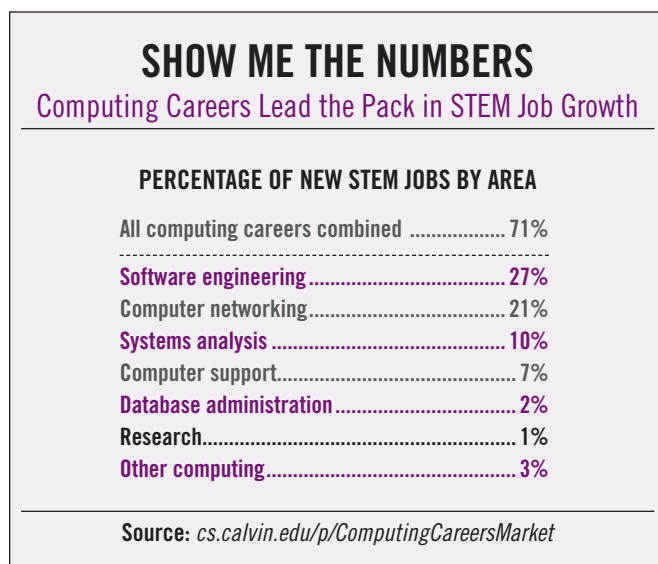


- Game genres
- Stages of game design
- Game worlds & game play
- Usability
 - Principles of good design
 - Up and coming interfaces
 - Usability and video games
- Computer Graphics
 - Raster vs. vector images
 - Intro to 3D graphics
 - 3D games issues
 - Augmented reality
- Artificial Intelligence
 - AI in games
 - Finite state machines
 - Evolution & the uncanny valley

Visit gailcarmichael.com/mini-course/course-content/ for the course notes and activities.



College Connection

Editor’s note: *This dialog with Dr. Patricia Morreale, Coordinator of the Information Technology (IT) program, and Dr. George Chang, Chair of the Computer Science (CS) Department at Kean University, is a continuation of our series of interviews with CSTA institutional members. Please share with your students these details about the CS programs at Kean University.*

Kean University is located outside of New York City and has a combined undergraduate and graduate enrollment of about 15,000. Kean’s Department of CS and Technology offers B.S. degrees in both CS and information technology (IT). The New Jersey Center for Science, Technology and Math Education is located at Kean and offers a 5-year combined B.S./M.S. program in preparation for advanced scientific research or classroom teaching and certification. Kean’s Nathan Weiss Graduate College offers an Ed.D. degree.

CSTA: What draws students to your program and what keeps them there?

Morreale: Kean’s emphasis on undergraduate teaching assures small class sizes, individual faculty attention, and opportunities for research.

CSTA: What skills can students acquire before college that will help them succeed in your program?

Morreale: Mathematics preparation before college is the best predictor of success in CS and IT. Some experience with programming, such as Java, Alice, or C++, is desired but not required.

CSTA: What cool careers are your graduates prepared for?

Chang: Our students work in areas as diverse as developing new mobile phone applications with Verizon Wireless, cyber investigations and computer forensics with the FBI, and 3D systems simulation and testing for Lockheed Martin.

CSTA: What topics will students study?

Chang: Our undergraduates have the opportunity to take courses in networking, security, new media design (including Flash programming and animation), and foundations of IT using HTML and JavaScript.

CSTA: What distinguishes your school and/or program from others?

Morreale: Our class sizes are limited to a maximum of 20 students and there is a computer for each student in the classroom. Students attend lecture classes and then participate in a hands-on laboratory session. This enables students to show the professors their work, as well as work with peers on programming and laboratory projects. Our immersive, supportive teaching environment provides students with wonderful opportunities to learn not only from their professors, but also from their classmates.

Many of our undergraduates select research projects to pursue with a faculty member in their junior and senior years. This opportunity for independent exploration of a topic outside the classroom has resulted in published research papers and national awards for our students. These accomplishments are highly valued by employers and graduate school admissions committees.

CSTA: Tell us a bit about the social environment of the CS program at Kean.

Morreale: The ACM student chapter at Kean is very active. Recent program events have included presentations from industry and government representatives on topics such as career paths, resume development, and summer internships, as well as alumni panels and a gaming contest. Potential students can learn more about this organization at www.kean.edu/~acm. Small classes ensure good friends and support in the CS and IT program. Students often gather in a reserved student area in the department before or after class for camaraderie and fun.

CSTA: What else is happening at Kean?

Chang: Kean’s central location, outside of New York City, has made it a hub of activity for CS, IT, and education. Kean University is the home of Puma, an NSF-funded supercomputer dedicated to undergraduate research and teaching. Each year Kean hosts the CS and Super Computing day-long teacher workshop (www.kean.edu/~cssc). High school and middle school teachers from the region learn about college expectations for their students and opportunities in computing and technology. They also gather information on arranging for classroom speakers from National Center for Women in Technology (www.ncwit.org) or Shodor (www.shodor.org).