate in clinical experiences. Additionally,

students must be proactive in identifying clinical activities that they wish to participate in, schedule those accordingly and communicate in a professional manner with the clinicians and patients they have the privilege to interact with. Students will be expected to adhere to all Emory Clinic policies regarding privacy and safety.

Students will be expected to come prepared and engage with guest lecturers, other students and the instructor during class time. Students will be expected to reflect on their experiences and discuss how they shape their ideas, thoughts, and philosophy about the introduction of technologies through the maintenance of the weekly journal and class discussion; these will culminate in a written narrative that will be shared publicly. Students will also generate ideas for uses of technology in the clinic and present them to the class as well as write a short paper.

As the experiences available are dynamic and very each year students are also expected to communicate with each other about any changes or information that would be helpful for others, especially regarding transportation.

Students will be expected to turn assignments in on time and let the instructor know if they will be absent from class. The course schedule is flexible enough to allow for student travel and research obligations during the summer. Students may discuss questions with the instructor after class, over email, or by appointment.

Credentialing Requirements

To attend the clinic, several steps that may take several weeks will need to be initiated PRIOR to the beginning of class and completed within the first week. This includes *compiling vaccine records and getting a TB test, as well having a criminal background check and drug test*.

Costs for credentialing will be reimbursed; students must save their receipts, complete the reimbursement form and return to Sherry Sam by May 31, 2026.

Students will receive an ACEMAPP account for verification of credentialing requirement to participate in clinical care observation and clinical research observation. For *clinical care observation*: Student observership status for the Emory Clinics and Hospitals must be initiated and documented and obtained within the first week of class and documented on ACEMAPP. For *clinical research observation* and training in research practices completed on the CITI must be completed within the first two weeks of class and documented in ACEMAPP.

Clinical observation

Students are expected to participate in self-scheduled activities clinical observations of about 4 hours per week, including grand rounds, clinical seminars, patient support groups, clinical observation, and clinical research observation. Opportunities for clinical

observations in various clinics will be provided in Canvas that students will be responsible for signing up in advance, coordinating transportation, and attending on time. Hours must be logged and activities distributed according to guidelines that will be provided.

Transportation to observation locations

Students are responsible for transportation and are encouraged to carpool when possible. Shuttles are available between Georgia Tech and Emory (https://pts.gatech.edu/stinger-bus-routes#), Emory Midtown Hospital to Emory Clifton Campus (https://transportation.emory.edu/shuttles/euhm), and Executive Park to Emory Clifton campus (https://transportation.emory.edu/shuttles/executive-park). There is free parking at Executive Park. There may be other locations that require alternate transportation.

Inclusion

Members of our learning community represent a rich variety of backgrounds, training, and perspectives that are all critical for advancement in technology in healthcare. In this course, we specifically leverage this diversity and encourage students to share their unique experiences and ideas, be open to the views of others, respect and honor differences amongst colleagues and other professionals, and appreciate the opportunity we have two interact and learn from each other.

Courtesy

Classroom courtesy is necessary to foster productive discussion and learning across disciplines and across people with different backgrounds. The Laney Graduate School and Emory University expect that students and faculty will engage each other respectfully and with the appropriate degree of professional courtesy. It is also true that “Emory University is committed to an environment where the open expression of ideas and open, vigorous debate and speech are valued, promoted, and encouraged” (Respect for Open Expression Policy, 8.14).

In this course people will have diverse experiences that may be personal nature, as well as sensitive information about patience and caregivers. Therefore, it is important that during our discussions, that comments should be respectful of others, opinions and experiences, another topic is related to the class and course material. Well, it is expected that there may be disagreements and difference of opinion should be delivered in a respectful way and be free of personal attacks.

Assignments and Grading

Assignments

Students will be required to keep a journal of their experiences and their personal section of the class OneNote Notebook. Students will also keep a log of their clinical activities that will be linked in their OneNote Notebook. Weekly readings and other activities may be

assigned for discussion in class with the instructors and invited speakers. Final products of the course include two written documents based on the experience of the student: 1) a narrative reflection appropriate for public dissemination about how a clinical experience shaped the student's perspective of the use of technology in the clinic, and 2) a proposal for the use of technology to solve a problem based that the student observed in the clinic; there will also be a final presentation.

Grading - final grade will be based on:

- Completing required credentialing in a timely fashion: 10%
- Completing clinical experiences in a timely manner: 20 %
- Professional behavior: 10%
- Quality and timeliness of journal entries (weekly): 15%
- In-class Discussion: 15%
- Reflective narrative (~1-2 pages) for public: 15%
- Technology need paper (<3 pages) and 3-min presentation: 15%

Grading scale corresponds to letter grade

- 90-100 A
- 80-89 B
- 70-79 C
- 60-69 D
- 0-59 F

Course Policies

Attendance and/or Participation

Students are required to attend and participate in class. If students are unable to attend class, they must say permission in advance from the instructor and make up any missed materials. Two unexcused absences reduce the final grade by one full letter.

Academic Integrity

Academic dishonesty will not be tolerated. This includes cheating, lying about course matters, plagiarism, or helping others commit a violation of the Honor Code. Plagiarism includes reproducing the words of others without both the use of quotation marks and citation. Students are reminded of the obligations and expectations associated with the Georgia Tech Academic Honor Code and Student Code of Conduct (www.honor.gatech.edu).

Core IMPACTS

Core IMPACTS (https://www.usg.edu/curriculum/core-impacts) is the University System of Georgia's General Education curriculum. If you are teaching a course that counts

towards Core IMPACTS, you should include a syllabus statement about the Core area and associated career competencies (https://www.usg.edu/curriculum/core-impacts/career_competencies). This resource (https://cetloe.gsu.edu/learning-design-services/constructing-a-syllabus/#core-impacts-requirements) developed by the Center for Excellence in Teaching and Learning and Online Education at Georgia State University includes template syllabus statements for each

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) (http://disabilityservices.gatech.edu/) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations (http://www.catalog.gatech.edu/rules/22/) articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.