



**Physics  
and**



**Astronomy  
Teacher Assistant  
Professional  
Development**

# About

This one-day training workshop was developed and facilitated by grad students in the department, focusing on practical teaching skills that the TAs could easily bring into their own laboratories and classrooms. The course was mandatory for all new TAs.

# Outline

The format of the workshop built off of the very successful model we developed in previous years, where the new TAs explored topics under the direction of more experienced TAs. It was broken into hands-on modules that focused on practical teaching skills that TAs could bring into their own laboratories and classrooms, emphasizing issues pertaining to teaching physics in particular.

# Modules

# From Learning to Teaching

The TAs explored their own good and bad learning experiences to determine the important aspects of teaching. This section also served as an ice-breaker and to set a tone of open dialogue for the rest of the workshop. The TAs experiences clearly demonstrated the difference between learner-centred and teacher-centred learning, which very effectively sets the stage for the later modules.

## Teaching by Questioning

TAs watched and critiqued two videos of TAs interacting with their students. The TAs in the video used Socratic questioning techniques to greater and lesser success. The video is stopped, and the TAs are asked to imagine what they would do if they stepped in and took over.

# **Formative Evaluation**

This short module was a quick lecture on methods of getting feedback from students about your teaching or their understanding. Although less interactive than the other modules, it refers to techniques and questionnaires that they've already seen and participated in throughout the workshop.

## **Introduction to the Lab**

For this module, all of the TAs moved to the Physics 101 lab. The TAs were instructed to start taking data with minimal introduction in order for them to experience the fear and confusion many of their students may feel about the lab. The TAs then discussed the many possible learning goals of the undergraduate laboratory class. The new TAs then had the opportunity to practice introducing a lab in small groups amongst their peers, allowing for feedback and evaluation.

# **Gender and Diversity**

In the past, the TAs were asked to consider various case studies regarding culture, gender and diversity, and to discuss how they would respond. Based on participant feedback, this module will be restructured to make the learning more interactive and relevant, addressing social elements of diversity. In addition to this active approach, we will model inclusive teaching throughout the training workshops. Through evaluations that will ask the TAs to identify these elements, the TAs will realize for themselves how to incorporate such behaviours into their teaching. TAs in leadership roles will also receive formal training so that diversity can be incorporated into all elements of the program.

## **Course-Specific Training**

Two more workshops are held every fall to follow up the TA training program. These shorter, 3-hour workshops are coordinated by Course-Specific TAs and allow new TAs to learn skills specific to their courses, such as marking, working with groups, and problem solving.

# Mentor TA program

All new TAs are assigned a Mentor TA, whom they meet with in a series of peer-review sessions during the semester. These sessions include introductory meetings between the mentor and mentees, in-class observations and discussions and a peer-review session facilitated by the mentor TA.

## Testimonials

Responses received at the end of term survey indicate that the incoming TAs feel this training is very beneficial and should be continued in the future.

*“The workshop gives everyone a chance to meet one another and provides useful hands-on experience.”*

*“(The training) provides good concrete ideas for how to approach teaching, and it makes the TA aware of how his or her teaching might be improved.”*

*“Having a TA training program really improves the overall quality of teaching and shows that UBC is taking teaching seriously.”*

*“As an incoming graduate student it was basically the only thing I received good, clear, useful instruction about. It was nice to walk into the lab on the first day and actually feel prepared for what I was about to do.”*