

Frequently Asked Questions (FAQs) About The MS in Medical Physiology Program

Department of Physiology and Biophysics
Case Western Reserve University School of Medicine

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1. Does the Department offer financial aid to MS in Medical Physiology students?

All financial aid is handled through the university's financial aid office:
<http://financialaid.case.edu/> This office should be contacted directly. No financial aid is provided by the Department of Physiology and Biophysics.

2. What is the tuition for the program?

The tuition is currently \$1550/credit hour and 30 credit hours are required to earn the MS degree and 18 hours to earn the Certificate in Medical Physiology. Other fees are: Health Insurance - \$726/semester and the Activity Fee - \$13/semester.

3. Is there any linkage between this program and the School of Medicine at Case Western Reserve?

There is no official linkage between our MS program and CWRU's MD program. However, we are the faculty who teach in the MD program and some of us are involved in the selection process for the MD program. For example, Dr. Liedtke, who is a member of the MS in Medical Physiology Administration Committee and is the organizer for Block 5 (Renal Physiology) of the Medical Physiology II course, is the chair of the CWRU MD Admissions Committee. We make a point to bring our very best students to the attention of the Associate Dean for Admissions as well as the director of admissions of the CWRU MD program. A number of our students have received interviews for the CWRU MD program and have been accepted into the program.

4. Do the students that come through the program reach their professional goals (medicine, dentistry, or other professional school) after completing their coursework?

The program took its first class of 43 students in the fall of 2011 and the second class of 84 students in the fall of 2012. Only a few students graduated after spring semester or summer semester. Most students from the first year class will be graduating during the course of the next year (at the end of fall semester 2012 or spring semester 2013). Of those who have graduated by the end of summer semester 2012, 3 were admitted to medical school and one to dental school. We recommend that students do not apply to a professional program until AFTER the first year of study so that we will be able to write a good letter of recommendation based on a full year of work in the program and after the students have taken the NBME subject exam in Physiology and Neurophysiology. Having said this, of the MS in Medical Physiology students matriculating in the fall of

2011 who applied to professional programs this past year, as of the date of writing this document:

- a. 7 have been accepted to US allopathic medical schools (3 began their studies in the fall of 2012)
- b. 1 was admitted to the CWRU School of Medicine MD program
- c. 1 was admitted to a foreign allopathic medical school
- d. 1 was admitted to a speech-language pathology program
- e. 1 was admitted to a US osteopathic medical school
- f. 1 was admitted to the CWRU School of Dentistry for fall 2012

5. How comparable are the courses offered to first-year medical school courses?

CWRU's medical program is primarily problem based without any "courses" in the classical sense of the term. Our lecture style courses in the MS in Medical Physiology program are far MORE vigorous than those found in a traditional medical curriculum where courses in physiology are taught. Our program requires at least 18 hours of physiology courses; this is far more than any medical school requires of their students.

6. Is there advising available to every Master's student at CWRU?

When students officially accept our offer, we assign them two advisors

- a. An Academic Advisor: A faculty member in the department who will help the students select and time the courses that they will be taking to satisfy the 30 credit hour requirement (18 required course hours in Physiology and 12 elective course hours that can be taken in any department of the university as long as they are at the 400 level or higher).
- b. A Career Advisor: A faculty member in the department who will help the student plan their strategy for getting into a professional program and, if that does not materialize, developing an alternative career goal.

Before the beginning of classes, we will also assign you a Peer Advisor: This will be a second year MS in Medical Physiology student who will provide the student with a student's perspective as to how to best succeed in our program and enjoy their time at CWRU and in Cleveland.

Student who are interested in Dental School will also be assigned to the Dean for Admissions at the CWRU School of Dentistry as an advisor.

7. I understand that this program can be completed in two semesters. Is it recommended that the students apply to medical school during that year?

While the program can be completed in as little as two semesters, we do not recommend that students do so. To complete the program in two semesters requires the support of the student's Academic Advisor and approval by the MS in Medical Physiology Administration Committee. The full benefit of this program in applying to a professional program can only be realized AFTER the first year of study. This program is an opportunity for students to demonstrate their capabilities to perform in a very vigorous basic science program. Students MUST have a GPA in our program between 3.5 and 4.0 to have medical schools, dental schools, etc. consider their performance adequate. The average GPA of students entering the CWRU MD program is 3.72 while nationally it is 3.67. Therefore, students must truly concentrate on their studies during the first year.

Therefore, we recommend the following model curriculum, although variations on this theme are possible with the support of the student's Academic Advisor and the MS in Medical Physiology Administration Committee:

- a. Fall Semester year 1
 - a. Medical Physiology I (PHOL 481 – 6 credit hours)
 - b. Translational Physiology I (PHOL 483 – 2 credit hours)
 - c. Departmental Seminar I (PHOL 498 – 1 credit hour)
- b. Spring Semester year 1
 - a. Medical Physiology II (PHOL 482 – 6 credit hours)
 - b. Translational Physiology II (PHOL 484 – 2 credit hours)
 - c. Departmental Seminar II (PHOL 498 – 1 credit hour)
 - d. Take the NBME subject exam in Physiology and Neurophysiology (administered the last week of spring semester) and score above the 50th percentile. This exam must be passed in order for the student to complete the program.
- c. Summer Semester year 1
 - a. Study for the MCAT exam, taking it in late July. We recommend that you take a Kaplan-like course to help you prepare for this exam. We do have an arrangement with Kaplan so that you will receive a 10% discount on their course tuition. Students need to score over 30 on this exam. The average MCAT score of students entering the CWRU MD program is 35.2 while nationally it is 31.1.
 - b. Apply to professional school, obtaining a committee letter from the MS in Medical Physiology Administration Committee
- d. Fall Semester year 2
 - a. Take 6 credit hours of elective courses. We highly recommend the 6 hr. histology course (with lab) from the Department of Anatomy.
 - b. Visit schools that have offered you interviews
- e. Spring Semester year 2
 - a. Take 6 credit hours of elective courses
 - b. Graduate in May
 - c. Celebrate acceptance into their professional program of choice

8. Are there opportunities for clinical experience or other health related experiences made available to students through the university?

CWRU has a HUGE medical complex. The university is affiliated with 4 hospitals and we have faculty at all of them: University Hospitals of Cleveland and the Case Medical Center, The Cleveland Clinic Foundation, The Louis Stokes Cleveland Veterans Affairs Medical Center, and Metro Health Hospital and the Rammelkamp Center for Education and Research. One of the reasons we recommend that students take two years to complete the program is so that they can take advantage of all the opportunities that are available on campus. Each department in each affiliated hospital holds a Grand Rounds each week that is open to our students. We recommend students find an area that they are interested in and attend these Grand Rounds to learn of the latest research and clinical treatments in these areas and to meet the clinical faculty. Students are welcomed to shadow faculty and observe procedures and, when possible, become engaged in either

basic science or clinical research. Many students take research courses as one or more of their electives.

9. Are there laboratory research opportunities available to MS students?

Yes. Many students become involved in basic research projects. This can range from informally observing in a lab to taking PHOL 601 Research in Physiology. PHOL 601 is a Pass/Fail 3 credit hour course. The student is required to write a one page research proposal with the help of their research mentor who is a primary or secondary faculty member in the Department of Physiology and Biophysics. During the course of the semester they conduct the research and write a final report in the form of a manuscript. This is submitted to their mentor no later than the last week of the course for grading. Research can also be conducted in any department of the university that has a research course at the 400 level or above. This course can be taken any semester, including summer. For those students with a particularly strong interest in research, after the first year of study, students may petition the MS in Medical Physiology Administration Committee to transfer from the non-thesis Plan B degree program to the thesis Plan A degree program. Students who transfer to the Plan A program will choose a thesis advisor from qualified CWRU faculty and establish a thesis advisory committee during their first year of study. During their second year in the program, they will take 12 hours of Thesis Research (PHOL 651) in the lab of their mentor, write a master's thesis, and graduate in either May or August of their second year of studies.

10. Is there housing for graduate students on campus or close to campus?

Yes, there is a wide diversity of housing options within walking distance to the university. Prime housing can be found in Little Italy and the Coventry area, among others. In addition to privately owned apartments, there is graduate housing on campus. Contact the university's office of housing to get help with finding something that will meet your needs: <http://studentaffairs.case.edu/living/housing/>

11. How many students will be in the matriculating class of 2013?

In the inaugural class matriculating in 2011 year, there were 43 students. In the second class matriculating in 2012, there were 84 students. We expect between 60 and 90 students in the class matriculating in 2013. We will not have more than 90 students in the class.

12. Who are the faculty who will be teaching the Medical Physiology and Translational Physiology courses?

Our philosophy for these courses is to have experts in the lecture content give each lecture. Therefore, a large number of faculty from the CWRU School of Medicine, both inside and outside the Department of Physiology and Biophysics, teach these courses. During the 2011 – 2012 academic year, 51 different faculty members gave lectures in these two courses. We consider this to be a unique and distinguishing feature of our program – that as a student you are able to meet and be taught by so many experts in various areas of physiology.

13. What is the textbook for the required first year courses?

The required textbook for the Medical Physiology I and II and Translational Physiology I and II courses is Boron and Boulpaep's **Medical Physiology** Updated Second Edition. It is available at the CWRU bookstore and online. Amazon.com has it listed for \$108.44 (List price is \$122.00). I recommend that you read the first chapter of each of the ten sections of the book before classes begins. It will help you to appreciate the full scope of the courses. We will begin at Chapter 1 in this textbook and work our way through 1292 pages to the end of Chapter 62. A detailed syllabus will be provided on our course management system (Blackboard) a couple of weeks before classes begin. Through Blackboard you will be able to access for each lecture: the name of the lecturer, the Chapter in the required textbook that will be covered, Learning Objectives, the PowerPoint files for that lecture, streaming video of the lecture, and any supplemental reading material.

14. How do I find more information about the CWRU School of Medicine.

For more information about the School of Medicine, consult Wikipedia:
http://en.wikipedia.org/wiki/Case_Western_Reserve_University_School_of_Medicine

15. How do I find more information about what is going on in the Department of Physiology and Biophysics at CWRU?

For up-to-date information about our department, visit the departmental website at:
<http://physiology.cwr.edu/>