UNIVERSITY OF
NOTRE DAME

The ITA Survival Manual

An International Teaching Assistant Guide for the College of Science

Summary

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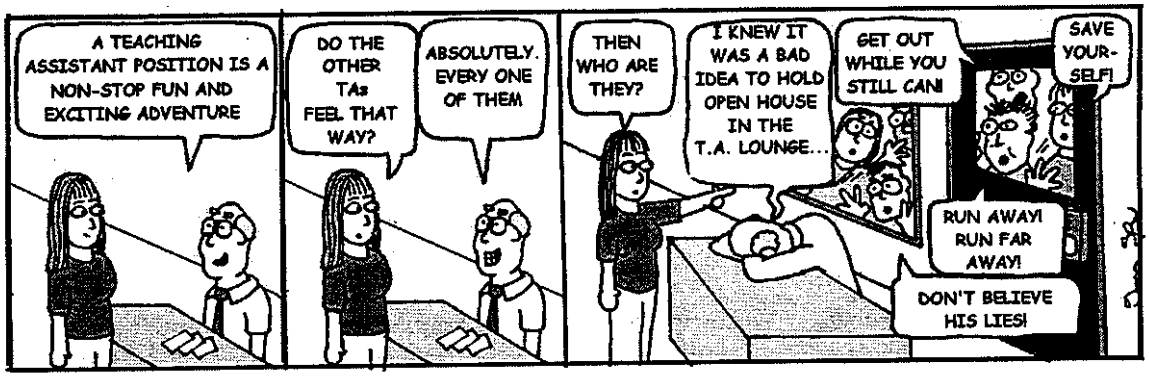


The ITA's survival manual

Welcome

Dear ITA (International Teaching Assistant),

Soon you will arrive to the United States and discover a new world, a new way of living, and maybe a new language. As a graduate student in the College of Science, you will have to teach a lab section almost as soon as you arrive. Labs start at the same time as your own lectures. It can be hard to adapt so quickly to a new culture and maybe you will feel lost.

Since many of us went through this process, we have decided to write for you this *ITA's Survival Manual*. The purpose of this booklet is to give you useful and practical information on your future assignment and to ease your first steps in the lab's jungle.

We hope you will take time to read this booklet. Remember that numerous students at ND have lived the same adventure and will always be happy to help you!

Elsa -

1. Who are Notre Dame students?

a. The American system

Here is a schematic representation of the American school system.

Age	School type	Diploma
Below 6	Kindergarten	
6 to 13	Elementary school	
13 to 15	Junior high	
15 to 18	High school	High school diploma
After high school	University	Bachelor's degree

After high school, American students wishing to study science can apply to a university to earn a Bachelor's degree in four years. During these four years, they are called *undergraduate students* or *undergrads* (freshmen the first year and then sophomores, juniors and finally seniors). They choose one or two *majors* (study areas). The students who choose to study science at Notre Dame belong to the *College of Science*. They earn a *B.S.* or *Bachelor of Science degree.*

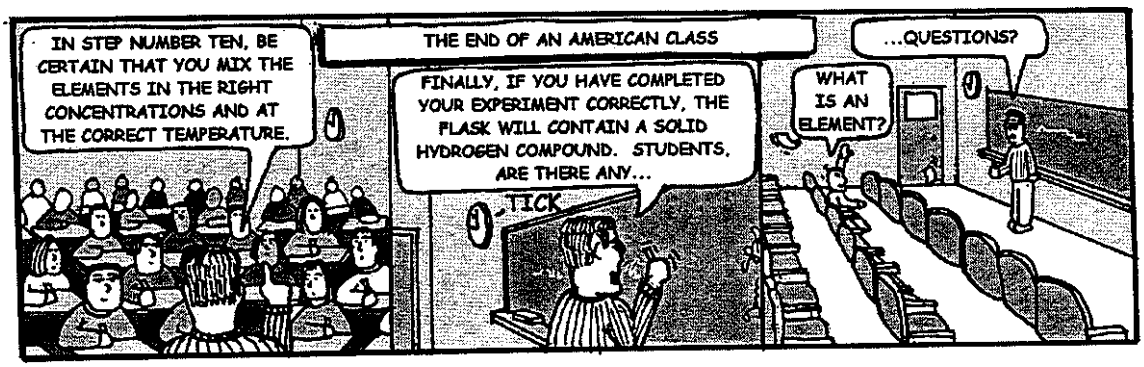
Once they have obtained their B.S., they can:

- Enter a Medical School
- Enter another university for a Master (2 years of study) or a Ph.D. (Doctor of Philosophy Degree in 5 years)
- Or even start working.

Graduate students like you generally teach labs for freshmen and sophomores.

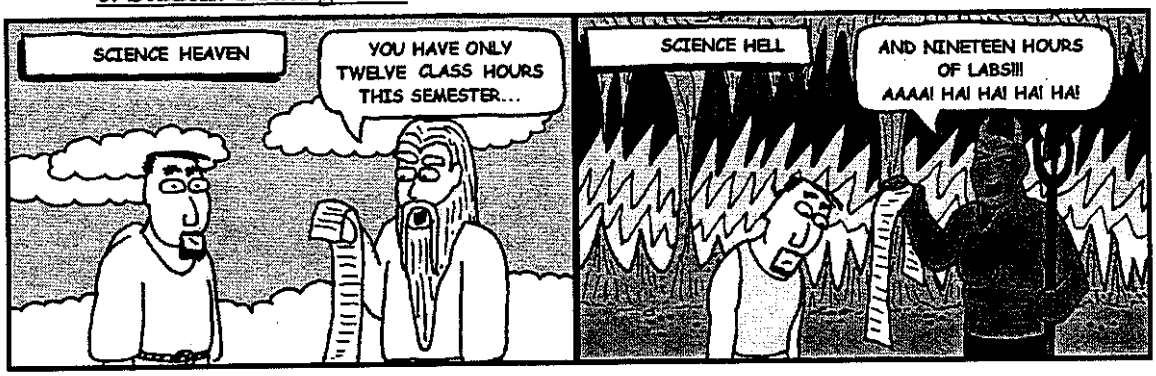
b. University schedule

An academic year is divided into two semesters: *Fall semester* (from August to December) and *Spring semester* (from January to May). There is one of week vacation in the middle of each semester, called *Fall break* and *Spring break.* The summer vacation lasts from mid-May to mid-August.



Each lecture has a few tests during the semester in addition to one *mid-term exam* (before the break) and one *final exam* (at the end of the class). Labs grades are assigned based on lab reports (one report for each lab) and a *lab final* (a written exam) at the end of the semester.

c. Student's background



Chemistry: Some chemistry is studied in high school, but overall, students have little background. They are starting the lab at the same time as their lecture. It means that you will have to teach them the names of the glassware, the compounds you use in the lab, ...

Biology : Students biology background will vary greatly. Some will arrive with extensive knowledge, good lab experience, and having done research (I even had a student who had published). For others this will be their first time in a real Biology class. The latter group would know next to nothing about scientific methods or lab procedures. Regardless of their biology background, almost all will be very good students.

Physics : Physics is not mandatory in high school, so some students may have seem some basic subjects like mechanics and electromagnetism. However, some students have never studied physics in their lives. Therefore, it is fair to assume that in general they have no background. They also start the lab at the same time as their lectures, so it is important for them if the TA goes through the explanations with details.

d. Particularities of Notre Dame students

Every year, Notre Dame ranks among the 15th top universities in the United States for its undergraduate program. On a general basis, students are above the average Academically. They generally come from wealthy families and have received a top education. They are hard-workers and have their priorities well set. Notre Dame is also a Catholic University and 90% of the undergrads belong to this religion. They value integrity and are honest (they generally don't cheat).

2. The different labs in the College of Science

Labs and lectures are two different classes. It means that students have to register for both of them. They also have a grade for each class. The lab is designated by the same code as for the lecture, followed by the letter L. For example, the organic chemistry lab associated with the organic chemistry lecture Chem 223 is Chem 223L. Numbers in the hundreds are related to freshman labs (first years), in the 200s to sophomore labs, …

Chem = Chemistry Phys = Physics Bios = Biology Math = Mathematics

a. Chemistry Labs (Chem 117L and Chem 223L)

They are two labs taught by first year graduate students in the Chemistry and Biochemistry departments:

- General chemistry (Chem 117L) – taught by physical and inorganic chemistry majors
- Organic chemistry (Chem 223L) – taught by organic chemistry and biochemistry majors

These labs are both directed to *pre-med students* and to chemical engineer undergrads. Pre-med students are the students who want to enter Medical school. To be admitted in a school, they need to have very good grades. Thus, they are generally serious and hard-working students. Don't be surprised if they try to argue their grades with you. Chemical engineers don't need a high grade in general or organic chemistry. Their work load is very important, thus they will probably spend less time working on their lab reports. However, they are much interested in chemistry than pre-meds.

b. Biology labs

First year graduate students who TA will probably be assigned to Bios201L (General Biology for non-majors) or to Bios155L (General Biology lab for Biology majors). These labs are directed to pre-med students, biology majors and students outside from the department. Non-majors are Biology department students who are in programs like Environmental Biology, Business Science or Pre-med. Most of these students have interest in biology, but their main career goal is not to be a professional biologist or researcher. Biology majors are students with great interest in biology and most want to pursue a career in the field. Depending on your background, you could also be assigned to teach at a higher level course, like Ecology or Cell Biology.

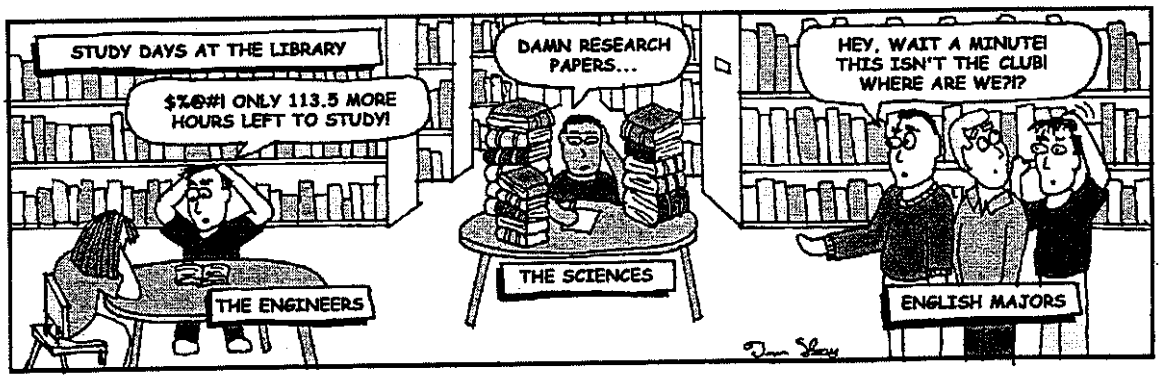
c. Physics

Physics TAs assist lab sections, grade exams and homeworks and lead discussion sections and tutorials. Incoming physics TAs have to grade exams and homeworks and/or assist a faculty in lab sections. They don't lead discussion or tutorial.

ITAs can be assigned to work in

- 131L/221L : mechanics and/or
- 132L /222L electromagnetism and modern physics

The 130's are usually taken by freshmen that want to join the College of Science or the College of Engineering while the 220's are usually taken by pre-med sophomores. Pre-med students are the students who want to enter Medical school. To be admitted in a school, they need to have very good grades. Thus, they are generally serious and hard-working students. Don't be surprised if they try to argue their grades with you. Their lab reports are in general very neat and complete. The engineers and science students don't need so high grades and so they don't put as much effort in their reports. On the other hand, they are whole lot more independent than pre-meds and will work hard to go through the experiment with a minimum amount of help. There are other undergraduate labs, but they are very rarely assigned to new ITAs.



3. Physics Labs

Your work consists of:

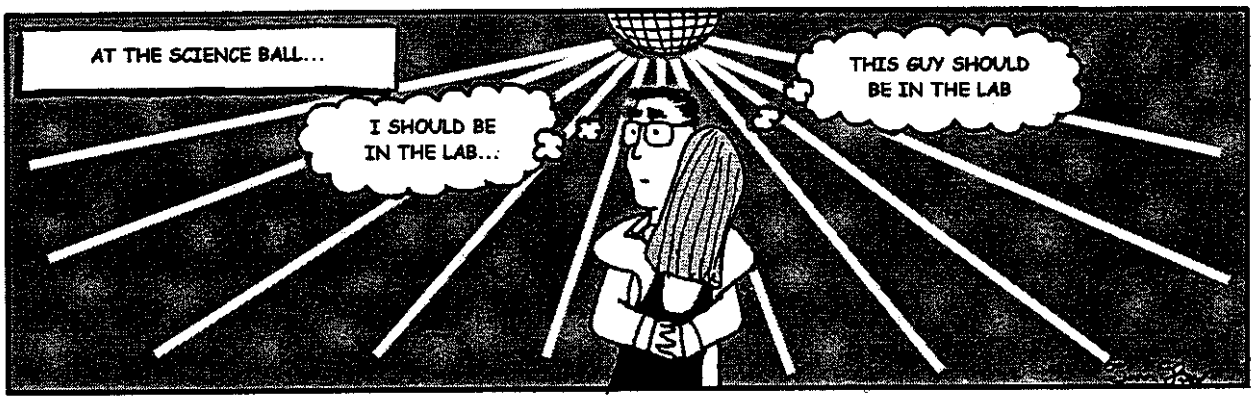
- Assisting a faculty member in a lab session / week;
- Grading the student's lab reports;
- One or two office hours / week;
- A TA meeting once a week or once every two weeks.

a. Lab teaching

This is the main part of your TA assignment. Each lab session has between 16 and 22 students divided into two halves, each one assisted by one TA. Therefore, there are usually two TAs in each lab session in addition to the lab instructor.

Typically, each lab session is opened with a brief lecture of about 15 minutes duration ministered by the instructor, during which the physics motivation for the experiment is reviewed, the laboratory equipment introduced, and relevant grading procedures discussed. After that, the students work in groups of two following the directions contained in their lab manual. During the session you have to be ready to answer questions about the physics and instrumentation related to that particular experiment. You should, as well, watch them closely to assure they are not doing something that might be dangerous or *mess up* their results.

The instructor is usually present during most of the session in such a way that you can address some questions to him/her. The whole lab session doesn't last more then 2 hours. You don't have to worry about assembling or disassembling the lab setups. Mr. Michael McFarland is responsible for this job and performs it with great competence. You can address any questions related to the various experimental setups as well as report any defective piece to Mr. McFarland.

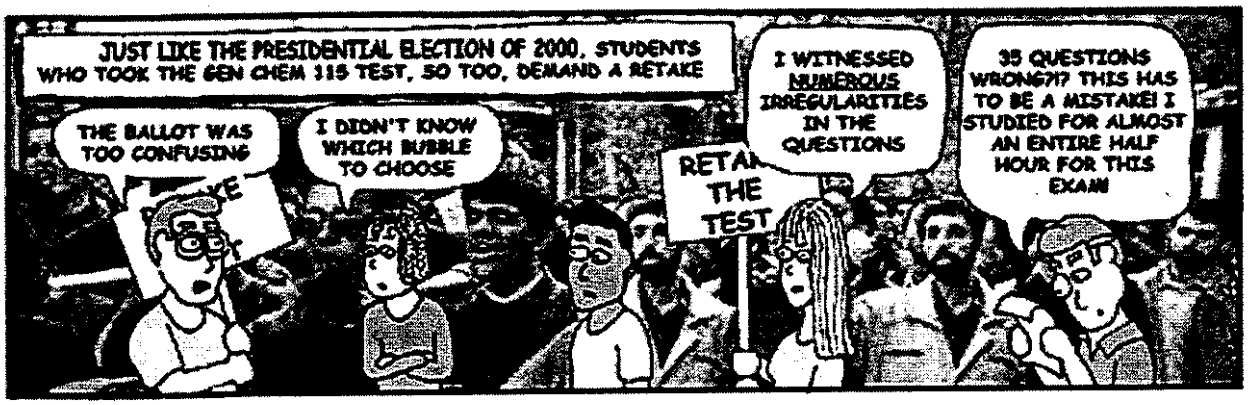


b. Grading the reports

For each lab, students have to write a report. There should be detailed guidelines about how to write a report in the lab manual and the students will tend to follow them. The reports are written and submitted on the appropriate (and famous) physics green lab form the students buy. You will certainly get used to those forms very quickly and maybe you will even "hate" them (life goes on). Reports are normally graded during the week following their submission and returned to the student at the next lab session!

Each report is graded with a maximum of 15 points (welcome to the US and say good bye to the decimal system). It is likely that the lab instructor will provide you and the students a grading scheme with a suggestion of how the points should be distributed. Although you can figure out your own grading scheme, I strongly recommend you to follow the suggestions, if any, provided by the instructor. This way you keep your grades more or less consistent with the other sessions TAs grades. I also recommend that you write notes and explain clearly the reasons why you are taking points off.

You are expected to keep the grades and provide them, with averages, to the instructor in the middle and in the end of the semester. This average will be part of the overall grade for that course, which means that you don't have to worry about giving letter grades to the students.

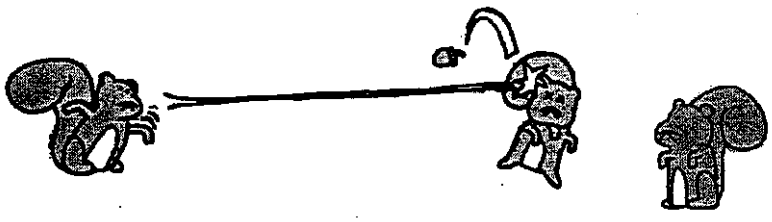


c. Office hours

You are required to reserve one or two hours a week when you should be available to your students. They can reach you for questions related to their report.

d. Lab TAs meeting

Once a week, all the TAs gather with the faculty in charge of the lab. This hour is used to introduce the next lab, coordinate the grading scales, and to discuss the lab in general. If you have any questions or problems, this is the ideal opportunity to discuss them with the other TAs.

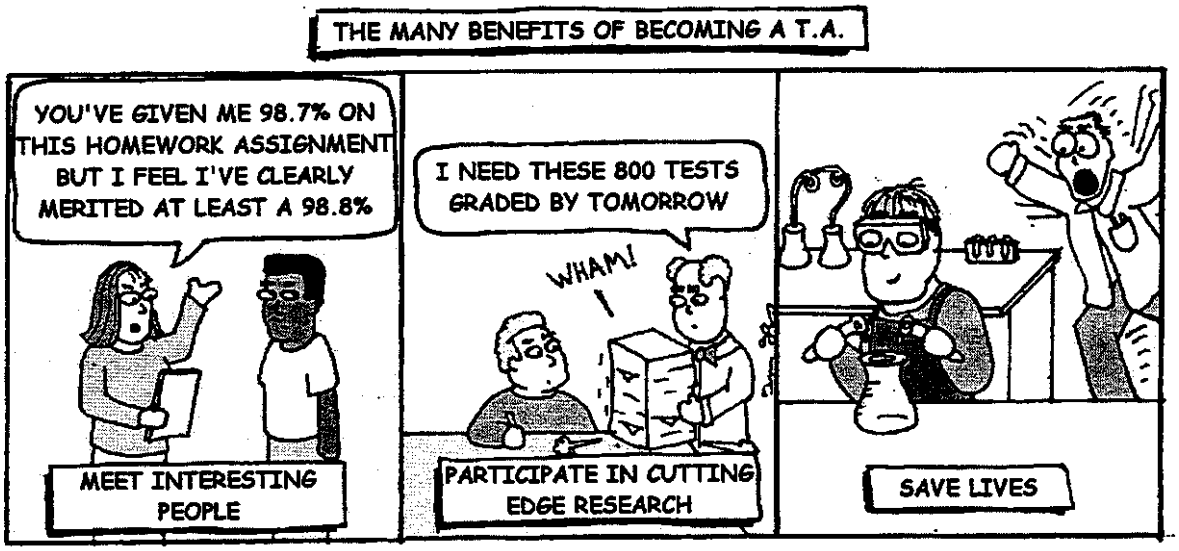


4. Being an International TA.

对于大多数中国学生来说，作 TA 的最大挑战是来自于语言而不是教课的内容. 令人欣慰的是在 Notre Dame 你不用参加许多学校在做 TA 前所必须的英语口语考试. 最困难的是前两三次 TA. 由于语言障碍而造成的不自信会引起些许的紧张. 这样会使你越发听不懂学生的问题. Mrs. Peterson 会很热心的帮助你度过难关. 在你做 TA 前，最好观摩一下其他 TA 的课. 弄清楚包括实验准备，实验内容，操作步骤等各个细节. 这样做起 TA 就会胸有成竹一些. 如果怕自己讲不清楚就在黑板上多写一些提纲. 如果有时间给学生发一些 handout 也是有必要的.

For most Chinese graduate students, the biggest challenge for a TA is from the English language instead of the content of courses. Pleasantly, at Notre Dame, you do not need to take an English Oral Examination that is required in most universities before you become a TA. The first two or three tutorial classes are the most difficult. A lack of self-confidence caused by your language problem will make you too nervous to understand the students' questions. Mrs. Peterson will warmly help you to pass this tough time. Before you are going to teach, it is better to listen to the courses taught by others and make sure you have considered all the processes in details including experiment preparation, content, and operations. This will help you teach more successfully. If you are afraid that you can not speak clearly sometimes, you can write your answers and ideas on the whiteboard. It is also necessary to print some handouts for students.

- Weiquiang-



The life of an international TA in the Physics department of Notre Dame is not as tough as it is in other schools. The workload is not so hard, so you can expect to be able to manage the TA job and your courses simultaneously, as long as you work as hard as a graduate student is expected to work. You can even manage to do some research if you are really a hard working guy (or girl !). The relationship among the student is usually good and you will meet a lot of fellow graduate students who will be willing to help you get acquainted to the TA duties. Moreover, most of the faculty makes all efforts to be close to the students, so you should fell free to ask questions every time you think you need. You don't have to worry about being underestimated by a professor just because you don't know how to perform some experiment in your TA lab or because you are not very much sure about how to solve a particular problem in a test you have to grade. This is an advice I collected among the professors themselves because their experience shows that it's better for the well going of a lab or a grading session if you have your doubts and concerns straighten out in advance.

A vida de um TA estrangeiro no departamento de física de Notre Dame não é tão dura quanto em outras escolas. A carga de trabalho não é tão pesada de modo que você pode esperar ser capaz de fazer o seu trabalho de TA e estudar para os cursos simultaneamente, se você trabalhar tanto quanto um estudante de pós-graduação é esperado. Você ainda pode ser capaz de fazer pesquisa se você trabalha muito mesmo! O relacionamento com os outros estudantes de pós-graduação é, em geral, bom e você deve encontrar vários colegas que estarão dispostos a ajudá-lo a se familiarizar com o trabalho de TA. A maioria dos professores, por sua vez, se esforçam para se materem acessíveis aos estudantes de forma que você pode se sentir a vontade para fazer perguntas sempre que precisar. Não se preocupe em ser subestimado por um professor só porque você não sabe como realizar um experimento no laboratório do qual você é TA ou não tem certeza de como resolve um problema que caiu em uma prova que você tem que corrigir. Esse é um conselho que eu obtive com alguns professores porque, baseado na sua própria experiência, é melhor para o bom desenvolvimento da sessão de laboratório ou de correção de provas se você tirar todas as dúvidas e preocupações antes de iniciar.

- Igor -

Being a TA at Notre Dame's Biology department can be one of the best experiences of your professional life. The professors are very supporting of your work, the workload is reasonable and the students willing to do the work you demand. With just a bit of common sense, care for your students and attention to your professors' instructions, being a TA will be a pleasurable, easygoing and rewarding experience. You will make friends with your students, share with fellow TAs, improve your academic credentials and get paid, all at the same time. What can be better than that? Be sure to enjoy the process completely by fully engaging in the teaching process. I improved my teaching (or so say my students) by attending the Kaneb Center's seminars. You should give these seminars a try. Good luck.

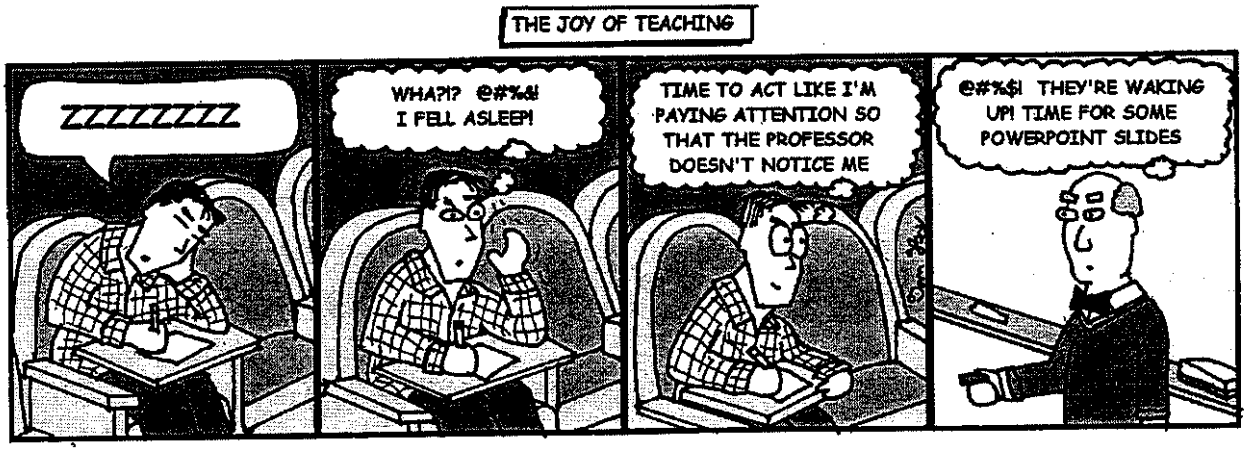
Ser un asistente de cátedra (TA) en el departamento de Biología de Notre Dame puede convertirse en una de las mejores experiencias de tu vida profesional. Los profesores dan buen apoyo, la carga de trabajo es razonable y los estudiantes listos para hacer el trabajo que les exijas. Con un poco de sentido común, cariño a tus estudiantes y prestar atención a las instrucciones de tu profesor, ser un asistente de cátedra puede ser una experiencia placentera, fácil de llevar y gratificante. Vas a hacer amigos con tus estudiantes, compartir con otros compañeros asistentes, mejorar tus credenciales académicos y ser pagado, todo esto a la misma vez. ¿Que puede ser mejor que esto? Asegúrate de disfrutar el proceso a plenitud sumergiéndote por completo en el proceso de enseñanza. Yo mejoré mucho mis destrezas de cátedra (o por lo menos eso dicen mis estudiantes) asistiendo los seminarios del Kaneb Center. Te recomiendo por lo menor intentar asistir a estos seminarios. Buena suerte.

- Sebastián -

5. Where to seek help ?

If you have any question or problem related to your teaching, don't hesitate to ask your fellow TAs. They will all be very happy to answer your questions and help you. You can also ask an appointment to the person in charge of your lab.

Finally, the *Kaneb Center for Teaching and Learning* has, among many things, the mission to serve TAs in their teaching roles. Throughout the year, they offer many workshops to graduate students as well as individual consultation as needed by TAs.



Good luck !

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