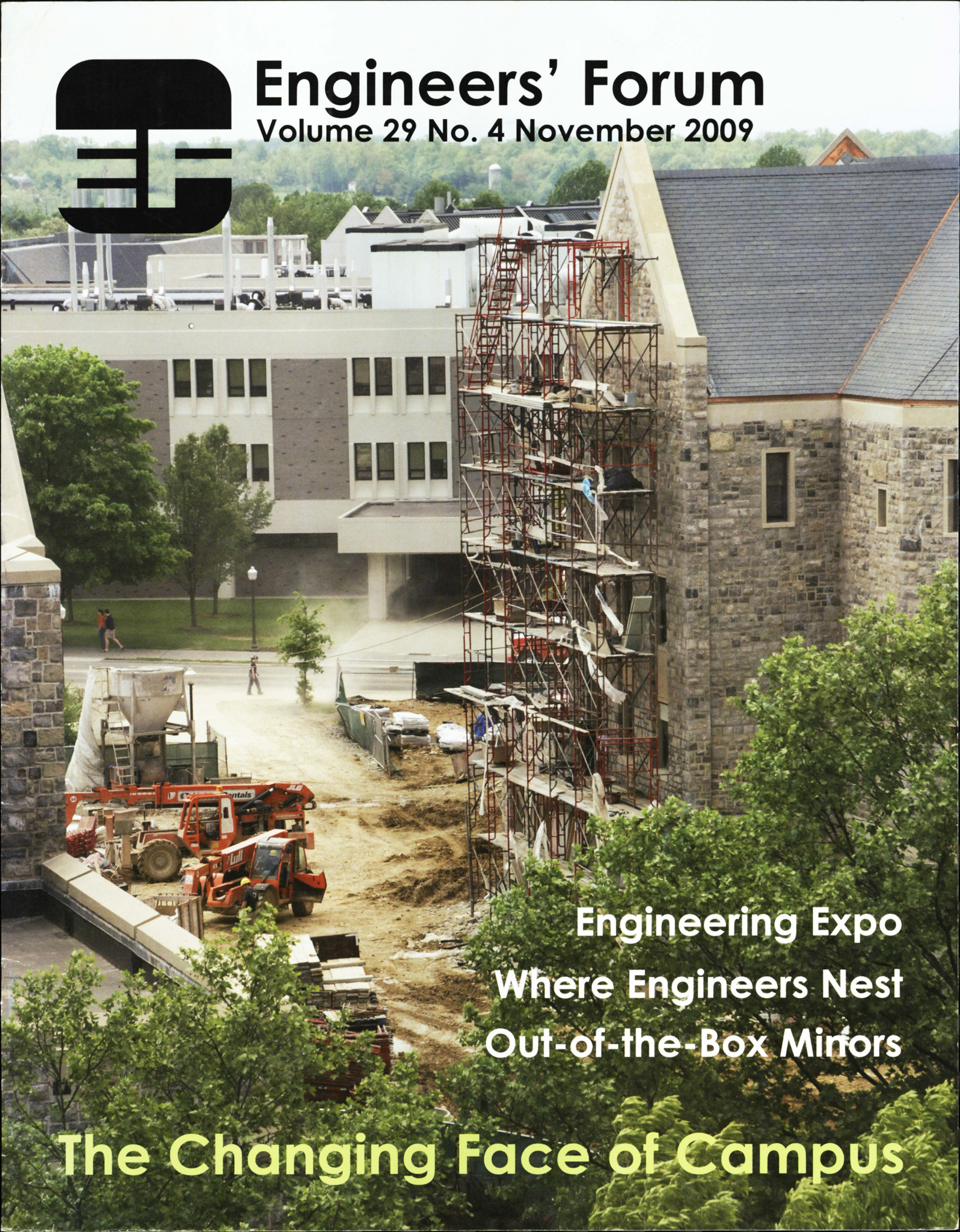
Engineers' Forum

Volume 29 No. 4 November 2009



Engineering Expo

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Out-of-the-Box Minors

The Changing Face of Campus

November 2009
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Robert during a personal weekend excursion in Paris (page 6).

The CEL looks fun, doesn't it? That's not even all of it! (page 10).

The Expo is somewhat crowded in the earlier hours of the day. (page 14).

INSIDE

The Changing Face of Campus

If you walk around campus today, you may see many different construction sites all around you. The campus of Virginia Tech is dynamic, always growing and changing to improve programs and education. According to University Planning Design and Construction Services, over 156.7 million dollars is planned to be spent on new buildings and renovations to old buildings on campus within the next three years. So much change is both staggering and exciting. For those of you still reeling from the addition of New Hall West to campus, here is a guide to what Virginia Tech has finished recently, what Tech is going to finish within the next few years, and the most exciting news of all: Tech's plans for the new "Signature Engineering Building."

Just Finished:

New Hall West. This building is the most conspicuous of the campus's new buildings. The construction on this site, which is between West End and the Student Services building, was completed just before the beginning of this semester. Having been inside New Hall West, I can say that it is absolutely gorgeous. It is outfitted with excellent kitchen appliances, for example, and students that live there can connect to the VT Wireless network from their rooms. The first floor of the building is Student Programs, and the other three floors are dorms. If you get the chance, go check it out.

Henderson Hall. Henderson Hall is the new home of performing arts at Virginia Tech. It stands beside Squires and across from Jimmy John's. You might have noticed the very swanky glass front of the building as you were headed to get your obligatory midnight sub or ToTS fix. The construction created a Black Box theater for the visual and performing arts programs, in addition to renovating the existing section of the building. After a Wikipedia search, I found that a Black Box theater is one where there is a very basic setup to stage plays, so the focus can be on writing and performances rather than more technical elements of the show.

Basketball Practice Facility. That's right, it's finished. The building has two basketball courts, coaches' facilities and locker rooms. I have not been inside of this beauty of a new building, but I am itching to see it soon. We may still be in football season, but I am totally ready for basketball season and I am glad to hear that our players will have an awesome new facility to practice in. The construction of this building led to another bit of sports-related renovation.

Tennis Courts. The new Basketball Practice facility went right on top of where there used to be courts. The tennis courts have been moved to the side of the new Basketball practice facility.

What is to come:

Parking Structure. Probably the most welcome change to students is the construction of a parking structure in the Perry Street lot. The structure will have well over 1000 spaces, and construction has already started. You can see the site when you drive by or walk behind ChemP and Whittemore. One of the coolest things about this structure is that the architecture and engineering firms and the contractor will all be working on the design together for the first time in Tech history, allowing the project to be completed faster than typical projects. The team process is called Design-Build. According to Facilities Services, the project will take 16 to 18 months, so I wouldn't expect the parking structure earlier than Winter or Spring 2011.

Indoor Batting Practice Facility. Construction was started on a practice facility for our baseball players, complete with three batting cages, two throwing lanes, storage and training space. The construction will, for now, only include the concrete base of the facility. The base is projected to be finished this fall.

ICTAS II. Shortly after the completion of ICTAS, the next building was started. ICTAS II will have a lot of research facilities and laboratories, including bionanotechnology, communications, sensor, and biomaterials technology research. It's projected to be finished in the fall of 2010. Unlike ICTAS, this building will be located past Litton-Reeves, near the Bioinformatics building.

Ambler Johnson Hall. I'm sure we've all looked out the window of D2 and seen the construction going on outside. The changes will add air conditioning to AJ and replace some of the other building systems. The project will also be adding a nice entrance to AJ. The project is split into two phases, Phase I being the renovation of East AJ and the connector between East and West, and Phase II being the renovation of West AJ. Phase I of the project is projected to be finished in Fall 2011 and Phase II finished in Fall 2012.

The Best Part:

The best part of the new construction is the Signature Engineering Building. I feel like that name should have epic music behind it. Doesn't it sound good to you? The Signature Engineering Building is now the top new construction priority in the university's capital construction plan. The building will be located right next to the parking structure in the Perry Street lot, mentioned above. The Signature Engineering building will have classrooms, labs, research facilities and departmental offices. On the Signature Engineering Building website, the College of Engineering says that the new facility will have "highly specialized laboratories to support hands-on problem solving and active learning in the engineering disciplines."

Are you excited yet? Engineering finally becoming more hands on for undergrads? Sign me up! This building is being called the "flagship" for the engineering programs here at Tech. This project is still in development, and I have yet to find a solid construction timeline for this new building. Tech is looking into getting 49.5

million dollars from the Commonwealth of Virginia to help with this project. The college itself will raise 49.4 million dollars for this building. Done right, this building could easily become one of the defining landmarks of Virginia Tech. It would be a boon to the Engineering program, and great for Tech itself. I can't tell you how excited I am about the Signature Engineering Building. Of all the construction Tech is going to be doing, I think that this building will easily be one of the most meaningful in the next few years.

Other Construction in the Works:

Some of the other construction projects being considered a little further in the future include: an Infectious Disease Research Facility for the Vet Med program, an addition to McComas to provide more recreation space, a Visitor and Undergraduate Admissions Center, an Academic and Student Affairs building with a dining hall, a Virginia Bioinformatics Institute (VBI) Addition building, a Geosciences Building and Discovery Center for the Department of Geosciences, a Center for the Arts, a Human and Agricultural Biosciences Building, renovating Davidson, expanding West End, renovating Owens, the Myers Lawson School of Construction, and an Agricultural Program Relocation.

The face of the Virginia Tech campus is constantly changing. Every year, Tech strives to innovate and grow its programs. The sheer amount of construction and planning going on at one time is simply out of this world. Altogether, Virginia Tech is keeping up with the pace of the world, and as students here, we would not want it any other way.

Christina Kazmer is a junior in Electrical Engineering. She loves Hokie Stone.

IAESTE: Technical Internships Abroad!

It is fairly common for Virginia Tech engineers to participate in internships with respectable corporations to gain a boost on their résumé. What is decidedly less common is for Hokie engineers to embark on study abroad trips in their chosen field, unless that field happens to be a second major or a minor in a foreign language. But an even more rare breed of engineer in any school nationwide is the one that takes the plunge into a hybrid of both; a technical internship in a country outside of the U.S.

This opportunity presents itself at Tech in the form of the International Association for the Exchange of Students for Technical Experience (IAESTE [pronounced eye-es-tay]).

The organization works like this: any school with technical majors in participating countries may form a chapter of the organization. Each chapter then bases the majority of its activities around "job raising," a predominantly silent and individual endeavor on the part of every willing student member.

At Virginia Tech, job raising involves dividing up a list of every authoritative figure in the technical fields of the university, from an associate professor in the Physics department to the dean of the College of Engineering, and getting in touch with them. One could go about doing this by sending out a mass e-mail to everyone on the list, or perhaps composing a personal message for each and every faculty member. What has proven to work the best; however, is visiting each party on the list in person, briefing them on the concept of IAESTE, and interrogating them on the availability of internships in their department or their research project specifically.

Members of IAESTE usually tend to be busy bees as it is, so the latter method is rarely widely used. Instead, a combination of all three methods, with the most personal being reserved for those faculty members you work with often, usually does the trick.

In turn, every other chapter in the world searches for internships in their area. Come early December, a formal list of jobs is compiled at the national office. Then, student members of IAESTE submit their applications by February. The application includes several personal details (mainly prerequisite passport information), majors/minors and a selection list of which countries you'd prefer to intern in, pretty much unlimited to the 80 participating chapters. If selected, you are then contacted with a list of one or more countries that best match your major and country specifications and are available to you.

Participant Robert Neal working in his lab in London.

The concept is so simple, yet genius, one will wonder why nobody had thought of it sooner. But the history of the organization dates back to its establishment in 1948 in London. Then, a mere two years later, the first United States school to be accepted into the international chapter was none other than the Massachusetts Institute of Technology (MIT). Little has changed about the organization since , apart from more cohesion in integration of chapters. The main concept of an easily accessible and meshed international internship network is still well established.

Sounds too good to be true, doesn't it? And rightly so, for applying for an internship is a quirky process to start with, but doing it abroad makes it that much harder. However, your most predominant doubts can be easily addressed.

For instance, you might say that you always saw your internships held at a major corporation, not a college. Contrary to Virginia Tech, most chapters worldwide aren't confined to small towns with large universities and in fact include internships and jobs with the world's most respected companies.

> "...leadership positions, invaluable work experience abroad, free trips to conferences, enough networking connections to last a lifetime…a free t-shirt…what more could one want? "

Many people also look down on an abroad option because of a fear of living in another country. Psychologically, this arises mainly from a lack of communication abilities (essentially language, but also in cultural customs) that leads to paranoia in both perceiving what others are saying about you and skepticism in whether a miscommunication occurred. Fortunately, many, if not most, internships specify English as an acceptable language. And as far as the cultural/social exposure goes, it may be a little difficult to acclimate to the new environment, but one of the reasons IAESTE exists is for the establishment of such exposure on your résumé, a very valuable asset in an increasingly globalized world. And if you are still petrified of the prospect, each chapter of IAESTE has a Receptions Coordinator that is in charge of meeting you, making sure you have a place to live, getting you in contact with your supervising organization, and making sure you know how to get in touch with someone at the IAESTE chapter.

Another problem is money. While an internship is usually an opportunity to make some money during the summer with a more respectable employer, doing so abroad should be considered a different experience altogether. Without a doubt, anyone considering this program should value both the professional (seeing how your industry functions in another country) and social (meeting lots of friends) experience above the money.

Virginia Tech's own Jane Thibault, a recent graduate in Architecture and an IAESTE intern in Dubai, UAE, commented on her invaluable time abroad,"My IAESTE internship is one of my most valued experiences. I established friendships with colleagues from over 20 countries, and was therefore able to learn about multiple cultures in addition to the culture of my host country.

> While I believe that the potential relationships that can be established are reason enough to be involved with IAESTE, the program is also a great resource of professional experience. During my six week internship I was able to actively participate in both the office and site aspect of my profession."

While the supervising employer rarely provides a housing stipend, the salary you are given ***generally*** covers most living,

housing and transportation costs. Sometimes, you may have to use $100-200 of your own money to make the cut, but all in all, the experience is much cheaper than the usual escapade overseas. And of course it is perfectly legal to pad your salary with airline benefits, by living with a relative or associate in another country, and even by cooking your own food.

Those are the most popular qualms about the actual internship. As far as the application process goes, one may wonder if everyone is automatically accepted into an internship, for example. Of course not! Positions are limited as with a domestic internship, but hold the benefit of judging not just your abilities in the field. Firstly, chapter limits the number of positions; the number of jobs raised by a chapter is roughly the number of internship opportunities given to its student members; 15 jobs raised at VT is an internship offered to 15 of VT's members. You are all lucky; however, to be in the midst of the one of the most successful job raiser chapters in the recent past among those in the United States. Secondly, participation in the organization is tracked by IAESTE United States and ultimately used to choose which student members get the hypothetical 15 internship spots. Participation opportunities include being one of the many job raisers, traveling to the regional and/or national conferences (free of charge), holding an officer position, and, of course, having tenure. Membership and local competition is usually low since students rotate regularly and participation opportunities are thusly plentiful.

And then there is the problem of getting the internship you want in the country you want. Really, this varies from year to year depending on what jobs were able to be raised where. If the results you are given do not satisfy you, you are always free to apply another year. The best decision is to keep an open mind. Jane Thibault, for instance, selected every country available on the list other than those currently at war.

Finally, some minor details: a yearly membership fee of $25 is mandatory for participation and another $50 fee is needed each year you fill out an application for the internship program. Juniors and graduating seniors tend to get most spots, although sophomores are allowed to apply. Freshmen, while not considered experienced enough for an internship, are free to join IAESTE and are encouraged to do so to earn some tenure. Internships can last from as little as 6 weeks to as long as a year. And remember, technical subjects ONLY and ONLY outside the United States!

So, in conclusion, approximately $100 results in leadership positions, invaluable work experience abroad, free trips to conferences, enough networking connections to last a lifetime, free meals at meetings, and (yes!) even a free t-shirt. What more could you want? It is not too late to join. Contact President Gary Riggins at *griggins@vt.edu* or myself at *vvislob@vt.edu* to be put on the listserv and to be given instructions on how to join. Job raising has yet to start and there is still plenty of time until you have to submit applications for an internship and to request to attend the national conference. Visit http://www.iaesteunitedstates.com/ for more details, information about IAESTE's 4-week short programs, and a list of participating nations.

Recent Hokie participant Robert Neal, graduate student in biomedical engineering and sciences, leaves us with his thoughts,"There is little that I can compare to working abroad. It is difficult to describe the many benefits that come from such an adventure, but it provided me with the chance to combine a technical internship where I gained valuable work experience with the cultural and social lessons that come from exploring new lands. I went on my trip not knowing anyone on the same continent and left with lasting friends from all around the world."

Robert attended a research program in London, England.

Valeriy Vislobokov is a junior in Aerospace Engineering and Computer Science

Jane Thibault (right) on site at her architecture internship.

Out-of-the-Box
Minors for Engineers

Who said that engineers only need to study technical subjects? Our majors are hard enough as it is, why shouldn't we get to study some really cool subjects and not appear like complete nerds. Let me tell you a secret: employers look for engineers who have unconventional minors such as history, psychology, classics etc. So here's a list of some minors that are interesting and not too time consuming.

3) RELIGION:

Ever wondered how many religions are actually practiced on this earth? Is VOODOO a religion or just dark magic? The minor in this area involves deep analysis of both monotheistic and polytheistic religions. You will not have to read thick religious texts, but there will be intensive class discussions about god and spirituality. If you want to attempt to solve the mysteries of life and death, and heaven and hell, thean this is your minor.

COLLEGE OFFERING: College of Liberal Arts and Human Sciences

2) History:

Contrary to popular belief history has analysis. There are dates to be memorized, but just like math formulas you need to understand why it happened before you memorize its happening. It is fascinating to observe how civilizations developed and how engineering helped in the process. Engineers should find History of Science and Technology interesting. It is a field of history, which examines how humanity understands the natural world (science) and the ability to manipulate it (technology). and how it has changed over the millennia. This academic discipline also studies the cultural, economic and political impacts of scientific innovation.

Another history of weapons should be of particular interest to the MSE majors.

MINOR OFFERED: History

COLLEGE OFFERING: College of Liberal Arts and Human Sciences

CREDITS REQD.: 18

1) PSYCHOLOGY:

It's not a minor that you normally associate with engineers but surprisingly some engineers take it. After some preliminary required courses interesting courses such as abnormal psychology, clinical psychology and child psychology are available. Instead of analyzing machines and inanimate objects, you analyze your brain.

To graduate with a minor in psychology, a student must:

1) Successfully complete 18 semester hours in psychology

2) Successfully complete these specific courses:

a. PSYC 2004 (Introductory Psychology)

b. PSYC 2094 (Principles of Psychological Research)

3) Successfully complete one (three hour) psychology course at the 4000-level. (PSYC 4964 may not be used to satisfy this requirement.)

COLLEGE OFFERING: College of Science

CREDITS REQD.: 18

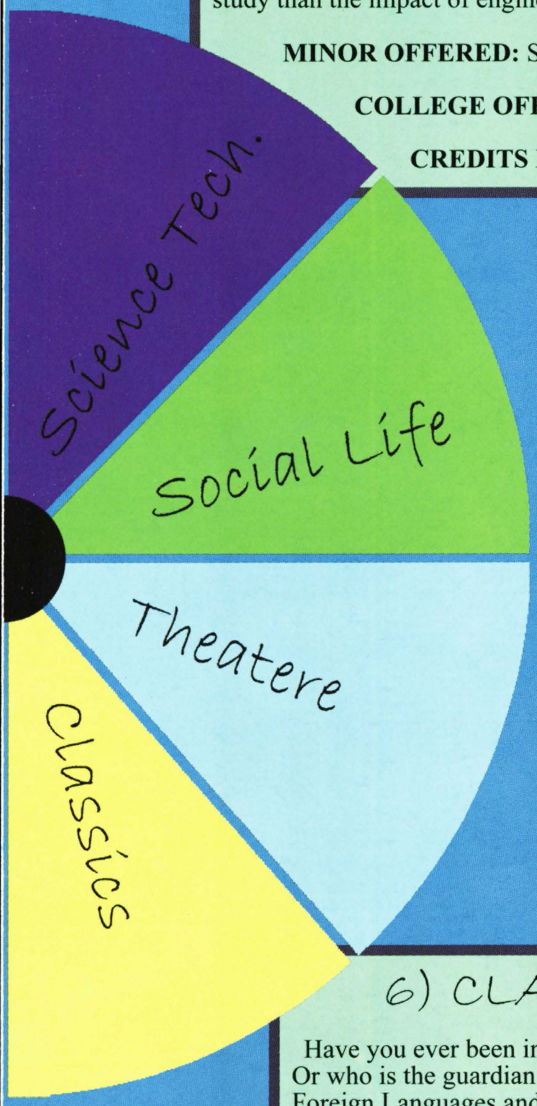
4) SCIENCE TECHNOLOGY AND SOCIETY:

This is another area of interest especially if you are interested in Interdisciplinary Studies. Some of its sub areas include environmental policy, science technology and public policy. This is the study of how social, political and cultural values affect scientific research and technological innovation, and how these in turn affect society, politics, and culture. STS scholars are interested in a variety of problems including the relationships between scientific and technological innovations and society, and the directions and risks of science and technology. Since engineering is defined as the implementation of science and technology to benefit society, what better subject to study than the impact of engineering on society?

MINOR OFFERED: Science, Technology Studies Program

COLLEGE OFFERING: College of Liberal Arts and Human Sciences

CREDITS REQD.: 18



5) THEATRE:

Theatre is probably the most interesting minor. There is technology, drama, costumes, makeup and crowds. The technology aspect deals with design lab and stage and lighting technology. Creativity deals with script analysis, directing and production lab. Engineers pursuing this minor say that they overcame their shyness and could comfortably talk in front of large crowds. It also taught them voice modulation and expressions. These are very important for large presentations. A minor course of study in Theatre & Cinema may be chosen with the guidance of the student's advisor.

DEPT. OFFERING: Department of Theatre & Cinema

CREDITS REQD.: most likely 18(check with the department)

6) CLASSICS/CLASSICAL STUDIES:

Have you ever been interested in Greek/Roman mythology? In knowing how Pegasus was born? Or who is the guardian to the gates of hell? The Classical Studies Program within the Department of Foreign Languages and Literatures offers study of the languages, literatures, art, history and culture of the ancient Greek and Roman World. Classical Studies offers a major in Classical Studies as well as various minors. Classical Studies students have the opportunity to engage in undergraduate research, independent study, outreach, service, and study abroad programs. Classical Studies strongly encourages participation in Study Abroad programs and runs its own programs to Greece and Italy in alternating summers.

DEPT.OFFERING: Dept. of Foreign Languages & Literature

CREDITS REQD.: 18

Sumedha Mohan is a senior in Electrical Engineering and a history minor.

Where Engineers Nest

You hear all day every day as an engineering student that we get no sleep, are overworked, and that there is always something that we need to be doing. I think that's a true enough statement. We cannot usually be found for long periods of time in recreational situations, as there's always that statics homework or that design project that needs to be worked on. Engineers do work, sleep, and sometimes have time to have fun. But usually, we can accomplish two out of three at a time. For example, studying and fun, fun and sleep, and yes, even sleep and work. After all, we all believe in the study power of osmosis, right? The best example of this phenomenon is in the different study lounges for engineering students around campus. Every one is a psychological study into the life of students of different disciplines. Here they are, in alphabetical order.

Industrial and Systems Engineering:

Industrial and Systems engineers can be found in the EE/ISE lounge in Whittemore as well. The interesting thing about this study lounge is that the entire front of it is made of glass. So you can see the professors as they walk by your study area. Either this is really great, when your professor comes in and asks how you're doing, or it could be awful, depending how much you dislike being looked in upon. I personally find it to be a bit of a weird vibe sitting there for people to look at you as they pass. But that has never, ever stopped me from staying in that lounge. The posters on the walls advertise different projects that the students have done, and some of them are almost comical in scope. Of course, anything is comical when you're trying to avoid theoretical statistics.

These are in the Aero lounge. How awesome is that?

Mining and Minerals Engineering:

Mining and minerals engineers can be found in "Holden Basement" too. The basement is room 10 in Holden Hall. While I was trying to get pictures for this article, I went into this room. It has light blue walls and a couch in the center, with computers along the walls and a magazine table filled with engineering publications by the door. I was sad to find that there was not a copy of the *Engineers' Forum* on the table. One note about getting into "Holden Basement:" I found the reason they call it that. The stairs leading down to the study lounge feel very small for their height, as if you were going down into a submarine. It was a cool and almost surreal experience.

Mechanical Engineering:

Mechanical engineers can be found on the first floor of Randolph in room 100L. It has a table, chairs and a rack full of textbooks. Posters cover the walls and computers lurk around the sides of the room. The textbooks are probably the scariest part of the room, but it was truly a toss-up between those books and the boxes full of meticulously written homework for different classes. I can only imagine sitting in the lounge, doing homework and staring fearfully at the boxes, wondering how your current homework is going to look in that box.

Aerospace Engineering:

Aero students can be found on the second floor of Randolph, room 224A. This room is amazing. I would certainly spend my time in there if I could. It has huge propellers, trophies, plaques and a huge whiteboard covering one of the walls. There are couches in the back and tables in the center of the room. According to my AOE friends, there is a golden screw in the study lounge that is of particular significance. If you get a chance, ask your favorite aero engineer what the story is. Ocean engineers can be found in this room as well, which makes sense. Who wouldn't want to be in such an awesome study lounge?

Electrical Engineering:

Electrical engineers can be found in two places on campus. Like their computer engineering counterparts, electrical engineers spend a very large amount of time in the CEL. The CEL is their second home, it is where they can be found on their weeknights (and often on their weekends) and it is where they will get validated for the work they do. But electrical engineers can also be found in the EE/ISE lounge on the second floor of Whittemore. Generally, they are there in between classes, working on homework or talking about different projects. EE's are the renaissance students as far as study lounges go. They can be found in a variety of places, but in most of those places they require a power outlet.

The fortress. A.K.A. the CS Lounge.

Computer Science:

Alright, so CS majors are not technically engineering majors. But I believe they are like brethren to us, and their study lounge is really sweet. The CS lounge is in the first floor of McBryde Hall, and is accessible by Hokie Passport. That's right; you can't get into the CS study lounge by yourself unless you're a CS major or minor. Inside this impenetrable fortress is a sprawling room filled with couches, tables and cubicles where the TA's are. There is a lot of frantic coding going on at any given point in time, but there is a bigger overarching feeling of camaraderie, and overall you feel as though you are not alone in your hatred for, say, WebCAT (an automated system used for students to submit their code to be graded).

Materials Science Engineering:

Materials Science engineers can be found in the "Holden Basement." I am led to believe that this is a magical place below the first floor of Holden Hall. The room has couches, a table and a few computers. The room is very small, and could maybe fit about ten people comfortably. Sources say that the room gets crazy when you start to have classes of forty students all wanting to work in the same space. As a result, some of the overflow of students goes to work in Collegiate Square, where the MSE office is right above the exercise room. Apparently it gets fun when people get to do aerobics downstairs.

Continued on page 12

Continued from page 11

Civil Engineering:

Civil and environmental engineers can be found in 210 Patton Hall. Their lounge boasts a huge trophy case in the corner, with tables and comfy chairs. There were also two armchairs along the wall. The room is shaped like an "L," or at least at a right angle. On one end of the "L" you have the trophy case, which is pretty cool. On the other end of the "L" is the door to the room and a magazine rack mounted on the wall. I am sad to report that the *Engineers' Forum* is not in that magazine rack. What I noticed most about the room was that there is a fan in the window to try to keep the room cool. Everyone in the room was silent when I visited this study lounge, but the atmosphere was rather chill. In a study lounge, that is a wonderful thing.

Chemical Engineering:

Chemical engineers can be found in the ChE lounge on the bottom floor of Randolph, room 145. There is a computer, a few tables and a huge comfy couch in the room. On many different occasions I have gone in the lounge only to realize I needed to be really quiet. There is always someone sleeping on that couch. I have made sleeping on that couch one of my goals to achieve before I graduate. When no one's sleeping (or when students are very quiet), everyone is helping everyone else out, talking about classes and assignments. And when I listen long enough to all the crazy things they do for their classes, who could blame the guy sleeping on the couch?

The best part of the CEL.

Computer Engineering:

Computer engineers can be found in the Computer Engineering Laboratory (CEL), which is 368, 373, and 375 Durham Hall. The acronym CEL strikes dislike, annoyance, or even fear into the hearts of CPE's everywhere. This is not to say that the CEL is completely hateful, it is just not very pleasant to spend time in. The CEL is grey, filled with windows to the other rooms, but no windows to the outside world. When you're in the CEL, the only thing that reminds you of the time is your watch or laptop. CPE's and EE's alike can be found in the CEL at all hours of the day (so long as it's after noon and before 11 pm), coding and wiring furiously, trying to beat deadlines and come out on top. A smell of burnt plastic occasionally fills the air, prompting everyone to check their configurations of chips and wires. A part of the CEL is a set of train tracks used by the embedded systems students and soldering stations used by whomever has the certification and needs to weld things together with molten solder material. All in all, the CEL is a fun place where people go crazy and where CPE's and EE's spend a significant portion of time.

Flippant and irreverent as this article is, I hope that you, like me, appreciate what study lounges do for us as students. They give us a convenient place to do homework together, study together and freak out over classes together. And in the end, that's what matters.

Christina Kazmer is a junior in Electrical Engineering. Most nights, she can be found in the CEL.

Freshmen Engineering Perspective

Virginia Tech is a dynamic campus where everything other than the stellar education changes. The campus is always growing with new construction, new students and new classes. The ever-changing campus life makes no experience at Virginia Tech alike. Every generation experiences a different Virginia Tech and leaves their mark for the incoming group of students. Furthermore, the incoming students have changed; coming in with higher SAT scores and GPAs. According to the VT Factbook, in the last twelve years the average SAT score (out of 2400) has raised 40 points. High school graduates looking to become Tech freshman are facing increasingly higher standards as Tech reaches for high caliber students. As Virginia Tech becomes more competitive, freshmen are required to step up and fill some pretty hefty shoes.

The College of Engineering is no exception to the changing face of Virginia Tech. In 2006, the College of Engineering was the first ever to require theirs students to own tablets.

With the changing campus and students, alumni find Tech unfamiliar. I interviewed Kathleen Bush, who was a freshman in 1987, to get a feel of how much had really changed since she was at Tech. I brought up Pritchard Hall becoming co-ed and she exclaimed, "Pritchard has girls?!? No way, I would never go into Pritchard! Just the smell would keep you out." Before 2009 Pritchard Hall held 1016 male residents all under one roof. Now the co-ed dorm as lost its renowned status as one of the largest single-sex dorms in the United States.

Kathleen Bush was also surprised that freshmen have to enter a lottery to get football tickets. Back in the "old days" Tech football wasn't quite as good and Lane Stadium was hard to fill. Before 1993, Virginia Tech didn't shine in football like it does today. Lane Stadium is now regularly overflowing with enthusiastic crowds. Waves of maroon and orange cheer now rock the once humble stadium.

Now don't start wishing for the days of free football tickets before you consider the "dinosaur age" computers. These 1980 computing relics used by engineering students couldn't take on a single iPod Shuffle today. 128 kilobytes of RAM and the "latest 3.5" floppy drive were big news for computer science geeks in the 80's. However, technology isn't the only huge change on campus.

Not only has life changed for engineering students, but also the challenges of college have altered. The freshman engineering class of 2013 faces many of the academic and social challenges that college presents. They have to pass ENGE 1024, prevent roommate wars, keep up with parents back home and heal sore throats after football games. The relatively new Galileo/ Hypatia engineering themed housing requires students to take more classes than usual. They are required to begin making plans for their entire college careers as well as visiting the SEC's Engineering Expo to seek internships and co-ops. These are new requirements to engineering freshmen.

Not only has engineering changed in the last two decades, but differences in the freshmen year of engineering can been seen in the last couple years as well. A fourth year RA from the Galileo engineering themed-housing commented on how things have changed; "Virginia Tech has changed so much since I've been here and you as freshmen will continue to see changes while you're here," says Stephan. "The opportunities for freshman engineers, like internships and study abroad are always growing."

Not only are there more job opportunities for young engineers, but also new engineering minors like fire protection. Fire protection is focused on building structures that prevent fire from spreading throughout the building. Fire protection engineers also get to explore fireproof materials for fire fighter suits and gear. All these new opportunities will be opening up soon as the demand for fire protection engineers rises.Additionally, the College of Engineering has grown along with the rest of campus and engineering freshman life has recently been subject to a whirlwind of changes. As of 2009, Virginia Tech offers a geospatial graduate degree. The Department of Materials Engineering has also grown recently and is now offering a once-in-a-lifetime opportunity to study abroad in Darmstadt, Germany. To sum up, Virginia Tech will continue to offer a new and exciting experience for freshmen engineers. Opportunities are always expanding for new students as they strive for success on campus. I have no doubt that Virginia Tech offers one of the healthiest and most successful environments for young engineering students.

Allan Kirchhoff is a freshman in General Engineering.

EXTRA

Engineering Expo 2009 brings the alumni back!

EXTRA

This year, as with every year, multitudes of company representatives gather on the various stages of Squires Student Center to present their job offerings to our engineering populace. These individuals come with dreams in their pockets and hope in their words as they articulate as best they can why your future lies with their particular business.

And we ourselves have our role, waddling around in our starched shirts and dress pants, trying frantically to recall everything our mothers taught us about manners and wondering why in the world we didn't practice our speaking voice before coming.

But there is another side to this whole social experiment that has been a Hokie engineering tradition since 1977. When companies send out their representatives to a certain school, they do their best to scrounge out those folks that would better connect with the students, putting the student at ease and giving the company a better perspective as to which candidates are best suited for the job.

Who are these people you may ask? Why, our very own alumni, of course!

Some stand at the Expo for the very first time, not having visited the engineering job fair back when they were students here, while others have lost count of how many times they were both perusing the walkways of booths in search of employment and, later, standing behind the booths themselves.

The thoughts of those in this latter group are unique to both students and recruiters alike, as they have the Hokie perspective from both sides of the equation. How does it feel?

"Surreal. Everyone looks a lot younger than I remember. Plus the campus has changed a lot. All the new buildings I find a bit surprising in a new way," says Emily Hale, recruiter with Naval Sea Systems Comand (NAVSEA), class of 2002.

In this aspect, everyone professed their excitement to be back, while acknowledging that the campus has changed drastically. With the constant construction, it's not surprising for even graduates as recent as last year to notice new buildings and renovations. But the most noticeable changes were found to be in the students. Larry Wallace with General Electric, class of `96: "It's exciting to see the students… They're a lot more prepared than I was."

Meanwhile, Jim Young (Newmont Mining, 2006) comments, "I think there's a lot more going on in terms of career services, in how [the students] present themselves than when I was here. A lot of them know how to put together a résumé and how to do an interview."

But good suits and confident attitudes aren't the only assets that the alumni said Hokies had. Each interviewee was questioned on the difference between a VT engineer and one from another school and, while the question was professed to be a difficult one, responses were similar.

> "[Hokies] are technically savvy, they have a good background and life experiences that help them stand out from other graduates."
> –Ron Knobler

The most unanimous answer gravitated around the Tech engineers' well roundedness. Jared Cooper, an ME with Barron Associates, says it is multifaceted, confessing, "on an undergraduate level, they come out with a great theoretical background as well as great writing skills. But they also have a lot of good hands-on knowledge. I think that the hands-on classes, labs, and research [projects] are very beneficial. As well as the writing courses, which I don't know anyone appreciates those while they're in school, but in my business, we write all the time."

Hale, on the other hand, is more fascinated with the logical personalities of VT graduates:

> "I find Tech Engineers to be very analytical in the way they approach problems. They are very well trained in that way. They have very strong math backgrounds, and that helps them approach a lot of problems both on the job and off the job in a very comprehensive way."

Some individuals, like Ian McLean with Microsoft who graduated a mere 9 months ago, stated that the well-formed qualities resonated from the source.

> "In [Virginia Tech] Computer Science, professors take a genuine interest in you, and they make you go above and beyond

Employers and students looking for potential at the Engineering Expo.

what is required. I've worked with several people who went in, got their degree, got out, and got a job. Here, there's a lot more professor interaction and you really participate in that. That's what makes the program here very successful."

Others, on the other hand, said that VT students were better known for their sense of spirit. Larry Wallace, for instance, mentioned that there was a lot of camaraderie among Hokies, while Jim Young, extended this thought to his own mining engineering major. VT has the best, although one of the only, Mining Engineering programs in the nation, and the members of this group partake in an almost military academy-like brotherhood, providing networking connections and support for each other. He said, "There's a sense of community in the mining group itself."

> "It's exciting to see the students, to see what the college is doing, and the interest around the engineering community." –Larry Wallace

When asked about the Expo in particular, alumni ruminated that very little had changed. Recruitment veterans noted that size differed from year to year, sometimes going as far as to occupy Owens Hall as well as the rooms in Squires, while other years, empty booths couldn't help but be noticed. Steven Roe (ISE@MITRE, 2003) offers an interesting point: "What affected the size of the expo was the fallout of the US economy in general. There were a lot of empty booths, especially last year."

And yet, the Expo is still alive and well. It's still crowded, still hot, and still a collection of great companies looking for great employees.

Rob Knobler, CpE with McQ, Inc., class of 2001: "I've been to lots of different schools recruiting and Virginia Tech seems to have one of the best [job fairs] in terms of having an expo, having a great turnout of companies, and having a lot of opportunities out there."

Finally, the former Hokies offered their advice on post-Expo activities. Although company protocol varies in this respect, with timelines, methods of response, and frequency being different, all agreed that after talking to a company, you should definitely get in touch with the recruiter. Jared Cooper:

> "Follow up. If a company or rep asks them to send you a paper or a referral, send that to them. Think about what sets the company apart and really highlight those features when you're talking to them. You don't want to call five times a day. If someone says they're going get back to you, then make sure they get back to you."

So five times a day may be a little much. But what is an appropriate amount of badgering to give the HR department? Again, the response varied depending on company size, but the magic number seemed to be two weeks. Two weeks and you should definitely expect a response. Calling 2-3 times during that period should be enough, as long as you're not demanding a decision. First time should be a courtesy call, making sure your information was received and offering a word of thanks for the representative's time. A second call would be okay a little bit later to find out how the selection process is going. If the company doesn't get back to you on their own in two weeks, a third call would be fitting.

Knobler offers more general advice: "What [students] should do is go home and look through the materials they were given, and go through, pick two to three companies they were really interested in and contact those companies as soon as possible so that they sort of stand out in the recruiter's or manager's eyes."

Remember, corporations know that they're competing for you just the same as you're competing for them, so speed is expected on their part. It's best to go with the flow and using a company's responses to telephone calls or e-mails to judge

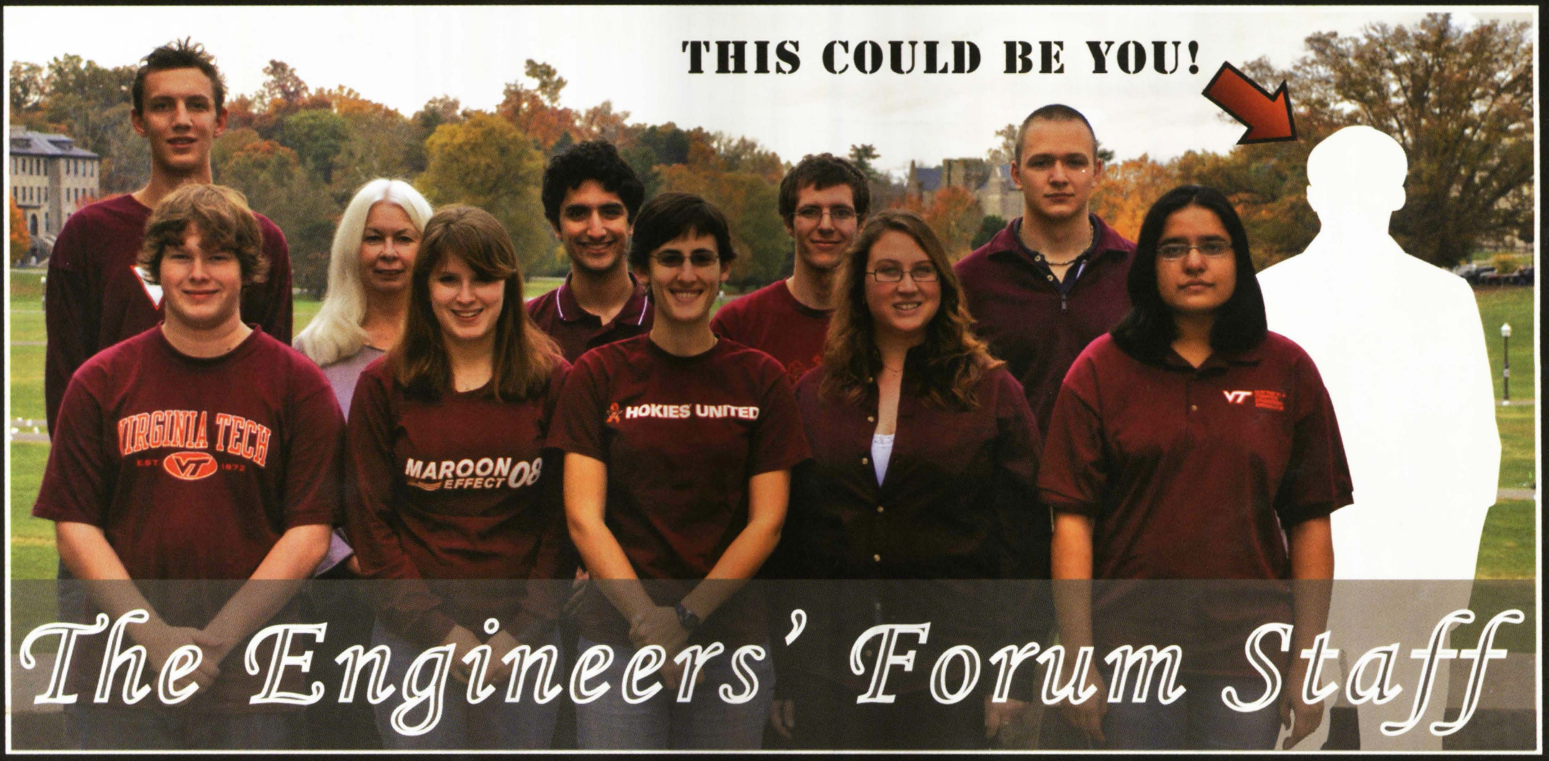
The Engineering Expo is an exciting time for students and employers alike.

when an appropriate time to contact them again would be.

And it's just as important to know when to cut your losses as well. Two to three months without a result is generally a good sign to give up and, if you're really interested in a position, to try again with them in the spring.

Without a doubt, the Expo was a wonderful experience, even if you weren't looking for a job. Conversational experience, embellished with freebies, made it an excellent way to expand your future. And, if nothing else, talking with the alumni set in stone the value of attending both the Expo and our school as well. It's an exciting time to be entering the job market with career opportunities abound and the expertise being a Virginia Tech engineer gives us.

Valeriy Vislobokov is a junior in Aerospace Engineering and Computer Science



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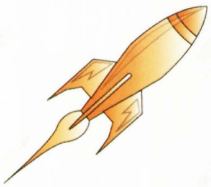

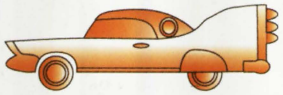
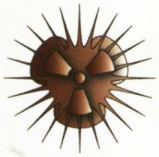


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