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Teaching Assistants in “The Classroom”

Welcome to another year of The Classroom. In this issue we focus on Teaching Assistants -- you can find articles about some unit-specific TA Development programs, viewpoints from undergraduate students, an interview with a faculty member who once was a TA at Georgia Tech, reviews of books on the subject of TA training, and a list of resources. In the following article, David Shook and I describe the TAWeb Program. Please feel free to contact me if you want any further information.

- Donna C. Llewellyn

TAWeb - Making “I.T.” Work for TA Training

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At Georgia Tech, some 500 students are classified as graduate teaching assistants (TAs) each academic year, in addition to the growing number of undergraduates utilized as TAs in some academic units. The employment of these students as TAs might last many semesters, or only one, depending on myriad factors: successful completion of their assignment, their academic progress, the funding resources of the unit, changes in the curriculum, et cetera. Most of these TAs have some type of interaction with undergraduate students (e.g., grading papers/exams, holding office hours, running labs/recitation sections), and thus are in need of certain information governing the rights and responsibilities of those involved in the instruction-learning situation.

The 1998 Carnegie Commission Report, “Reinventing Undergraduate Education: A Blueprint for America’s Research Universities,” criticizes research institutions for using poorly-trained or untrained graduate TAs to provide the bulk of undergraduate education. Most major comprehensive and liberal arts universities currently have a system in place for TA training. These programs usually are one of two general types: either centralized (within a teaching/learning center or the graduate school) for generalized training, or decentralized (within individual academic units)

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Making “I.T.” Work for TA Training

providing discipline-specific training. Some examples of these are the “Cognate in College Teaching” program at the University of New Hampshire; the “Academy for Excellence in Engineering Education” at the University of Illinois (Urbana-Champaign); and the TA training programs in many foreign-language departments across the nation. Unfortunately, such systems are absent or in their infancy at most technological universities, due (at least in part) to the fact that the majority of their faculty members come from disciplines which stress the development of research effectiveness, and not teaching effectiveness.

Indeed, in this regard Georgia Tech is fairly typical, and this leads to an inherent problem regarding TA training: There is no centralized and coordinated system for ensuring that all teaching assistants are receiving consistent high quality training and assessment. Here, a few academic units have developed programs for their own TAs to try to deal with discipline-specific instructional issues (see article on page 6 in this newsletter for a description of two of these). However, this is problematic: each time a new academic unit wishes to offer a discipline-specific program for their own TAs, they often end up, in essence, recreating the wheel and having to develop their own materials. In another vein, CETL offers an orientation program at the beginning of both Fall and Spring semesters (open to all Tech TAs, both new and returning) as well as a series of seminars during the academic year for general training. This system, too, can be problematic: Given their student/teaching responsibilities, there is a limit to the amount of material that can be presented to TAs and absorbed by them in the short spans of time available for them to focus on training; any informational handouts, etc., are in danger of getting buried under the TAs’ volumes of research and course materials in their files; and often the training necessary for dealing successfully with such situations is not seen as relevant until a TA actually experiences these situations.

In any system of TA professional development at Tech, it is important to realize that different academic units often see their missions as quite different, as they pertain to general education. Needless to say the academic content, which they also teach, differs. However, there do exist general institutional policies and guidelines that, by their very nature, need to be handled equally across unit boundaries in order to maintain the integrity of the institution as a whole. Some examples of such policies include the following:

- Academic integrity: cheating, “Word”, and fair use of materials;
- The privacy of student personal information (FERPA);
- Grading policies;
- Discrimination and harassment.

All instructors, regardless of their discipline or job requirements, need to be made aware of general Institute policies, their application(s), and the consequences for improper (or the lack of) application.

As a step to provide a more efficient and effective means of providing high-quality training and assessment, as well as providing access to pertinent Institute instructional policies, CETL is developing a Web-based system for a) delivering content information regarding general pedagogy and
Institutional policies that affect the instructor-student interaction and b) modeling important and common problem situations while encouraging creative problem-solving techniques. This system can be used either independently by a current or potential TA, or it can be used as supplemental curricular material by a unit offering their own program. Currently named ‘TAWeb’, this on-line program will reside within a WebCT course and will have three major components:

**Content:**

For each TAWeb module, a campus “expert” is identified to produce a PowerPoint + video presentation to introduce the module at hand. This presentation includes the expert discussing the topic from an Institute perspective; an outline of the most important points of information to understand; and a listing of steps to follow when problems or issues arise.

**Online resources:**

Each TAWeb module is accompanied by a list of online resources that again appear in the overall web template. These resources include both those particular to Georgia Tech as well as pertinent resources available on the Internet. TAs who view the content portion of the module then can peruse the accompanying resource links in order to amplify the content information and provide additional “food-for-thought” and insights into the topic at hand.

**Case practice:**

The final portion of a TAWeb module is the presentation via the web template of one or more case studies related to the module topic. TAs are encouraged to read the situation given, and perhaps view a short video of a re-enactment of the situation, and then respond accordingly. The response(s) might involve introspection on the situation; sending an email reply to the coordinator of the TA practicum in the TAs home academic unit; or even writing a reflection paper as credit towards CETL certification.

In sum, the purpose of TAWeb is to take advantage of Georgia Tech’s advanced level of instructional technology to allow potential and current Tech TAs to gain access to a level of training and assessment regarding successful instructional procedures that otherwise might not be available in a timely fashion. Additionally, TAWeb can be incorporated into most instructional programming, either unit-specific or centralized, as a way of providing additional training in policies and practices that are important to all who provide instruction to undergraduates at this Institute.

Watch the CETL website ([http://www.cetl.gatech.edu](http://www.cetl.gatech.edu)) for future developments on TAWeb. Please contact us at [cetlhelp@oars.gatech.edu](mailto:cetlhelp@oars.gatech.edu) if you wish to pilot test the current version or if you wish to contribute to the program.
Q & A:
An Interview With
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In keeping with the “teaching assistant” theme of this issue of THE CLASSROOM, we interview David V. Anderson, Ph.D., Associate Professor in Electrical and Computer Engineering. Prior to his appointment to the faculty, Dr. Anderson was a TA at Tech, and is thereby uniquely positioned to offer viewpoints on this subject. In 1997, he was recipient of the CETL/BP AMOCO Outstanding GTA Award.

Dr. Anderson grew up in Oregon. He attended Brigham Young University in Provo, Utah where he earned the B.S.E.E. and M.S.E.E. in 1993 and 1994 respectively.

His research at BYU focused on signal processing models of the human auditory system and led to the development of a commercially available hearing aid. He then moved to Georgia to attend the Georgia Institute of Technology where he earned his Ph.D. in 1999.

His research at Georgia Tech has focused on methods of representing audio signals that facilitate enhancement. This research also led to several patents and commercial implementation of a system for removing noise from phone and conference calls. Following this he joined the faculty at Georgia Tech in August 1999 where he both teaches and does research in digital signal processing and innovative computer architectures for signal processing.

Q: In preparing for your role as a Teaching Assistant, what kinds of training and assistance did you receive? Who provided the training?

Dr. Anderson: Georgia Tech has wonderful help and training programs but much of my preparation and training occurred before I came to Tech. I spent two years as a missionary for my church between my Freshman and Sophomore years in college. This experience, combined with tutoring experience in high school, really helped me to know how to understand and teach individuals.

Later, as a TA at Tech, three things stand out in my training. First, my initial assignment was to teach a small lab class on electric motors. The lab coordinator was very helpful in suggesting how to proceed but I also learned a few things on my own through mistakes I made. Second, for my next assignment I worked closely with an experienced TA who helped me know better how to work with a large number of students. Through this experience I learned more about how to set expectations and clearly communicate them. Third, I also worked closely for several years with professors McClellan and Schafer as they developed the new entry-level ECE course. They provided a great deal of advice on how to teach and generally run a course in an effective manner.

Q: What was the most challenging aspect of being a TA at Tech? What was the most rewarding aspect? What were the difficulties of being a TA that you did not expect?

Dr. Anderson: Assigning grades was the most challenging aspect — I would often agonize over how many points a report should be given. I often had difficulties knowing how much to expect out of students — in general I have very high expectations and sometimes I would get frustrated with students’
understanding or performance. On the other hand, I knew each student and the effort that they put into their work. Thus, when the performance was poor and the effort was high I did not know what to do. Easily the most rewarding part of teaching is when I explain something that opens a door for the student. I love to see people get excited about something that they finally understand.

Q: Tell us about the time commitment required of Tech TAs. How do you manage the time spent as a TA and a graduate student and still accomplish all your responsibilities?

Dr. Anderson: It was sometimes difficult to balance my time. I have never been good at it, but somehow everything got done.

Q: What are your thoughts on what constitutes success as a TA?

Dr. Anderson: You should not view it as a job but as a stewardship or responsibility. Take initiative to make things easier for the professor and the students.

Q: The last issue of THE CLASSROOM focused on the role of mentoring at the university. Have you had a mentor as a TA at Tech? As a junior faculty member? If so, describe how these relationships benefited you in those roles.

Dr. Anderson: Since I graduated from Tech, I already had a relationship with some of the faculty, so I entered into a kind of unique mentoring setup. I regularly talk with and get advice from several of the faculty with whom I worked as a student. I also work closely with another junior faculty member (two years ahead of me) on several joint research projects. It has been nice to augment advice from senior faculty with the experience of someone going through the same process that I am.

Q: How has being a TA at Tech been of benefit to you as a Tech faculty member?

Dr. Anderson: TAs often work with students on a closer level than faculty do. This enabled me to understand the students and their needs better. Also, there is no substitute for experience when it comes to teaching. I feel that my time as a TA working with experienced faculty put me many years ahead of where I would be otherwise with respect to my teaching experience and skill.

Q: To help TAs increase their chances of fulfilling their responsibilities successfully, what advice and information would you offer now from a faculty member’s perspective?

Dr. Anderson: Be willing to take responsibility for things and offer suggestions as needed. For example, I appreciate feedback on how students are doing with specific concepts in lab or on homework. I also appreciate a TA who will take responsibility for some aspect of the course without requiring constant monitoring, feedback, or oversight. For example, a TA might work with students to find out what the difficulties or anticipated difficulties are with a lab assignment and then hold a help session to help the students avoid problems. ■
Through its many and varied programs, CETL operates a centralized effort towards TA development for the entire Georgia Tech campus. Additionally, a number of units on campus also have made great strides in their own efforts towards effective TA development. What follows is a description of several efforts that have been achieved via a collaboration between CETL and various programs in order to facilitate TA training and enhancement.

**English Classes for International GTAs**

By David J. Shook, Ph.D.
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and Charles Windish, Ph.D.
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Since the Fall of 1999, CETL and the Language Institute have developed a successful collaboration in offering an extended course for international graduate students at Georgia Tech. These classes are focused on those international students who are or who will be TAs in their graduate careers at Tech. The main focus of the first eight weeks of instruction is pronunciation skills, presentation skills, pedagogy, and individual tutorials. Pronunciation topics include vowel and consonant sounds, rhythm, stress, and intonation—all common areas in which many of Tech’s new international graduate students need some improvement. Presentation topics all relate to the common instructional situations in which the international students will be interacting with undergraduates, including the use of technology in the classroom, lecture format, answering questions, explaining processes and defining terms. Along with formal classroom instruction provided by faculty of the Language Institute, the students participate in individual tutorials to work on their individual challenges with spoken English. Finally, once a week, the students attend a session on pedagogical topics taught by members of the CETL staff. In these sessions, the students focus on international differences in instruction, learn successful instructional techniques, and engage in microteaching activities.

One class of 20 students is offered each Fall and Spring semester, and in Summer, CETL works to provide two classes of 10 students each for two particular schools (in the Summer of 2001, ISyE and PHYS participated; BME students will be one of the groups during Summer 2002). To date over 120 students have taken the classes.

Based on comments and evaluations from former class participants, this current semester the class was expanded from eight to sixteen weeks to include a second eight-week period, consisting primarily of individual tutorials. Additionally, the Language Institute is working on a proposal for an intensive (4-week) writing seminar to be offered during Summer 2002.

Information on the program requirements and electronic registration can be found at [www.cetl.gatech.edu](http://www.cetl.gatech.edu), or by contacting Dr. David Shook (CETL) or Dr. Charles Windish (Language Institute).
Every term at Georgia Tech finds a majority of undergraduates enrolled in the first two years of required mathematics courses. Many attend a very large lecture class three times a week and a smaller recitation section twice a week, the latter led by a TA.

In the past, Mathematics only supplied one orientation session for the new TAs at the beginning of each term. It was not possible for the new TAs to absorb what was being presented both because of the volume of information and because of their lack of experience as a teacher; they simply had no “hooks” on which to hang the new strategies. We were putting them into the classroom without giving them the proper tools. During the term they had contact with their lead instructors on a limited basis, but they lacked group support and feedback. We found that they needed mentoring throughout the term as they experienced the calendar of teaching for the first time. Finally, we felt that important issues needed to be presented and discussed face-to-face rather than through e-mail messages. For all these reasons, we began the Seminar in the 2000 fall term and polished it during the 2001 spring term.

During the 2001 spring term, as part of their employment obligation, all the new TAs (undergraduate, graduate and international) were required to attend two orientation sessions and the ten sessions of the Teaching Assistant Development Seminar. The first orientation session was given by CETL. The second session was given by the School of Mathematics. Returning undergraduate TAs were required to attend only three specific sessions.

CETL’s General Orientation for TAs is offered at the beginning of Fall and Spring semesters; Mathematics TAs were required to attend. During the three-hour session, Georgia Tech experts, as well as experienced TAs, interact with the attending TAs on topics such as defining the Georgia Tech population, reviewing Institute issues such as academic honesty, FERPA (Family Educational Rights and Privacy Act of 1974), and ADAPTS (Access Disabled Assistance Program for Tech Students), as well as general advice and teaching strategies applicable to all Tech instructional situations.

We discussed contact information, department’s expectations, and effective strategies for the first day of recitations during the subsequent Mathematics orientation.

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The Mathematics TA Development Seminar dealt with various teaching issues and classroom management techniques — chalkboard presentation, professional behavior, social interactions with a diverse population, sexual harassment, grading and cheating, etc. We invited several speakers from Mathematics and other departments to speak on various topics and the TAs were asked to participate in several group discussion sessions.

We required all TAs who taught recitation classes to have their students fill out a midterm TA evaluation questionnaire. The TAs attending the seminar also had to compile a summary of the questionnaire results. Based on those results, there were several group discussions (sorted by course) about possible mid-course corrections and students’ perceptions.

Members of the CETL staff, as well as some faculty from other schools, attended the majority of the sessions, in order to observe the program as a whole and gain insights that might be useful to other academic units on campus. Our end-of-the-term surveys reflected very positive feedback on the Seminar overall. Most participants felt the topics were relevant and presented at the appropriate time in the term. Here are some comments from the course evaluations:

“The seminar was good. I learned many things that proved to be helpful in my teaching. I think is a great idea and something other departments should consider implement. If all the TAs at Tech went through a course like this, the courses at Tech and the students’ satisfaction with them would increase significantly.”

“It’s a good idea to have meetings throughout the semester so all the teaching assistants get to know one another. For first semester TAs, it is good to meet more often. For returning TAs, three meetings in one semester is the maximum. Overall, the workshop was entertaining.”

We plan to continue offering the seminar fall and spring terms, with some adjustments. It will meet between 8 and 10 times per term, depending on need. In addition, we have been in the process of creating WebCT modules for our seminars, which will help the TAs interact with each other. It is our hope that Georgia Tech undergraduate students and the School of Mathematics faculty have benefited from having more confident and informed TAs who are becoming more skillful teachers.

Rena Brakebill, Klara Grodzinsky and Cathy Jacobson answer The Classroom’s questions about the Mathematics TA Development Seminar

Q: What are the responsibilities of TAs in your School?

A: TAs in the School of Math are responsible for teaching recitation classes; grading quiz, exam, or homework papers; holding office hours; and working for one hour per week in either the math lab or the computer lab. Graduate TAs teach two recitation classes (for a total of 4 contact hours per week), and undergraduate TAs teach one recitation course (2 contact hours per week).

Q: What instigated the development of the program? Give a brief synopsis of why the program was developed and who were involved in its design and implementation.
A: Our international graduate TAs were already required to attend supplemental English classes where they practiced various teaching tasks as a vehicle for improving their oral English. However, native English speakers were entering the classroom as TAs without any preparation at all beyond one orientation session at the beginning of each term. We began the teaching seminars because we believed all of our TAs needed more guidance and support during their first teaching term. The pilot program was developed by Rena Brakebill, Cathy Jacobson, and Klara Grodzinsky during the Fall 2000 semester.

Q: Describe the main goals of your Seminar.

A: Our seminar’s main goal is to provide information, support, and guidance to the new TAs in our School. We hope that through our teaching seminar, the TAs will be better informed and more confident teachers.

“A: This program introduces the TAs to many basic teaching procedures. After taking this seminar, the TAs should be able to decide on their own which methods work best for their classroom. Successful completion of the Seminar, as well as continued good work in the classroom verified by observations and student evaluations can culminate in a reference letter detailing the TA’s teaching strengths. Upon request, the recommendation will be placed in their files and made available to future employers.

Q: How do you stimulate interest and a high rate of participation in the program?

A: The seminar is required for all incoming TAs and is listed as such on the contract which they sign when accepting the position. Participation is stimulated by grouping the TAs into small discussion groups during the seminars, and allowing for group interaction and comments throughout the sessions.

Q: Based on your experiences with your program, should all Tech TAs with substantial undergraduate contact be required to participate in some type of similar program?

A: Yes, definitely. This program has been very helpful to the new TAs and has given them the basic information they need in order to become effective teachers. We think all new TAs should receive some departmental support and training during their first teaching semester.”

In addition, the seminars serve as a support network through which the TAs can learn the campus resources available to them as teachers.

Q: In what ways does the program offer autonomy or initiative to TAs in shaping their instructional development?
Psychology Graduate Teaching Practicum
By Dianne Leader
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The goal of the Graduate Teaching Practicum is for students to develop basic skills in teaching undergraduate college courses, based upon understanding and applying a conceptual model of the process of learning. The course is structured around the Kolb model of experiential learning, in a “practice what you preach while you preach it” mode.

Students learn about the Kolb model conceptually, while applying it in structured learning and teaching activities. The course covers the basic practical topics of teaching - structuring a course, planning and running class activities, and evaluating student performance - within the larger context of defining the roles, goals and ethical obligations involved in teaching.

The practicum aims to stimulate each participant to discover and cultivate their own teaching skills. The first part of the course is focused on students’ developing the conceptual framework and observing different instructors teaching Introductory Psychology at Georgia Tech. Weekly meetings are structured around mini-lectures and/or activities on specific topics (including some guest speakers), together with class discussion of students’ reading assignments, their teaching observations, and preparations for class teaching. For the past four years, a member of the CETL staff has been a guest speaker, presenting techniques for successful class interactions.

During the latter part of the semester each student is required to teach two class sessions of an undergraduate psychology course - including planning the session and structuring test questions - and to observe their colleagues teaching as well. At least one teaching session for each student is videotaped, preferably both. The videotaping is carried out by members of the CETL staff. Students in the classes being taught are asked for feedback on the instructor’s teaching performance, as are the CETL, faculty and graduate-student observers. The 7701 meetings at this stage emphasize individual feedback and guidance on teaching skills, together with discussions on whatever issues arise from the teaching experiences.

Each participant is required to submit (1) a report on their teaching observations early in the semester; (2) a teaching plan and test questions for each class taught; and (3) a brief final paper summarizing what they have learned from their teaching experience during the practicum.
On May 1st, Georgia Tech’s Center for the Enhancement of Teaching and Learning (CETL), Center for Education Integrating Science, Mathematics and Computing (CEISMC), and the College of Engineering jointly hosted the kick-off for a new, NSF-sponsored, graduate fellowship program—the Georgia Tech Student and Teacher Enhancement Partnership (STEP) program. Twelve Georgia Tech engineering and science graduate students, called STEP Fellows, are spending this year partnered with five local public high schools in Rockdale, DeKalb, and Fulton Counties with the goals of both gaining valuable and intensive teaching experiences and of helping local school districts improve their science and mathematics student achievement.

This program seeks to improve the teaching-related communication and leadership skills of Georgia Tech graduate students, and to use the exceptional scholarly expertise available at Georgia Tech to assist in increasing the mathematics and science performance of Atlanta-area school students. STEP Fellows participated in summer training workshops to familiarize them with inquiry-based learning pedagogy, classroom management and effective teaching skills, and appropriate uses of educational technologies. They also worked with high school personnel to develop a needs assessment and action plan for their assigned school. During the school year they are working in pairs with their partner school, choosing activities from a menu of options that includes: 1) student instruction, 2) teacher professional development, 3) student enrichment and mentoring, 4) implementation of classroom websites, 5) science fair project assistance, and 6) Georgia Tech lab tours.

The specific objectives of the Georgia Tech STEP Program are:

• To provide participating graduate Fellows with the necessary training required to enable them to effectively communicate standards-based science and mathematics to both high school students from diverse backgrounds and high school science and mathematics teachers,

• To pair the graduate Fellows with master teachers in metro-Atlanta area high schools to enable them to experience effective teaching methods and real-life teaching challenges,

• To provide the graduate Fellows with rewarding practicum experiences during which they can practice science and mathematics pedagogy and classroom management strategies by engaging in direct inquiry-based science content instruction during in-school classes and after-school enrichment activities,

• To facilitate knowledge transfer from Georgia Tech to the participating school systems by enabling Georgia Tech graduate Fellows from the fields of science, engineering, computing and mathematics to work directly with high school SMET teachers to enhance teachers’ content knowledge through professional development activities,

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Twelve Georgia Tech engineering and science graduate students, called STEP Fellows, are spending this year partnered with five local public high schools with the goals of both gaining valuable and intensive teaching experiences and of helping local school districts improve their science and mathematics student achievement.

To introduce SMET high school teachers and students to the use of appropriate educational technologies that complement and strengthen their course curricula and that provide increased opportunity for inquiry learning by students.

To facilitate the development of constructive mentoring relationships between the Georgia Tech Fellows and students from participating high schools, and between the participating teachers and the Georgia Tech students and faculty. These relationships will be encouraged through the use of actual and virtual field trips, class visits, in-school tutoring and mentoring, and electronic communication.

To support the unique partnership between the Georgia Tech College of Engineering and the Rockdale County School System in the development of a model School for Science and Technology. Curriculum units and laboratory exercises developed for the engineering and information technology-based curriculum will be disseminated to all other participating school systems.

This program is truly a partnership between Georgia Tech and the local schools. The primary benefits anticipated for the STEP Fellows are an improvement in their skills related to science and mathematics teaching, communication, and general leadership. The experiences of working with accomplished classroom teachers engaged in classroom instruction and also of helping weaker teachers master academic content material through professional development workshops will provide the STEP Fellows with invaluable teaching and leadership experiences. Tutoring and mentoring high school students will also strengthen the STEP Fellows’ communication skills and increase their understanding of the diversity of humanity.

The STEP Fellows will also gain a deeper appreciation for the complexities of the educational challenges that affect the pipeline producing our next generation of scientists, mathematicians and engineers. This understanding is necessary in order to strengthen the partnership between the academic scientific and engineering community and the school systems that provide them with their students. Specifically, we anticipate that closer connections between Georgia Tech and the surrounding school systems will result in

“Twelve Georgia Tech engineering and science graduate students, called STEP Fellows, are spending this year partnered with five local public high schools with the goals of both gaining valuable and intensive teaching experiences and of helping local school districts improve their science and mathematics student achievement.”
more students, particularly those from under-represented minority groups, enrolling in SMET degree programs at Georgia Tech.

An additional benefit to the institution will be that the STEP Fellows will participate in a workshop for other graduate students as part of the Academic Intern Program, thereby disseminating the value of the experience to a wider population. Results of this program will also be shared with the Georgia Tech community, including faculty participating in CETL’s Teaching Fellows program, to promote increased interaction between Georgia Tech faculty and K-12 educators.

The participating K-12 community will benefit from this program in many ways as well. Teachers will obtain new content knowledge, an improved understanding of science, the scientific process, and the integrated nature of knowledge, and develop valuable personal connections to scientists and engineers at Georgia Tech. High school students will benefit from improved science teaching, and will interact with classroom mentors who have chosen to pursue science, mathematics or engineering as a career. Additionally, the involvement of STEP Fellows with high school science, math, or computer clubs has the potential of providing these organizations with the help and energy needed to make marginal groups into very viable student-achievement based organizations.

At the Rockdale Magnet School for Science and Technology, high school students will be exposed to course work and research opportunities previously reserved for college-level students. Business involvement from local high-tech industries will assure that the magnet school curriculum provides the skill and education necessary to meet the workforce demands of high-tech careers.

Here are this year’s Fellows and their home units and the schools that they are partnered with:

Genara Andrade (Chemistry) and Marcelle Buford (Physics) – Tri-Cities High School, Fulton County
Beth Brewster (Chemistry) and William Robinson (ECE) – Druid Hills High School, DeKalb County
Al-Khalique Hamilton (Mechanical Engineering) and Stephanie Somerville (ECE) – Stone Mountain High School, DeKalb County
Gena Poe (Nuclear Engineering) and Mark Poggi (Chemistry) – Rockdale Magnet School for Science and Technology, Rockdale County
Meghan Shilling (Mechanical Engineering) and Sean St. Clair (Civil Engineering) – Rockdale High School, Rockdale County

This is a three-year program (each year begins with summer semester), and application information for next year’s fellows will be available in January – be sure to check the CETL web site for updated information.
As a fourth year student at Georgia Tech, I recall several instances of being in classes taught by teaching assistants. My two most vivid memories occurred during freshman year. The first is of my introductory chemistry course, and the other of my introductory calculus course. The quality of instruction in both courses was satisfactory, and I am proud to state that I earned an A in each class. However, the TAs who taught them used very different styles of teaching. These differences represent two approaches to covering a subject. One of these approaches helped me learn better than did the other.

A Ph.D. student from the Physics department taught the calculus course. Most students are wary of being taught by TAs instead of professors, but we are even more apprehensive when the TA's discipline is not that of the subject he/she is assigned to teach. In the end, however, this TA's knowledge of the subject matter proved sufficient to teach calculus. His approach to instruction was based in presenting theory. This caused problems for many students who were used to learning from the presentation of examples. His style of instruction slowed the pace of the class and the learning process. He would not move forward in the course material until he felt most students had grasped the concepts he was trying to get across. Because of this, a great deal of the class time was spent in discussion of these concepts and their application. This TA had knowledge of the subject matter and of calculus as a whole, therefore answering questions and working examples was not an issue for him. Overall the course moved slowly, therefore we did not cover all of the material in the syllabus. However, of the material we did get through, most students ended up with a very thorough understanding.

The chemistry course was taught by a Ph.D. student from the chemistry department. His approach differed from that of the calculus TA in that the instruction primarily presented examples; students were expected to read the concepts on their own. The examples provided in class were similar to the problems on which students were tested. This TA had a thorough knowledge of the examples he used to teach chemistry, but he did not possess a comprehensive knowledge of the subject matter, as did the calculus TA. Even so, his teaching style better suited my learning style. The pace of the class was quicker; there was less discussion and more time spent working out examples at the board. At the end of the class my knowledge of the chemistry material was not as thorough as it was in calculus, however I had been taught a broader range of material by the end of the semester. I also remember that attendance in the chemistry class was higher than the calculus class, and I attribute this to students having a greater appreciation of the teaching method used in chemistry.

Although different TAs will bring their individual styles of teaching to a course, I believe they should cover all syllabus material. It is the responsibility of TAs to ensure that students understand the material as thoroughly as possible at the end of the course. A first step toward making this happen would be to ensure that TAs possess both a comprehensive knowledge of the subject material and an awareness of how best to teach it. TAs should receive training that makes them aware of different approaches to teaching. It would benefit everyone if they knew when it is best to teach by presenting theory, and when best to teach by using examples that illustrate theory. Perhaps a hybrid of the two approaches would be best to optimize the learning of students.
The introduction to computer science course is touted as one of the most challenging and difficult at Georgia Tech. Many students, myself included, find themselves extremely anxious about taking the class. The type of material to be taught, and the type of thinking required to learn it, differed from that required by previous academic topics I had taken. The first time I took the class, I ended up withdrawing. Thus, when I began my second attempt at computer science, I was even more nervous than the first time. Luckily, I had a pair of good teaching assistants to help me through the experience.

The assistance I received from the TAs helped me to realize that the material was not too difficult for me to understand. I was nervous about my first two assignments in the course, but their excellent teaching enabled me to navigate the material. With material such as programming, a student learns the most by doing. TAs must be able to present and explain the material to students without doing the work for them. One of the TAs was particularly good at achieving this balance -- he would help me when I was stuck on a particular problem, and would provide the necessary prodding, but he knew when to back off and let me discover the answer on my own.

It takes a special person to be a teaching assistant. A TA must not only be smart and know the material, but also be intuitive and patient. My TAs in computer science had all these skills. Because of my experiences with them, I may become a TA myself, with the intention of benefiting future students just as I was benefited.

When I first came to Tech, I remember being a bit skeptical about the role of the Teaching Assistant. I couldn’t understand how another student could help me when one of my professors couldn’t. Over the course of my two years at Tech, my view has completely changed. I find that often a TA can explain concepts to me in a way that I can truly understand.

One of the best experiences I ever had with a TA was in a non-traditional class. This class had very little structure, so the TA had a large role in establishing the tone of the class. The reason this TA was so effective was because he was interested not only in helping us learn but also in learning himself. To me, that is the key to being a good TA: realizing that you will both teach and learn.

I had another wonderful TA in Calculus I. This especially surprised me because of the nature of the class and the type of subject matter. This TA managed to infuse both excitement and enthusiasm into his teaching of math. I loved both his sense of humor and his true concern for the well-being of all his students.

I believe that TAs can be one of the most valuable sources of learning at Georgia Tech. Anyone can do a good job in the role of TA — all that is required is the ability to adapt to complex situations and to possess a deep caring for the learning of your students.
New Forums Press, a national publisher who specializes in faculty development titles, recently released this new volume, *The Teaching Assistant Training Handbook*, to supplement its other titles in the area of TA training. The subtitle of the book, *How to prepare TAs for their responsibilities*, really describes the book’s purpose. This is not a text to be given to new TAs for them to read and learn how to be a successful TA. Rather, this volume is focused on communicating with the faculty members and administrators who carry out TA-training and supervisory programs at institutions of higher learning.

The editors, Prieto and Meyers, have organized this book into two main sections: 1) “The training and preparation of graduate teaching assistants”, and 2) “Professional issues in teaching assistant training”. In the first section, 6 chapters describe a number of methodologies and strategies in order to successfully prepare TAs for their teaching responsibilities. In this line, one finds chapters dealing with conceptualizing effective TA training; creating departmental orientation programs; developing teaching practica; microteaching; effective use of videotape feedback for TA training; and supervising TAs. Each chapter is written along the same lines: the particular technique/strategy is described along with related examples; past research is summarized; and a list of pertinent references is included.

The second section of this book incorporates 4 chapters that are intended to treat “issues” important to TAs. Thus one finds a discussion of ethical issues in Chapter 7, gender issues in Chapter 8, and diversity issues in Chapter 9. However, Chapter 10 is an annotated bibliography of “College teaching sources” that could prove helpful to faculty and administrators involved in TA training. The references are organized according to topics, including course development, goals of education, classroom tools and strategies, general teaching resources, and teacher training.

This book attempts to speak directly with TA trainers: the strategies and issues presented are worthy of consideration for all who want to create or improve their training programs. However, organizational points of the text as a whole tend to interfere and/or distract from the important information presented in each article. For example, while the introduction implies that “helpful handouts, checklists, or forms” are included in each chapter, the reality is that only two of the first six chapters include such ancillaries. All of us know the frustration of reinventing the wheel whenever we set out on a new task. The more practical and accessible the information presented, the more likely the text will assist faculty and administrators in overcoming obstacles to training TAs successfully. An additional organizational problem with this book is the inclusion of the annotated bibliography section in Chapter 10, found in a section of chapters that focus on social issues impacting instruction; this chapter would be better placed in a section set apart. A final criticism: five of the ten chapter titles do not match those titles given for the chapters in the table of contents, which is not only confusing, but unprofessional.

One of the interesting aspects of the volume is that 19 out of the 21 authors and co-authors who produced chapters for this text earned their degrees and have been faculty members in psychology. This fact (not obvious until the author notes were perused), tends to give a different tone and setting to the examples and models used in the various articles. There tend not to be many situations described that reflect a decidedly technological classroom-learning situation, as one might want at an institute that focuses on engineering and technology. However, this does not negate the fact that much of the information presented in this text needs to be addressed by those faculty members who are involved in TA training, no matter the institution.

In all, *The Teaching Assistant Training Handbook* could prove useful in the development and assessment of training and supervisory programs for TAs. New
Forums Press enjoys a good reputation for producing excellent titles in the field of faculty development. One needs to dig a bit past the inconsistencies in organization cited above in order to assess the appropriateness of the strategies and methodologies presented within each chapter in enhancing individual TA-training programs.

**The Practice of TA Training**  
*First Day to Final Grade*  
Curzan, Anne and Damour, Lisa  
ISBN 0-472-09732-6  
www.press.umich.edu

Curzan and Damour state in their introduction that this volume was “designed to be an accessible, pragmatic teaching guide on a wide range of issues that arise both inside and outside the classroom for many first-time teaching assistants” (p. 1); and, indeed, they have accomplished this goal. While the information, hints, and strategies presented in this book are not backed up with any theoretical or research-based support, the guides given all fit with the knowledge gained by experience as teaching assistants, and thus they are very practical.

The book is divided into 10 chapters:

1. Becoming a teacher  
2. The first day of the term  
3. Weekly class preparation  
4. Running a discussion  
5. Problem sets and laboratories  
6. Trusty class plans  
7. One-on-one interaction with students  
8. Grading  
9. Feedback from students  
10. The balance of school and teaching

From this organization, one can see plainly that the authors have tried to cover the wide range of TA activities found at most institutions of higher education. Each chapter is subdivided with helpful headings; at an average of 16 pages per chapter, the reading is easy.

For example, in Chapter 4, “Running a discussion”, the authors have broken the topic into the following manageable chunks: arranging the classroom; starting discussion (make a list, freewriting, pair and share, etc.); effective discussion questions; and so forth. While much of the information given often takes the form of “do this, not that”, Curzan and Damour give practical examples and anecdotes to support their suggestions; in addition, each chapter ends with a list of “Further Reading” related to the chapter topic for those who would like more in-depth information regarding theory and pedagogy.

The book ends with two additional sections which are quite helpful: first, a series of appendices of sample syllabi, lesson plans, and even letters of recommendation as written by TAs; second, an easy-to-use index.

In most cases, the information presented in this book is very general; in other words, it is not specific to any one type of teaching situation, and therefore it lacks the specificity to answer many of the questions that TAs tend to ask: “Who do I see for photocopies?; What should I do if a student asks me out on a date?; What are the times to avoid holding office hours?”. However, as a complement to an in-house training program or a discipline-based teaching practicum which does address specific questions like these, this text does provide helpful hints and strategies. On the other hand, this book serves well as an introduction to being a teaching assistant for students new to the job. So, in use with general orientation programs, or as a resource given to TAs before they enter into the classroom situation, this book is an excellent choice. Finally, for those faculty members in charge of TA training, *First Day to Final Grade* can be utilized as a resource to the faculty for highlighting the practical information the school or department needs to provide to all TAs in order that they be successful in their teaching mission, while at the same time pointing out where further discussion is needed on issues pertinent to the particular teaching mission of the unit’s TAs.
**Website resources:**

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<th>Website</th>
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<td><a href="http://www.clemson.edu/OTEI/websites.htm">www.clemson.edu/OTEI/websites.htm</a></td>
<td>Links to instructional websites (from the Office of Teaching Effectiveness and Innovation at Clemson)</td>
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<td><a href="http://www.capecod.net/~tpanitz/tedspage/resources.html#LessonPlanning">http://www.capecod.net/~tpanitz/tedspage/resources.html#LessonPlanning</a></td>
<td>A resource page on Lesson Planning by Dr. Ted Panitz</td>
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<td><a href="http://www.capecod.net/~tpanitz/tedspage/ewacbook/ch3.html">http://www.capecod.net/~tpanitz/tedspage/ewacbook/ch3.html</a></td>
<td>An example of how Dr. Ted Panitz uses the “Seven Principles of Good Practice in Undergraduate Education” as part of his class writing assignments</td>
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<tr>
<td><a href="http://www.oir.uiuc.edu/did/services.htm">www.oir.uiuc.edu/did/services.htm</a></td>
<td>The Division of Instructional Development website at the University of Illinois at Urbana-Champaign. Click on &quot;Instructional Materials&quot; to link to their 66 page TA Handbook</td>
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<tr>
<td><a href="http://www.oid.ucla.edu/Tatp/index_body.html">www.oid.ucla.edu/Tatp/index_body.html</a></td>
<td>UCLA’s Teaching Assistant Training Program</td>
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<td><a href="http://www.vanderbilt.edu/cft/f2p2">www.vanderbilt.edu/cft/f2p2</a></td>
<td>Vanderbilt’s Future Faculty Preparation Program (F2P2)</td>
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<td><a href="http://www.wcer.wisc.edu/nise/cl1">www.wcer.wisc.edu/nise/cl1</a></td>
<td>Techniques for lecturing to large classes available on the National Institute for Science Education website</td>
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<td><a href="http://sill.stanford.edu/projects/tomprof/newtomprof/links.html">http://sill.stanford.edu/projects/tomprof/newtomprof/links.html</a></td>
<td>Tomorrow’s Professor Listserv, out of Stanford, gives assistance to science and engineering students throughout their graduate school career and out into the job market</td>
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<tr>
<td><a href="http://www.preparing-faculty.org/PFFWeb.Contents.htm">www.preparing-faculty.org/PFFWeb.Contents.htm</a></td>
<td>The Preparing Future Faculty (PFF) program is both a configuration of ideas and a national initiative involving 43 doctoral degree-granting institutions and more than 295 “partner” institutions.</td>
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<tr>
<td><a href="http://www.cat.ilstu.edu/teaching_tips/index.shtml">www.cat.ilstu.edu/teaching_tips/index.shtml</a></td>
<td>A list of Teaching Tips on the website of the Center for the Advancement of Teaching at Illinois State University</td>
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<tr>
<td><a href="http://www.cetl.gatech.edu/">http://www.cetl.gatech.edu/</a></td>
<td>Georgia Tech’s Center for the Enhancement of Teaching and Learning. (Click on “Teaching Assistants”)</td>
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<td><a href="http://www.adapts.gatech.edu/facultyg.htm">http://www.adapts.gatech.edu/facultyg.htm</a></td>
<td>Georgia Tech’s ADAPTS (Access Disabled Assistance Program for Tech Students) website has a link to their graduate teaching assistant guide on the subject of teaching students with disabilities</td>
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<tr>
<td><a href="http://www.byu.edu/fc/pages/aboutfr.html">http://www.byu.edu/fc/pages/aboutfr.html</a></td>
<td>Brigham Young University’s Faculty Center - information on their TA development programs</td>
</tr>
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Books in the CETL Library:

Communicate - Strategies For International Teaching Assistants. Smith, Jan; Meyers, Colleen M.; and Burkhalter, Amy J.
Dynamics of Time & Stress, The - Time Proven Tips for the Busy Education Administrator. Mott, Dennis.
First Day to Final Grade. Curzan, Anne, and Damour, Lisa.
First Steps to Excellence in College Teaching. Johnson, Glenn Ross.
Handbook for College Teaching. Miller, PhD, W.R., and Miller, PhD, Marie F.
Handbook for Graduate Teaching Assistants - The University of Georgia. Office of Instructional Development.
Handbook for Teaching Assistants at the University of Illinois at Urbana-Champaign. Diamond, Nancy; Hahn, Laura; Hlegesen, Mame; and Visek, Priscilla.
Handbook of Resources for Graduate Teaching Assistants. University of Tennessee at Knoxville.
Instructional Resource Guide for TAs at Dalhousie University. Wright, W. Alan and Hertin, Eileen M. (Eds.).
Next Generation, The - Preparing Graduate Students for the Professional Responsibilities of College Teachers.
Slevin, James F.
Planning a College Course: A Guidebook for the Graduate Teaching Assistant. Ryan, Michael P., and Martens, Gretchen G.
Preparing Graduate Students To Teach. Lambert, Leo M., and Tice, Stacey Lane.
Preparing TAs for Teaching - Training Manual.
Preparing the Professoriate of Tomorrow to Teach. Nyquist, Jody D.; Abbott, Robert D.; Wulff, Donald H.; and Sprague, Jo (Eds.).
Skillful Teacher, The. Brookfield, Stephen D.
Strengthening the Teaching Assistant Faculty. Andrews, John W.D. (Ed.).
Stress of G.T.A. Life, The. Eison, Jim, PhD.
Teaching Assistant Handbook - The Graduate School.
Teaching Assistant Training in the 1990s. Nyquist, Jody D.; Abbott, Robert D.; and Wulff, Donald H. (Eds.).
Teaching at the University of Virginia - A Handbook for Faculty and Teaching Assistants. Barnett, Marva A. and Lindner, Marjorie S.
Teaching Matters - Skills and Strategies for International Teaching Assistants. Pica, Teresa; Barnes, Gregory A.; and Finger, Alexis Gerard.
Teaching Tips for TAs, A Sourcebook of Suggestions and Guidelines for Teaching Assistants. Office of Instructional Development.
Teaching-Learning Issues -- Peer Instruction Consultation: TAs Helping TAs. Learning Research Center.
The Professional Development of Graduate Teaching Assistants. Marincovich, Michele, et. al., (Eds.).
Working Effectively With Graduate Assistants. Nyquist, Jody D.; and Wulff, Donald H.
Upcoming Events

Faculty Development Seminars. Sponsored by CETL and SUCCEED and usually held on the 3rd Thursday of the month during Fall Semester, 11:00am - 1:00pm. RSVP requested. Box lunch provided, compliments of the Dean’s Office, College of Engineering.

- **September 20**  "Educational Technology Showcase" ISyE Room 223
- **October 18**  "How to Edit and Review Academic Writing More Efficiently" ISyE Room 223
- **November 15**  "Technology in the Classroom - What Do Faculty/Students Want and Need?" ISyE Room 223

Faculty Development Seminars especially for New Faculty. Usually held on the first Wednesday of the month during Fall Semester, 1:00pm - 2:00pm. Refreshments provided.

- **September 5**  "Effective Uses of Instructional Technology" ISyE Room 223
- **October 3**  "Learning & Teaching Styles" Student Center 301
- **November 14**  "Assessment of Instruction" Student Center 301

Other Events:

- **September 13**  "Getting Published" - a Brown Bag panel discussion with published authors. Co-sponsored by LCC, CETL, and the Office of Organizational Development, 11:30am - 1:00pm, Paul Weber SST Building, Room 4

For more information contact CETL at 404-894-4474.

The Classroom
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