The frustrating monopoly on registration

Every year, incoming freshmen battle their way through low-priority time tickets, prerequisites and overloads in an effort to secure that perfect schedule that allows for core classes, a cool humanity and a starting time after 10 p.m.

Although online registration and time-ticketing make course registration easier, actually obtaining those classes needed to satisfy graduation requirements, in a schedule that is convenient, is virtually impossible for freshmen and sophomore students. Many students have to wait until senior year before they have enough seniority to secure a space in a humanities course.

By Robert Hill / STUDENT PUBLICATIONS

FOCUS
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Green Day authentically

Voluntary-based Green Day returns their greatest hits album for their angst-ridden fans. Check out the review for "International Superhits" in Entertainment. Page 19

A record-breaking start

The Georgia Tech Women’s Swimming and Diving Team already has three wins in its first season in existence. How did Head Coach Seth Baron attract the talent? Page 29

When good DNA goes bad

By Benjamin A. Small

This week's victim is professor Gary Schuster, a contributor to the School of Chemistry and Biochemistry. Professor Schuster works in the highly competitive field of DNA research, focusing on how DNA becomes damaged, which often leads to diseases like cancer. We interviewed him about his research and asked he, why he hasn’t cured cancer yet.

You’ve heard of DNA, right? You probably actually learned about it in high school biology or from Jurassic Park. It is the chemical that contains all of the information necessary to make a person (or a dinosaur). Sounds like a lot of information, doesn’t it? So how does a tiny little molecule store all of that data?

Well, imagine a ladder twisted into a spiral like a piece of rotini pasta (or course, rubber ladder’s aren’t very useful, so you have to stick with just imagining that). This is what DNA looks like—though it’s somewhat smaller.

The sides of the ladder are made up of sugars (deoxyribose), joined together by phosphate groups (don’t worry about the details). The rungs (like on any ladder) are the part really caring about—a piece of DNA is made up of “bases”—the structures that actually hold the data.

The pattern into which the bases are arranged holds coded information for building a paramecium or a lungfish or a Dian Quayle, for example. We have four different bases to choose from—adenine, thymine, cytosine, and guanine—each of which will only pair with one other—Adenine (A) with Thymine (T), Cytosine (C) with Guanine (G).

But enough with the crash course in genetics. If we know all this about DNA, then why does professor Schuster still get funding? Well, unfortunately, DNA tends to develop errors.

Most of these wind up being harmless, but occasionally something important gets broken, like the part that tells Cells to stop replicating—which this would be cancer develops. Scientists have determined that over half of the errors, that cause cancers may be initiated by something else is simply a junk-dna sequence—junk placed electron.

Working with professor Uzi Landman, his School of Physics and his sophisticated computer simulations, professor Schuster and his group are trying to figure out why.

So this is how the process works. DNA can be oxidized by UV light or by the normal process of life, in either case it loses an electron, and the vacancy creates a “hole” runs amuck along the molecule. See, in the giant sea of electrons, a hole is an available and behaves kind of like an oppositely charged particle, and this can be bad.

Electrons are everywhere, so we’re not too surprised when one gets lost, however, molecules called “antioxidants” normally fill these vacancies immediately. By now, you’re probably sick of hearing commercials that advertise food, vitamins, dietary supplements, and whatever else containing antioxidants. Vitamin E, and beta-carotene are all antioxidants, and they may help

See DNA, page 15

By Shantan Parwar

Permit required. Time conflict. Link error. If you’re new to Tech’s online registration process, then these error messages may surprise you. Registering online can be difficult at times, especially for freshmen with late time tickets. Often, students can’t get into required courses; finding an open spot in a humanities, language or social science course is virtually impossible.

As with computer related processes, there are times when the user cannot make things work the way they want. OSCAR can be tricky, but with a little preparation and a basic understanding of the way the system works will allow students to have a more successful registration.

The registration process at Tech starts out with the distribution of time tickets. These tickets, which are based on earned credit hours, tell the student when they can start registering. This can be especially frustrating for freshmen, especially those without AP transfer credit, because they have later time tickets than upperclassmen. Early time tickets are necessary for graduating students to ensure they can register for required courses.

Debbie Williamson, Associate Registrar, oversees much of the registration process. “The most equitable way we know to do time tickets is to simply do it based on earned hours,” Williamson said. “Everybody can’t be first,” she added.

One of the most common problems among new users to OSCAR is interpreting error messages. “Permit required” is a common error message that means the course is restricted. Students should talk to the individual academic department for the class in which the error occurs to resolve this problem.

Another common error is “Link error.” This error really has two meanings. The first meaning is that the course selected has a lab and a lecture that have to be selected at the same time before clicking sub-

No home for the holidays?

By Jill Adams

Due to the large population of local students, Tech campus is notorious for being a ghost town on holidays. International students, however, must decide whether spend the time and money to go home or to stick around on campus and work around the absence of both people and campus dining.

In general, the choice isn’t too difficult for students to make. “If I’m going home to Canada...my parents are getting festive as I missed Canadian Thanksgiving, so there will be lots of turkey and stuffing waiting when I get home,” Babak Banijamali, Computer Engineering major, said.

“For Thanksgiving, many just sit around here as if it were just a long weekend. Someone offers from students who live in the area to go home with them over Thanksgiving and a few go to a church sponsored Thanksgiving event,” Computer Science major, Omar Delara, said. Also enthusiastic about the choice to relax, many students take the opportunity to catch up on sleep. Others just look forward to the after-Thanksgiving early-bird specials in stores.

Even though all on-campus dining facilities close during the four-day weekend, several of the students that stay on campus support Georgia Tech’s decision. Yet these facilities close for a reason—usually there simply is not enough demand over the holidays and its not worth the overhead to keep the doors open over the break.

“Given the choice between a cold and uncraving slice of greasy, dry turkey and some hearthealthy Stoveup brand stuffing or spending Thanksgiving the way I did my freshman year (with a scant half dozen of us standing around in the dorm’s communal kitchen eating a rotisserie chicken and canned cranberry sauce), I’ll take the latter,” Undeclared School of Engineering major, Andy Martin, said.

Still, other members of the Tech community expressed the true meaning of the season—all thanksfulness.
crooked morning
email: focus@technique.gatech.edu
Last week’s Tech Up Close:
Light at the campanile

Last week’s Winner: Jonathan Mitchell
The trials of making ends meet for education

By Kimberly Reick
Contributing Writer

After college, many people decide to delay their entry into the work force by continuing their education. When the economy is rocky, more and more students choose this path. The only problem is that many of these individuals have just finished financing their undergraduate degree. Tuition for undergraduate students can range anywhere from $60,000 to $120,000 for a four year degree.

For graduate school at Georgia Tech, the estimated cost for residents is $12,278 and $21,748 for non residents. So what options are available to graduate students to make attending graduate school cost effective and manageable?

Most graduate students at Georgia Tech are able to finance their education through a variety of means: graduate teaching assistantships, research assistantships, internal fellowships offered by government agencies, private foundations or professional organizations, and graduate co-op programs.

"Most of the funding for graduate students comes through assistantships," said Keith Oden, Director of the Graduate-Co-op and Fellowship Office. Oden estimates that roughly 60 percent of graduate students have assistantships. Assistantships are in the form of either research or teaching. Oden said that salaries range anywhere from $900-$1,500, and students generally work part-time around 13 hours a week. In addition, TAs and research assistants may receive exemption from tuition or pay a reduced amount.

The amount of time and duties vary from person to person. "I'm taking three classes, and then I have to teach two classes, and then I'm in the lab sometimes doing research" said Christy Charlton, a Chemistry graduate student. Neil Pennington, also a Chemistry graduate student, divides his time between a teaching assistantship and a research assistantship. Other students strictly do research or teaching. Eray Uzgoren, an Aerospace Engineering graduate student, focuses mainly on research.

"As an International student, I'm not allowed to work outside campus, and also I have to get familiar with the classes or courses, so I don't have to happen to have extra time," said Zhuanghao Yang, a Computer Science graduate student.

Another option for graduate students is the co-op program. Georgia Tech's cooperative program is the largest program in the U.S. for science and engineering. There are over 800 business, government, and industrial organizations that Georgia Tech has relationships with. "For co-ops, our typical students have salaries ranging anywhere from $12-$25 an hour," said Oden. In addition, Oden said that there are an annual enrollment of about 450 students, and most of the students co-op during the summer term.

Fellowships are financial grants that a person receives from a government agency, business or foundation. In order to qualify for a fellowship, a person may have to be nominated by their department and has to apply. Generally, the fellowships are very competitive and require high scores on the GRE and a high GPA.

Georgia Tech is ranked highly in many graduate degree programs, so it is a popular choice for graduate students. However, the Institute is located in a city that has a high cost of living. Students have a few options. One option is to pay to live in the Graduate Living Center. Many students prefer to live off campus because it can be cheaper, and privacy is better. Mehmet Kurtas, a graduate research assistant in the Aerospace Engineering field, said he prefers to live off campus because he does not like to pay for maintenance which helps a lot. Other times, students decide to live off campus even though their rent is higher.

One problem with living off campus is that there is an additional cost of transportation to and from school and work. Car payments and car insurance can take up a large portion of the salary that students receive. International students have to pay higher rates due to the fact that they are considered to be a higher risk for insurance companies. Kiratas and Uzgoren are from Turkey, and therefore, have to pay more for their car insurance payments. Some international students are able to room in the GLC or have a roommate with a car. Yang, who is from China, lives in Marietta, and says that his roommate has a car, and takes him to campus everyday and picks him up afterwards. Other students have other ways to cover the high costs of owning a vehicle. "My parents pay for my car payments which helps a lot. Otherwise, it would probably be tight. It depends on what kind of car, insurance, apartment. I know people who live a little further out of the city and they pay a lot less. I'd be a trade-off, I'd have to get a cheaper car and live a little further out of the city," said Charlton.

For married students, graduate school can be a difficult thing to balance with the additional expenses of supporting a family. Pennington said that his wife works a full time job, and with the second income, his family is able to manage. Other graduate students find themselves having to ask their advisor for permission to work a second job, so they have to budget their money very frugally.

After all the car payments and apartment bills have been paid, is there money left over for luxuries such as concerts and sporting events? The answer is some, but not much, depending on how each person chooses to budget their money. "Besides the grant and groceries, I have maybe some money but not too much," said Yang.

Kurtas said that he has to think about other means of money. "Sometimes parents, friends, credit cards." Many graduate students do not have the time to go out or due to the large number of hours that jobs and school require.

For more information on fellowships, research assistantships, teaching assistantships, and the co-op program, check out grad.gatech.edu.

DNA

reduce the risk of cancer.

In contrast to these are other molecules called "antioxidants," they tend to remove electrons, causing holes to be formed, which, as we've said, can be bad.

When an antioxidant gets past these antioxidants (possibly because the latter are occupied with free radicals), it oxidizes a DNA molecule, the resulting hole runs up and down the chain, creating a gap in the backbone of the base pairs. A favorite target is the G base; when it loses an electron, G turns into 8-oxoguanine.

Your body can fix this, but if the DNA chain is read before the error is repaired, in the G methylated, a T base pair will be inserted. Since DNA is negatively charged overall (due to all the phosphates), positive sodium ions float around in solution near the DNA.

Because sodium ions can move freely through the solution, the holes can move pretty easily as well, traveling fairly long distances down the DNA molecule. This mechanism is how the DNA can be damaged far from where the hole was initially created.

Professor Schuster has invented some fairly clever ways of testing all these theories. Researchers can attach a particular light-sensitive chemical to the DNA that removes an electron when it's excited by ultraviolet light. They can then analyze the DNA to determine the extent of the damage caused by the electron loss and determine how far it traveled. So far, the theory and the experiments seem to match pretty close.

This theory concerning electron transport may help to explain an otherwise unexplainable phenomenon. "Why is it so much of the molecule not used for generic information?" Professor Schuster conjectures that certain non-genetic sites are used as decoys to attract and trap the holes that would otherwise go on to damage genetically important base sequences.

He calls this the "Jupiter Effect"—analogous to how Jupiter's gravity snags some of the galactic debris that would otherwise pummel the Earth, these large areas of useless DNA could serve the purpose of taking away from oxidants and minimize the destruction to important base sequences. Overall, this research will certainly help us to understand the most important biological chemical and how cancerous genes may develop. It's a really great field with which to be involved, and we're honored to have this kind of research at Tech.
It’s popular to rail from time to time that rock’s roll is dead and forgotten. And through-out the past few years, disheartened fans of heavier music were clamoring to beat nails into the coffin of rock music. I mean, if the Backstreet Boys and N'Sync can push two million albums in a single day, while the Smashing Pumpkins (the “n” band of 1996) can release a farewell album, tour and provide an internet-only free record in virtual obscu- rity, it’s fairly obvious that electric guitars are no longer paying the bills.

But in the past year, there’s been a surface level revival of rock music. Suddenly there’s a lot of shouting and guitars and arenas full of fist pumping boys draped in black t-shirts. The bands of this new category can be de-scribed as rock, but like grunge and metal groups before, something in their sound and look separates them. It’s been called rage-rock, rap-rock, rap-metal and countless other labels. Regardless of the name, its given record labels a new trend to push and teenagers a new standard of cool.

Slightly more mature listeners, such as college students, still have broader tastes and remain harder to impress. They don’t seem to be buying into the return of rock. Brad Kramer, described the apathy of college rock fans, “I think they’ve kind of killed the concept of it, like with hair bands before. I don’t really approve of what they do now. I think people now don’t have any mentors.”

Students seem to find something in the new sound that rings insincere. Despite young adults’ hesitation, the sound is catching on with the under-eighteen crowd. But unlike the apparent logic of the boy-band marketing blitz (teenage girls buy in bulk), no one seems sure of the motivation behind record compa-nies pushing a small army of new rock bands.

Over the course of the 1990s, every music critic and analyst could see the music indus-try moving to the lighter side, but no one expected the comprehensiveness of it. In the fifty year history of popular music on radio and television, no other trend from grunge to the original incep-tion of rock n’ roll, has enjoyed as much support from fans, record labels or commer-cial industries as the pop music of the late

1990s.

Every other song was a jingle, each singer a spokesperson. There were movie tie-ins and fast food tie-ins and special TV guest appear-ances. Top forty radio stations and music television channels were playing almost ex-clusively light, dance-based music. This was the movement everyone could be in on. This was the all inclusive, mass-marketed dream that would leave the entertainment industry flooded with cash and the general public ire-vocally hip.

But at some point public opinion shifted. The wave of pop-music didn’t crest or crash, it plateaued. Most of the boy dance troupes and blonde models that made money in 1998 are still making money today, but the growth isn’t exponential. Album sales aren’t limit-less. N’Sync’s most recent recording failed to beat the opening day sales record their last album set (2.1 million copies) and was viewed by reporters, promoters and distributors as a failure.

And so, record distributors and music pro-ducers clamored to figure out the next big thing, before the last big thing, was over. And hence, the most amazing piece of counter programming unfolded.

MTV is home to music industry’s mar-keting free-for-all. Total Request Live (TRL). The daily video countdown is so crammed with movie plugs and album hype it can’t even show entire videos. Think of it as a new age pope. If TRL blesses your band with some face time or allows a guest appearance by an actor in your movie, you’re guaranteed exposure to a huge selection of teenage con-sumers. However, to fall out of favor with the show is to live and die in obscurity.

Record companies use the show not only to gage what is successful, but also what will be successful. When the pubescent masses were demanding boy bands and young divas, MTV was fed a steady stream of them. As their sales slacked off in the past sixteen months, it made sense to reexamine what was popular on the show.

Even in the 1998 heyday of dance pop, there was one consistent, steady-selling ex-ception in TRL rotation: Interscope record’s, Limp Bizkit. The band appeared on the same shows with the same frequency as the Back-street Boys, but with more offensive lyrics, a bigger wardrobe and a sound that owed more to rap than rock. The band was able to distance itself from the flagging sales of boy bands and carve out a niche of their own.

In 1999 and 2000, the first signs of record company support for younger, angrier bands began to appear. Viacom, Universal, which holds a 22 percent share of the music market, was already succeeding with Limp Bizkit on its Interscope label. As with grunge, hip-hop and boy bands before, major music labels moved to push their own bands in the new rock market. Dream Works brought in Papa Roach, while Warner Brothers tried to swap the genre at its inception, signing Linkin Park, P.O.D., Disturbed and Staind.

In a few short months, record companies manic dash to cash in on the rock scene created an insta-genre with more bands than it knew what to do with. A majority of college students are keeping their distance. “I don’t think they’re musicians. I have absolutely no respect for them,” said Gary Brown. “I hate that music has gone in a turn towards more of a business, kind of a ‘I just want to make money rather than a I want to make music because I want to get my emotions out.’”

Even the most optimistic music fans, like Allen Morrison, struggle to find the positive in new rock, “I’d say probably half have something to say.”

Much of the bitterness may come from the sense that rock music is something worthwhile that’s lost its way. Whereas four-man singing groups haven’t meant much since the heyday of Motown, rock has always been seen as at least having the possibility of being about something deeper. While 1980s metal bands revealed in songs admittedly devoted to a shallow, decadent life-style, bands of the new millennium can’t stop talking about how much their every word is dragged from a place of infinite pain and suffering. In a three year span the music video ideal has gone from a graceful model with Christian values to a bald guy with piercings and a troubled child-hood. Before, you couldn’t watch a fast food commercial without hearing a Britney Spears single, and now you can’t see an episode of the WWF without listening to a Body Count song twenty times.

Ostensibly we are being given what so many asked for, a relief from bubblegum singies. The sound of radio and music televi-sion has changed, or at least balanced. But underneath the noise and the insistence that each note is a traumatized battle cry, there seems to be something hollow, and it’s enough to make you wish rock n’ roll really was dead.
Suspects in the Murder of Rock N' Roll

Name: Time Warner
Owns: AOL, Time Warner

Opportunity: Warner Brothers' music owns a vast array of old and new artists through its fifteen sub-labels (Tori Amos, Linkin Park, Alice Cooper, Built to Spill, etc.) This gives it direct access to what music is being signed and produced. AOL, of the other investments AOL-Time Warner owns allows it to create media blitz by itself. A WB artist can have a video played at the end of a WB show, their song can be used on a WB movie soundtrack and Entertainment Weekly can do a feature article without involving anyone outside the company.

Motive: Big game hunter. When WB artists sell, the company makes money. Using WB music on other Time Warner projects make for cheap programming.

Name: Colonel Mustard
Occupation: Big game hunter.

Last seen: In the kitchen with a candlestick.

Quote: Great Caesar’s Ghost! Mrs. Plum has been murdered!

Register

Name: Viacom
Owns: Paramount, Blockbuster, MTV, VH1, CBS, 15 cable stations, over 180 radio stations.

Opportunity: Viacom can exercise ‘hypercommercialism’, an increase in advertising time due to lack of competition as well as cross advertising in multiple venues. Example: A record label wants to push a band. Viacom can arrange the band’s video to be played on VH1 and MTV, their song to be in heavy rotation on radio stations and have Entertainment Tonight produce a feature on them.

Motive: Viacom doesn’t have an interest in supporting one genre or band versus the other. Time and coverage on their radio and TV stations is available to anyone who can afford it.

Name: Carson Daly
Occupation: Pretty boy V.J.

Owns: Girls ages 10 to 15.

Opportunity: Inputs the ridiculously popular TRL on MTV. The show’s influence is strongest with junior high and high school students. But more importantly these students influence advertisers, television and movie producers more than any other group.

Motive: Nobody this good looking likes rock n’ roll.

Name: Hello Kitty
Occupation: Excessively cute cat.

Opportunity: Hello Kitty adds girls to “cuteness” at an early age, driving them to pursue boy bands rather than listening to bands who possess some actual musical prowess.

Motive: She has no mouth.

Name: Music Television
Age: 20

Claims to fame: First home to the music video. Gave Pauly Shore a job.

Opportunity: MTV is the dominant music video channel in America. First, due to lack of competition and then the absorption of smaller cable channels (such as “The Box”) by it’s parent company Viacom.

Motive: Aside from the theory that rock bands make bad videos, the truth behind the channel’s desire to play a lighter format is to encourage youth advertisement. If the channel’s content is made for the under 16 crowd (which favors quick catchy songs) this draws in youth advertisers who are willing to pay top dollar to have their products placed in commercials or in specials on the channel.

Name: Matt Higgins
Occupation: Computer Science Major.

Opportunity: Matt Higgins, also a Computer Science Major, believes that there are not enough spaces in classes. “Registration was fine for the most part, except they needed to open more sections in certain classes,” Higgins said.

When registering, students may wonder why there are not more sections available for a class that is obviously overloaded. Initially, each academic department decides how many sections to open during phase I of registration. With that, the department looks to see how quickly classes fill and then determines the need for more or less sections.

If it is necessary for a student to take a course that is already full, he or she has the option to apply for an overload. Most colleges, however, won’t allow freshmen to overload, and many schools, such as Management, don’t offer overloads at all.

The need for overloads is sometimes derived from the misuse of OSCAR. Students register for several classes at once because they’re unsure of which one they actually want. This causes all sorts of problems for students who actually need those classes.

Other students exploit OSCAR by participating in “holding.” Up-pressclassmen register for extra classes to hold the spot for a friend. Once they drop the course, a friend will simultaneously add the course.

“Holding classes is not an acceptable practice… it just harks some-one else,” said Williamson. “Since the Registrar is prerequisite check- ing, it is just not feasible,” she added.

Avoiding illegal practices such as “holding” will allow registration and even phase II to run smoother. For those students whose phase I registration did not go well, do not despair; many spaces for overloaded classes will open up in phase II registration.

For instance, some students fail a prerequisite course and therefore are removed by the Registrar’s Office from the next level course. At the end of the semester, some students will either drop out or take a semester off. Those student’s schedules are immediately removed from the registration system and their spots are opened up for other students.

To avoid the frustrations of registration, freshmen should generate a schedule by going outside of block scheduling. Plan your courses so that the ‘blocks’ fit together like pieces of a puzzle.

Another method is to learn about overload procedures ahead of time, so if a situation arises, you can put in your overload request as soon as possible. Also make sure that you have met all the prerequisites ahead of time. It is always safe to consult your academic advisor and plan alternative courses to take.

Register for the classes that are not offered at multiple times of the day first. Also, register early for classes with lab requirements because space is usually limited.

In preparation for phase two, which starts on December 27th, make sure you have a compatible web browser. As of now, uncertified browsers include Netscape 6 and beta versions of browsers.

If you have any problems with the registration process, you can email the Registrar’s Office at comments@registrar.gatech.edu with any questions or concerns. The goal of the Registrar’s Office is to have everyone in and registering prior to the first day of class.