Physics & Astronomy

Teaching Assistant Professional Development Program

TAPD Facilitators
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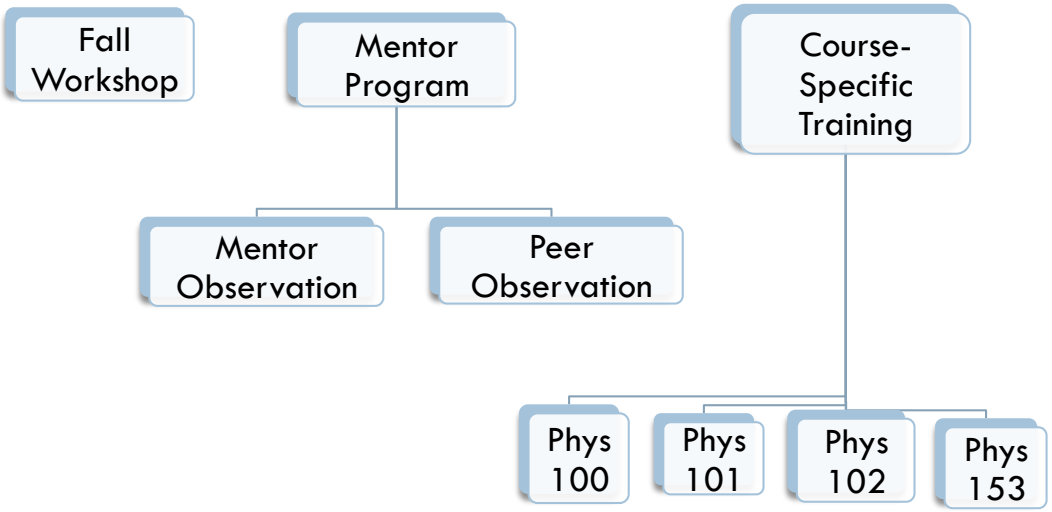
All training information, including module slideshows can be found at:
www.phas.ubc.ca/~phas_ta/programs.html

Program Overview

For New TAs



For Senior TAs

- Workshop Development
- Peer Review Training
- Culture & Diversity Training
- Peer Mentoring
- Formative Evaluation from Trainees
- Peer Observation

Skills & Competencies for New TAs

Fall Workshop

- Socratic questioning
- Formative evaluation
- Learning goals
- Presentation practice
- Culture & diversity

Course-Specific Training

- Efficient marking
- Targeted teaching methods for particular labs/tutorials
- Ongoing support & follow-up

Mentor Program

- In-situ feedback
- Deliberate practice
- Reflection
- Ongoing support & follow-up

Skills & Competencies for senior TAs

Coordinators

- Fall workshop development & delivery
- Facilitation of all TAPD programs
- Funding & budget
- Culture & diversity training
- Formative evaluations for program assessment

Head TAs

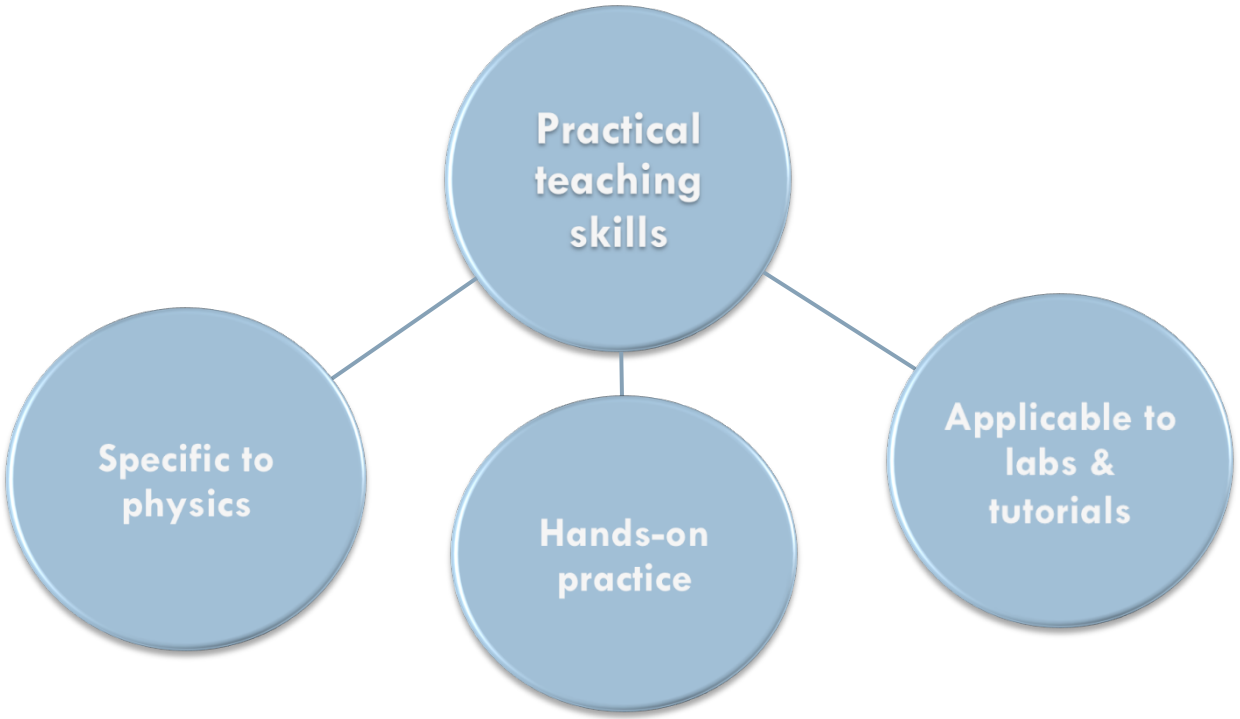
- Development & delivery of course-specific training
- Peer mentoring
- Course administration & development
- Culture & diversity training
- Formative evaluations to tailor training

Mentors

- Peer review training
- Mentoring & role model experience
- Observing other teaching styles
- Culture & diversity training
- Effective use of feedback from observations & discussions

Core Workshop

- Developed by graduate students for graduate students
- The workshop is paid mandatory training for all new TAs
- All graduate courses are cancelled for the duration of the workshop to ensure participation



Core Workshop

Introduction & Job Expectations

The professional aspect of a teaching assistantship is emphasized through presentations detailing departmental and union expectations of the TA role

- The Department Head presents an overview of the department's expectations of TAs, including:
  - Responsibilities inside and outside the classroom
  - Expected TA work hours and nominal duties

- Important job information from the TA union (CUPE 2278) is highlighted

Core Workshop

From Learning to Teaching

TAs explore their own positive and negative learning experiences to determine the important aspects of teaching

- Effectively sets the stage for later modules by demonstrating the difference between learner-centred and teacher-centred learning
- Serves as an ice-breaker and sets a tone of open dialogue for the rest of the workshop

Core Workshop

Teaching By Questioning

TAs watch and critique recordings of real TA-student interactions and imagine what they would do if they stepped in and took over

- Introduces the use of Socratic questioning techniques in the classroom
- Videos are from the University of Maryland Physics Education Group "Maryland tutorials in physics sense making"

Learning Goals in the Lab

TAs discuss learning goals and their role in the lab setting. They are given the opportunity to examine a sample lab from a first year physics course and develop a proper set of learning goals for it.

- Motivate the importance of learning goals in a lab or classroom setting for both *teaching* and *learning* purposes
- TAs learn how to make their learning goals specific, measurable and attainable.

Core Workshop

Course-Specific Training

TAs attend a training session specific to the course they will TA in the upcoming semester. The training is coordinated by the courses' Head-TA(s) and provides all the necessary tools and training TAs will need to comfortably lead their first lab or tutorial.

- Allows TAs to practice delivering a properly structured introduction to their peers
- Provides a platform for receiving and giving constructive feedback and evaluation
- Focuses on skills specific to courses, such as marking, working with large groups, and problem solving

Core Workshop

Formative Evaluation

TAs learn effective techniques for obtaining constructive feedback from students

- Highlights the different roles of feedback in the classroom, such as
  - Improving one's performance as a TA
  - Assessing the students' understanding as new concepts are introduced
- Refers to techniques and questionnaires that TAs have already seen and participated in throughout the workshop

Core Workshop

Creating Inclusive Classrooms

TAs explore the impact of their identity/culture on their teaching and learning experiences and discuss sensitive situations presented via several case-studies.

- Fosters an open and interactive environment ideal for discussion of complex gender and diversity issues
- Focuses on issues that could be encountered in a classroom, which are relevant to the TA positions

Note: TAs in leadership roles also receive formal training from the Center for Inter-Cultural Communication (CIC) so that diversity can be incorporated into all elements of the training program

Ongoing Course-Specific Training

Head TAs have the additional responsibilities to:

- **Run regular meetings** where upcoming tutorials and laboratories are discussed:
  - Emphasis of the meetings is on "**how** to teach" rather than "**what** to teach".
  - e.g. identify teaching strategies that will address common student misconceptions, misinterpretations of activities, etc.
- Challenges:
  - Attendance and perceived value
  - Keeping focus on "how" vs. "what" to teach
- Meeting format will be updated next year to address these issues.

Mentor TA program

Each new TA is paired with a single Mentor TA for the duration of the fall term, and participates in a series of peer-review sessions.

- All mentors participate in a peer review training session offered by the Center for Teaching Learning and Technology (CTLT)
- The program is facilitated by a Mentor Coordinator whose main responsibilities are to:
  - communicate with and support the mentors
  - coordinate the pairing of mentors with mentees
  - act as a liaison with the TA Training Facilitators

Mentor Program Overview

1- Introductory meeting

Discuss mentee's teaching goals and skills they would like to improve

2 - In-class observation

Mentor observes the mentee in the classroom

3 - Post-observation debrief

Pair discusses the mentor's observations

4 – Follow-up observation

a) Peer Review between mentees b) Second mentor observations

5 - Follow-up discussion

Post observation discussion facilitated by the mentors

The TA Handbook

Created in 2012, the TA Handbook covers topics relevant to both new and experienced TAs:

- Job expectations, responsibilities and position details
- Important departmental and external contacts
- Tips and tricks to improve one's teaching, as well as links to additional resources and contacts
- Classroom problems and resolutions
- Culture and diversity; techniques to create an inclusive classroom environment
- Creating and using formative evaluations
- First day checklist

This book was distributed electronically to all TAs, or in paper format by request.

Plans for 2014/2015

- New workshop module: Measurement & Uncertainty
  - First year labs focus on evaluating uncertainties on measurements in data analysis
  - Many new graduate students do not have sufficient experience or training to effectively teach these subjects
  - Module content informed by the course requirements and research done by the Physics and Astronomy Education Research Group.
- Updated Ongoing Course Specific Training
  - Still address learning goals, common student problems, technical components of lab/tutorial
  - Will also involve short, additional training about teaching and learning in physics. The materials for this additional training will be prepared by the TAPD coordinators in advance, and informed by Physics Teacher Education Coalition's case based Video Resources for Learning Assistant Development
  - Head TAs will choose which materials to use and when to use them