

Florida Atlantic University

A Case Study

Florida Atlantic University's Charles E. Schmidt College of Medicine is one of the newest independent medical schools in the United States, having welcomed its first class of students in 2011. Building off FAU's longstanding history of biomedical research, the school aims to empower its students to become active, self-directed, lifelong learners. The class size is 64 students per year.

"Having high-quality and innovative material that engages, educates, and excites our incoming medical students has been a huge benefit for us in our curriculum."

Sarah Wood

Senior Associate Dean for Medical Education

Why HMX for FAU?

FAU admits a diverse class of medical students, with a significant range of academic backgrounds. In fact, FAU was recently ranked as the 24th most diverse medical school in the United States. The College of Medicine utilizes HMX online resources as one way to "level the playing field" and provide "common ground" to support students before they begin their first year.

"HMX fills an important gap for us because it allows all of our students to come in ready to learn the upper-level science that we are expecting of them," says Sarah Wood, FAU's senior associate dean for medical education. "One of the things I find so exciting about HMX is that not only does it deliver content, but it also does so using cognitive science principles of learning. Our job is to teach the students, but HMX really gets at *how* students learn. That is what makes it so unique."

FAU's Approach

FAU has focused on integrating HMX courses at logical points in its curriculum to deliver the most value to students at different levels. "There are numerous options and logical places in our curriculum where we can insert the courses that really enhance the educational value and make our innovative curriculum even more unique," says Michelle Lizotte-Waniewski, FAU associate professor of integrated medical science and the M1/M2 lead course director for basic sciences.

The school first partnered with Harvard Medical School in 2016 to provide HMX Immunology to its incoming class of 64 medical students. "We had previously identified immunology as a subject with which our students struggled considerably during their first semester of medical school," says Dr. Lizotte-Waniewski. "We're doing everything we can to provide a solid foundation. HMX is the jumping-off point; the faculty members who teach immunology are familiar with the HMX content, and they're picking up where the HMX course ends."

FAU students are required to take the HMX Immunology course during the summer before their first year, with a member of the school's immunology faculty acting as a facilitator answering questions on the course discussion forums. FAU sends messages about the course to students shortly after they are admitted to the university, and the course runs for 10 weeks during the summer. "Before they arrive on campus, our new medical students connect first with each other and with some of our faculty members on the virtual HMX platform. I believe this engagement serves as a good academic ice-breaker and builds confidence as they transition into medical school," says Dr. Wood.

Since 2018, FAU has experimented with offering other HMX courses to rising second-year students, including physiology, pharmacology, and an advanced HMX Pro course on cancer genomics and precision oncology (students also have the option to take a preparatory genetics course as a refresher if desired).

The school relies on both data from HMX and student feedback to gauge whether a course is at the right level; the advanced HMX Pro material has proven especially popular among students and faculty. "The cancer genomics course gives a framework for what is cutting-edge in the field right now, what is being done from bench to bedside. It's an opportunity to engage students' curiosity," says Dr. Lizotte-Waniewski.

onlinelearning.hms.harvard.edu/hmx

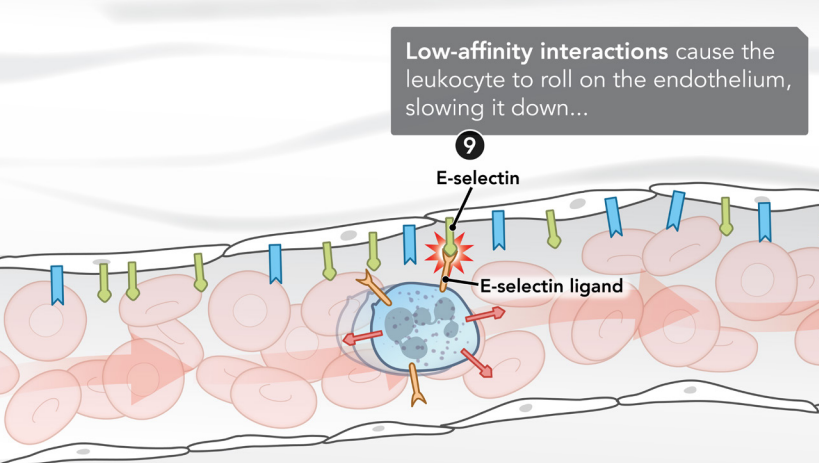


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HMX

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Program Results

Based on matched pre-course and post-course quizzes given to participating FAU students, HMX found significant student learning gains upon course completion. This finding was consistent, regardless of students' prior level of subject matter knowledge. HMX provided FAU leadership with reports outlining learning gains and students' engagement and performance in the courses, in addition to information about how well students felt the courses helped them learn the material.

"With the advent of our adoption of the HMX modules we have seen a marked improvement in how well the students score on the immunology questions on the first basic science assessments," says Dr. Lizotte-Waniewski. "In addition, the genetics and cancer genomics courses provide an opportunity for year two students to refresh their knowledge of genetics as they prepare for the Step 1 exam...The reports from HMX are very helpful; they provide real-time, demonstrable outcomes. To justify the expense of a resource, it is important to have data that shows we are receiving good value for the money."

"Our students reported consistently that the HMX modules took difficult-to-explain concepts and really made them easy to understand," says Dr. Wood. "Even months after they'd done the modules, they could remember the cases vividly and recall the important points they had learned. Whether in [problem-based learning], in small group learning, or in any of the simulation cases, the students would all look back at the cases they had done in HMX and use it as a discussion point...As we threw more challenging coursework at them, they had the foundation so that they could really engage and feel confident in their basic science knowledge."

In addition to the academic impact, the courses have also been useful as a shared experience that brings students together in the virtual environment. "The aspect of HMX as a common language—everyone knows everybody else has done it—is always important, but more important for creating a sense of community at a time when social isolation is a huge issue," says Dr. Lizotte-Waniewski, highlighting one of the additional benefits of the online learning experience during the pandemic.

Student Feedback

"The videos with patient interactions are not only informative with regards to the condition, but demonstrate effective doctor-patient communications."

—
FAU Student

"I enjoyed the animations the best. They really allowed me to visualize the lessons more easily and gave me pictures that I could remember as opposed to facts I might forget."

—
FAU Student

"I thought the course was put together in a way that made a lot more sense to me than just a simple PowerPoint lecture."

—
FAU Student

"The interactive review tied all of the lessons together, and made it easier to understand the big picture."

—
FAU Student

"I previously had little knowledge about immunology because I was unable to take a course for it during undergrad. This class released information at a reasonable pace and used a variety of examples and visual aids to help me learn the material. I feel confident going into future immunology courses."

—
FAU Student