Many students find health careers compelling, but don’t want to give up exploring the broader scope of liberal arts. The unique Health Sciences program at Gettysburg offers courses and advising specific to individual career goals, while giving students experiences in nursing, medicine, biomedical science, physical therapy, exercise physiology, fitness, chiropractic, athletic training, public health, physicians assistant, cardiac rehabilitation, and clinical psychology. And the list goes on.

BY JIM MURPHY
related careers is undoubtedly related to a new “boom” among baby boomers. With boomers reaching retirement age, there has been an explosion in the American health-care industry, which now accounts for more than two trillion dollars in spending each year and employs more than 13 million. And both numbers are expected to nearly double over the next decade as aging Americans need more care.

The trends are certainly clear to Sira Grant ’11, who faced that very dilemma, the perfect solution was to enroll at Gettysburg College. “Medicine is something I’m interested in, but I’m not exactly sure of my choice yet,” she said. “I still want to pursue my passion, which is history. So I chose a more flexible program that includes both history and premed courses. I’m also minoring in Spanish.”

Prof. Kristin Stuempfle, who co-chairs the Department of Health Sciences and serves as health professions adviser and faculty adviser to the Pre-Health Professionals Club. The number of students she advises is growing “by leaps and bounds.” What she finds most interesting is both the overall numbers and the fact that students’ interests extend far beyond the traditional science majors. “We have many students like Sira who are majoring in liberal arts disciplines but who are interested in careers in health care,” she said. Different objectives, different needs

Currently, some 140 students at Gettysburg are majoring in health sciences. In addition, as many as 200 more from a variety of other majors are planning to pursue health-care careers. “The one element these students share is participation in the College’s growing pre-health programs,” Stuempfle said. But these different categories mean that we have students with different career objectives, different course requirements, and different advising needs.” To accommodate the varying needs...

Neuroscience at Gettysburg College

Neuroscience — an interdisciplinary study of the relationship between the brain, the mind, and behavior — isn’t the kind of science program many expect to find at a liberal arts college. But it’s one course of study available to Gettysburg students.

The idea of a neuroscience minor originated several years ago with biology Prof. Peter Fong and psychology Prof. Steve Sivy. “We both attended a workshop sponsored by a professional society called Faculty for Undergraduate Neuroscience, or FUN,” Sivy said. “During that workshop Pete and I sat on a park bench at Oberlin College and sketched out the first draft of what would eventually become our neuroscience minor.”

The program first started with just Fong and Sivy, but in the meantime the College has added two new faculty members to support the neuroscience minor. Prof. Kevin Wilson is a cognitive neuroscienceist in the psychology department, and Prof. Matt Kittelberger is a neurobiologist in the biology department.

“Kevin’s expertise with functional brain imaging has given our students a unique opportunity to work with one of the hottest techniques in neuroscience,” Sivy said. “This also really rounded out the minor and gives us a hands-on course where students can learn the fundamental principles behind how the nervous system works.”

Since its inception, the neuroscience minor has been popular among students. “We generally have about fifteen to twenty minors at any given time,” Sivy said. “Right now we have eighteen, with ten of those biology majors. There are also four psychology majors in the program, as well as three biochemistry and molecular biology majors, one health science major, and one biology–psychology double major.”

To complete the minor, students take four core courses and two electives. Two of the core courses — Introduction to Neurobiology and Animal Behavior — are offered through the biology department, while the other two — Introduction to Brain and Behavior and Cognitive Neuroscience — are offered through the psychology department. “We believe that these four courses give students a strong foundation for understanding how the nervous system works, how it is involved in guiding behavior and cognition, and how natural selection has shaped the nervous system of various species,” Sivy said. “I do believe that students who complete the minor are as well versed in neuroscience as students at any other college or university that has a neuroscience offering. When students also toss in some independent research in one of our labs, I think that prepares them very well for graduate study in neuroscience."

Some of the other schools I considered didn’t have a health sciences major,” she said. “I would have had to major in biology or kinesiology. But here at Gettysburg I get to take cool courses like biomechanics and ergonomics.”

She is particularly concerned that the health sciences major is what sets Gettysburg apart. “Here we have an entire department that is focused on the science of the human body, including courses in kinesiology, nutrition, and different chronic diseases. We now have a tenure-track position in nutrition, and we’re hoping to add a tenure-track public health position, which we see as another growing area of interest for our students.”

Thriving within the liberal arts

The anticipated increase in students interested in health care reflects projections for the coming decade. Recent U.S. Labor Department reports project the creation of an additional 3.6 million jobs in health care, bringing the total to more than 16 million. The government also estimates that by 2026 spending will surpass $4.1 trillion, which nearly double the current level, and comprise 19.6 percent of our gross domestic product.

With growth in the industry, the increase in students interested in health care is almost a given. Each student, however, must find the setting best suited to his or her individual interests. Those who choose Gettysburg agree that their science studies have thrived in a liberal arts atmosphere. They also prefer the “personal touch” here, liking better individual attention to the face-in-the-crowd anonymity at larger universities known for their medical schools and hospitals.

Stephanie Lewis ’09, a health sciences major, especially appreciates the broad focus of a liberal arts education. “A pre-med major at a big college ties you down,” she said. “The liberal arts curriculum exposes you to different...
Health Sciences: Let the “Exergames” begin

Walk into one of Prof. Dan Drury’s integrative physiology labs, and you might think you’ve caught students playing video games. Quite the opposite is true.

Yes, last year video games were at times part of the lab experience, but Drury and two students, Erin Ozdogan ’07 and Erika Hempey ’07, were actually pursuing an independent research project on “exergaming,” a term used to describe the marriage of video games and physical exercise. The three tested and collected data on male, college-age students who played video games while using a device called the ExerStation, which enhances a standard video game controller so that the user has to perform isometric exercises to operate it and play a game. Essentially, the ExerStation requires players to apply pressure in the direction they want an on-screen character to move.

“Preliminary results have shown that people using the ExerStation can burn a substantial amount of calories,” Drury said. “You can pair this product with any gaming unit and make playing video games a physical activity.”

In other research, Drury has focused his efforts on “exercise induced hypoglycemia.” This phenomenon, characterized by a temporary desensitization of one’s ability to sense pain both during and after exercise, has served as a faculty–student project with Craig Borger ’07 and Jon Giordano ’07. Through the research, the two students were able to perform the kind of independent research that—they say—they want to do.

“Most 18-year-olds don’t really know what they want to do with their careers, so by coming to a liberal arts college they have the opportunity to explore a lot of different areas,” she said. “They can take courses in the humanities, the natural sciences, the social sciences and see what’s really a good fit for them.”

At the same time, Stuempfle stressed that Gettysburg students are well prepared for medical school. “I’ve sat with the admission committees at several medical schools, and I’ve learned that they are putting much emphasis on the verbal reasoning section of the medical college admissions test,” she said. “As one medical school director of admissions said to me: ‘We’ll teach them how to be a doctor. That’s what we’re here for. What we want are students who know how to think.’”

Two degree options

The flexibility of the Department of Health Sciences is reflected in the two degrees it offers: bachelor of science (B.S.) and bachelor of arts (B.A.). The B.S. requires a heavier concentration in science courses and points students in the direction of medical or dental school. The B.A. includes courses aimed at students pursuing careers in allied health fields like physical therapy, physician assistant, cardiac rehabilitation, and others.

Both degrees are rigorous. The B.S. requires students to complete an independent research project. Most B.A. majors complete an internship of at least 240 hours of hands-on experience in a student’s chosen field. All interns must keep a daily journal, write a research paper, complete a case study of a patient he or she has worked with, and write a reflective essay on the internship experience and how it affected the student’s career ambitions.

Other science departments also offer internships for students interested in health care, and all the students give their internship experiences high marks. For example, Colleen Stuart ’05, a biology major who has served as president of the Pre-Health Professions Club, raved about her internship last summer with a pediat­rician hand surgeon in her native Denver. Stuart herself wants to become a pediatrician, and her internship helped solidify her determination. “It was great,” she said. “I got to observe three surgeries and observe the routine in the clinic. It really helped me focus my goals.”

The Science Center

The Science Center is the home for the health sciences program, and the building with its research and teaching labs is definitely a determining factor in some students’ decision to attend Gettysburg. Stuart, for example, chose to come to Gettysburg following a visit to the campus while still in high school. “The Science Center was the highlight of my tour,” she said. “Everything was state of the art, and it was all a lot better than any of the other colleges I visited.”

Davis felt the same way. “The building was really a big attraction,” she said. “It has a beautiful anatomy and physiology lab with working models of the various joints, such as knees and ankles, and a full-size human muscle figure. Even a lot of bigger colleges don’t have that. The integrative physiology lab is also the only one of all the other labs are state of the art.”

“Most 18-year-olds don’t really know what they want to do with their careers, so by coming to a liberal arts college they have the opportunity to explore a lot of different areas. They can take courses in the humanities, the natural sciences, the social sciences and see what’s really a good fit for them.”

People who go into premed don’t always know it’s the right thing for them. Pre-health in a liberal arts environment is awesome. You have the freedom to decide what you’re doing is really what you want to do.”

Stuempfle agreed. “Most 18-year-olds don’t really know what they want to do with their careers, so by coming to a liberal arts college they have the opportunity to explore a lot of different areas,” she said. “They can take courses in the humanities, the natural sciences, the social sciences and see what’s really a good fit for them.”

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Yesterday, today, tomorrow