

# HAMPDEN- SYDNEY COLLEGE



## Tiger Tracks

Studies and career options for  
Hampden-Sydney students  
interested in a career in the law

*Hampden-Sydney offers  
a robust education that  
motivates students to  
think critically, respond  
to the world persuasively,  
and flourish personally.  
Hampden-Sydney  
graduates employ the  
intellectual competence  
acquired from their  
liberal arts education to  
excel in all areas within  
the legal profession.*

YOU CAN DO ANYTHING  
WITH A DEGREE FROM  
HAMPDEN-SYDNEY COLLEGE

WWW.HSC.EDU

## PREPARING FOR A CAREER IN Engineering

### MINDSET

Engineering can be a largely self-selecting profession. Many may pursue it, but those who succeed inevitably have a few things in common – namely, quantitative proficiency and an ability to solve complex problems. Although engineering professionals oftentimes find themselves working alone on quantitative problems, entire projects are very team oriented. It's important to be able to cooperate with other members of your team and maintain a strong professional network. There are many different specialty fields in engineering, so it is worth the time to explore the discipline fully.

### COURSES

Our Science and Mathematics curriculum will prepare you for opportunity in the engineering sector. Specifically, Physics, Chemistry, Biology, Math, or Computer Science will provide you with foundational skills required for more advanced study. A common pathway from H-SC into engineering is our dual-degree program with the University of Virginia.

The College offers a dual degree program in engineering with the University of Virginia. For more information, visit the academic catalog online at <http://www.hsc.edu/Academics.html>, where you can select the link for Pre-Engineering.

### PROGRAMS AND EXTRACURRICULAR ACTIVITIES

Interested students can engage with engineering by joining the Society for Physics Students, attending frequent talks by recent graduates, and registering for Advanced Labs.

- Society for Physics Students: The Society of Physics Students (SPS) consists of students in all sciences and other fields of study. The main mission behind SPS is to teach its members about leadership, personal interaction, and experience that will help in future work and job opportunities.
- Lecture Series: The Physics and Astronomy department regularly sponsors lectures by distinguished alumni and guests. Visit the College Calendar to learn more, or keep an eye out on campus for event flyers.
- Advanced Labs: These are individual projects in an area of research conducted by a faculty member. These projects are excellent examples of what will be expected of students if they decide to continue their education in graduate school either in engineering or physics. These projects also offer the student the chance to bring together all of the information they have learned in their classes. They are offered every semester as Physics 351 in the fall and Physics 352 in the spring. They offer varying levels of credit depending on the scope of your project, most commonly students take them for 1-3 credit hours. They are typically advertised in the department by faculty primarily to sophomores, but freshmen may be able to participate.

### PREPARATION FOR EMPLOYMENT

In addition to technical knowledge, engineers benefit from the intangible skills that are taught at H-SC. Engineers must write and speak effectively, so that they can descriptively, yet simply communicate their ideas to associates and clients. The H-SC rhetoric program provides a rigorous learning laboratory to develop your oral and written rhetorical skills. The Office of Career Development can assist you with interview preparation, career research, and internship searching. H-SC men have frequently been selected for Research Experience for Undergraduates (REU) programs across the country. H-SC men can also pursue summer research projects through the Honors Program.

### GRADUATE STUDY

If you are pursuing graduate school, it is vital to prepare for the Graduate Record Exam (GRE). The Office of Career Development offers a number of preparation resources, as does the Bortz Library. You can schedule a GRE test date online, and take it at a number of test centers nationwide. The types of graduate programs vary widely in emphasis, and even include some programs like Engineering Management, which might interest students with a passion for engineering and business. It is also vital to determine how pursuing a master's degree or Ph.D will impact your career goals. Beyond graduate school, many engineers also pursue certification through the rigorous Professional Engineer exam.

# HAMPDEN- SYDNEY COLLEGE

Forming good  
men and good citizens

*“Just because  
it’s science  
doesn’t mean  
it’s not  
engineering.  
Engineering is  
applied science.”*

H. O. “TREY” THURMAN III  
Associate Professor  
of Physics & Astronomy,  
Hampden-Sydney College

RECENT ENGINEERING SCHOOLS  
ATTENDED BY OUR GRADUATES



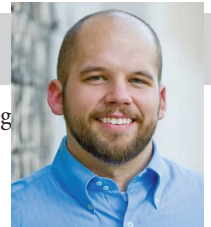
## BIKASH ACHARYA '09

University of Maryland School of Engineering, PhD, Expected Graduation: 2014

Bikash graduated *summa cum laude*, triple-majoring in physics, applied mathematics, and mathematical economics, with honors in physics. He received two mathematics awards in his junior year and physics and math awards in his senior year. Bikash served as the President of the International Club, the Society of Physics students, and was an active brother of Alpha Chi Sigma professional fraternity. At Maryland, he is studying heat transfer and fluid mechanics, researching the application of electro-hydrodynamics for particle separation.

## RYAN NEWCOMB '07

Engineer, BP America



At Hampden-Sydney, Ryan studied physics and applied mathematics, graduating with honors in physics, *magna cum laude*. He did atomic optics research at H-SC and worked on microelectrical mechanical systems at Georgia Institute of Technology. Ryan played rugby, was a brother in Alpha Chi Sigma, was a member of Phi Beta Kappa, Pi Mu Epsilon, Chi Beta Phi, and a Venable Scholar. He completed a thesis in combustion science at UT-Austin and received a M.S. in Mechanical Engineering. At BP America he is an Offshore Operations Engineer in the Gulf of Mexico.



## MATT WELLS '07

StarChaseLLC

Matt graduated with a Bachelor's of Science in physics. He served as vice president of the Society of Physics Students and the Fly-Fishing club. He went on to Old Dominion University where he obtained a Master's in Aerospace Engineering in 2010. His thesis, "An Aerodynamic Analysis of an Urban Magnetic Levitation Vehicle," presented at the American Institute of Aeronautic and Astronautic Aerospace Sciences meeting in January 2010, is under review for publication. At StarChase, Matt develops life-saving technology to assist law enforcement and government agencies at home and abroad.

## JAMES MILLER '05

Doctoral Candidate, Department of Nuclear Engineering, Texas A&M University



James was a *summa cum laude* Phi Beta Kappa Physics major while at Hampden-Sydney, an brother of the Alpha Chi Sigma fraternity, and Society of 1791 member. He also served on the student court, presided over the freshmen dormitories as head resident adviser, welcomed the freshman class as orientation chairman in 2003, and traveled with Beyond the Hill on ten service trips. James' doctoral research, through Texas A&M University at Los Alamos National Laboratory, is developing advanced methodologies for uranium detection in biological matrices for nuclear forensic purposes.



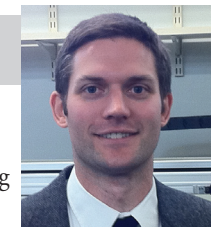
## SCOTT THOMPSON '04

Senior Software Engineer, EOIR Technologies

A brother in Alpha Chi Sigma, a member of the Society of Physics Students and Chi Beta Phi, Scott graduated *magna cum laude* with a degree in physics with honors. As a rising senior, Scott landed an internship in systems engineering. After graduating he went on to develop Bayesian Network algorithms for missile defense. In 2008, he graduated from George Mason University with a Master's in Computational Science, and was recently hired by EOIR Technologies to integrate video algorithms for surveillance and intelligence with cloud computing software.

## PATRICK MARTIN '02

Assistant Professor of Electrical & Computer Engineering, York College



Patrick graduated *summa cum laude* with majors in physics and in applied mathematics. He was president of Alpha Chi Sigma and a member of Phi Beta Kappa and Omicron Delta Kappa. He earned an M.S. in Electrical Engineering at the University of Maryland. Following two years of work in the industry, he returned to school and received his Ph.D. in electrical and computer engineering at Georgia Institute of Technology. He is an assistant professor of electrical and computer engineering at York College of Pennsylvania, teaching courses in circuits, physics, control theory, and robotics.

IF YOU ARE INTERESTED IN FINDING OUT MORE INFORMATION ABOUT THE TIGER TRACK FOR LAW, PLEASE CONTACT MS. LAURA NEIDERT IN THE CAREER DEVELOPMENT OFFICE AT (434) 223-6105 OR VISIT [WWW.HSC.EDU/CAREER-DEVELOPMENT.HTML](http://WWW.HSC.EDU/CAREER-DEVELOPMENT.HTML)