Teaching Matters

Great Teaching . . . by Design

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# Redefining the Lecture

We all have our pet peeves. One of mine is what I perceive as an over-reliance on the word “lecture”. Many of our courses have 2-3 “lectures” scheduled each week. Students see LECs on their schedules that identify their “lecture” time slots. What does this word mean? Perhaps more importantly, what does it mean to our students? And is it time to find a new term?

Chaudhury (2011), in a concise overview of lecturing styles both past and present, indicates that the denotative meaning of “lecture” is “to read aloud” (p.14). I’m not aware of very many instructors who still read their lectures, but there are certainly many who deliver traditional, didactic lectures. There are many more who integrate various activities into their classes, such as clicker questions, small group discussions, de-bates, and problem-solving, and yet these courses are typically also labelled as “lectures”. What’s the worry here, you ask?

Perhaps nothing, but what does this term “lecture” mean to our students? As part of my own research, I have conducted interviews with 17 students about their responses to innovative instructional methods. One question that I asked them was: “What does the word ‘lecture’ mean to you?” The following are excerpts from a sampling of their responses:

“It’s just listening to someone explain a specific topic or hearing some-one share their knowledge of something…The students just listen and take notes and try to take as much out of it as they can just by listening.”

“…the majority is the prof taking the active role and the students taking the passive role.”

“…usually it’s just a professor standing up in front of the class, got the Power Point going, will ask the class questions but usually has not made the class comfortable enough to feel OK putting up their hand and really interacting.”

“…lecture means that you come and basically sit and listen for 50 minutes. I wouldn’t define it as an interactive thing. It’s them speaking to you and you taking notes. And the occasional question throughout but mostly just lecturing. That’s typically what I find in my…courses.”

Denotative meanings of words are very useful, of course, but connotative meanings are quite powerful. In the case of “lecture”, might it be the case that this label creates expectations on the part of students (and instructors) about what will happen during the class time and what the expected behaviours will be? The quotations above suggest that the answer to these questions is “yes”.

If you are going to deliver a traditional lecture (and there are times to use them), then there should be alignment between students’ expectations and their experience in your course when LEC appears on their schedules. But if you’re going to augment your lecture with various activities, move your lectures online and solely use learning activities during your class time, or eliminate lectures completely, then “lecture” doesn’t fit. Nor will the students’ expectations when they arrive in your class.

Currently Waterloo has 18 different [“type of instruction” codes](http://ugradcalendar.uwaterloo.ca/page/Course-Descriptions-Index) listed in the Undergraduate Calendar. You could list your course as a “Discussion”, “Seminar”, or “Workshop” if it’s not really lecture-based, but according to the [definitions](https://uwaterloo.ca/quest/undergraduate-students/glossary-of-terms#T) of these terms, the expectation is that these classes will be small. From the link just provided, a “lecture” at Waterloo is defined as follows:

“Teaching normally takes place in a classroom setting. Instruction is usually in the form of a series of lectures that meet 1 to 4 times per week for a total contact time of 2 to 4 hours. Typically, there is a large student/instructor ratio. The total class size should be normally more than three students…”

While this definition does not spell out the characteristics of a “lecture”, students already have their con-notations. So, the question is: is it time to add a new type of instruction to all of our vocabularies? Maybe terms like “interactive class” or “blended learning” or some other label might be more appropriate? Words do matter. Let’s help set the right expectations for our courses before students even enter our classrooms. It might set the stage for a whole new learning environment.

Of course, questions still remain such as whether we have enough classroom spaces to facilitate interactive learning with large classes or whether our course evaluation forms include questions that are pertinent for non-traditional types of teaching. I will leave those questions for a future article or blog posting. If you have a new term to share, though, I’d love to hear it!

Reference:

Chaudhury, S.R. (2011). The lecture. In B. Buskist & J.E. Groccia (Eds.), *New Directions for Teaching and Learning,* 128 (December), 13-20.

Donna Ellis

Integrating First-Year Mechatronics Courses: A Tale of Three Instructors



What do a spider, a scanner, and a musical instrument all have in common? All are robots created by first-year Mechatronics Engineering (MTE) students this past fall. The projects were part of the first-year pilot that integrated three courses: Mechatronics Engineering; Digital Programming; and Chemistry. As part of this initiative, Sanjeev Bedi, Carol Hulls, and Mary Robin-son, shared projects, teaching methods and assessments among their three courses.

The motivation to integrate courses came from a number of sources. Both graduating MTE students and MTE faculty members were concerned by the lack of integration among the courses, an issue that was raised by a faculty-wide task force investigating first-year retention. Another factor was the shift toward outcomes-based assessment for accreditation in engineering and the introduction of degree-level expectations across Ontario. Although their program was rich in engineering science, it did not fully address some of these outcomes, specifically communication, design experience, professionalism, and teamwork.

With the support of both Pearl Sullivan, then Chair of Mechanical and Mechatronics Engineering (MME) and Ajoy Opal, Director of First Year Engineering, a group formed to begin the process of integrating the courses. The team developed three major assessments, engine dissection, fuel cell cars, and Arduino/Lego Mindstorm robots, the latter two integrating the mechatronics concept course with one of the other two courses. In the engine dissection lab, students disassembled then reassembled a small engine (and had to demonstrate that it would run after they put it back together). Although this project focused primarily on the concepts course, it set the stage for open-ended questions, problem-solving, a high level of engagement, and encouraged students to talk to their professor and others involved with the course. It gave students the freedom to experiment in a safe environment and allowed students to be creative, critical elements for success in the following two integrated projects.

Fuel Cell and Telescoping Report in Chemistry and Mechatronics Engineering

Students worked together to modify small fuel cell cars. This project was complemented by four reports on Safety, What is a Fuel Cell?, Fuel Cell Chemistry, and Electro-Chemistry. The fuel cell car project was de-signed to show the relevance of the chemistry concepts to the Mechatronics Program as exit survey data showed that students did not think the course fit into the engineering flavour of the program. To bring out this relationship, the telescoping reports were very helpful. The topics of the reports were designed to focus the attention of the chemistry theory and how it played a role in the performance of the fuel cell car.

Arduino/Lego Mindstorms in Digital Programming and Mechatronics Engineering

The Arduino and Lego Mindstorm projects were included in the course to expose students to Mechatronic System components with a focus of the project on developing creative thinking. Students created motorized Lego structures. They selected their own project topic and the teaching team served as advisors. This ownership translated into ambitious projects that exceeded expectations in performance and complexity. Although these projects merged two of the three courses, it was critical that the three instructors worked together. We had an opportunity recently to meet with Sanjeev, Carol, and Mary to learn more about this amazing undertaking.

*Q: What did you do before the term started to prepare for this collaborative effort?*

The team of five instructors [including linear algebra and calculus] met for the first time in July 2011. After discussing the goals of the pilot project it was decided to focus the integration effort on a smaller sub-set of the five courses. In selecting the set of courses we focused on those courses whose instructors were com-fortable with subject, students, system and were interested in improved methods of education. It so happened that three of the instructors [Carol, Mary, and Sanjeev] had attended CTE’s Teaching Excellence Academy and were keen to try new ideas. These instructors became the core of the integration team.

We met on a regular basis to implement the integration process. The early meetings were mainly focused on converting us into a team and learning more about each other’s course. Three key tasks were identified.

**Generate an integrated schedule** that listed the lectures, labs and tutorials for the three courses. This snap shot exposed the opportunities and obstacles in the various integration ideas that we discussed.

**Alter or remove some content**. The three courses were “full” of content. Removing content raised anxiety for all of us. Through mutual respect and trust, we identified similar course content, which helped identify collaborations and savings in lecture times. For example, we used robots to develop examples and assignments in Digital Programming, whereas in the past we used Linear Algebra as the source of assignments.

**Negotiate support ahead of time**. Teaching is a core activity for professors and it affects their progression through the ranks. This initiative was clearly an off-road adventure and could lead to disastrous results. We had support of the Program Director and the Department Chair, so repercussions of failure were minimized.

*Q: What kind of extra resources did you need and was it supplied by your departments?*

The resource issue is a difficult one. If all of the resources required for implementing the integration are identified in earnest, it would scare the management from attempting any integration. We took the approach that the University of Waterloo is a well-equipped and manned institute. For the pilot we were sure we could convince our colleagues to help develop and deliver the labs. This notion proved largely to be true. The key items that made the integration a success are listed below:

A key member of the MME department who supported this work was Chris McClellan, an engineer and recent graduate from Waterloo. Chris helped design, build and test the engine dissection lab. With his help an engine for the dissection lab was selected in Fall 2010. We purchased 40 engines with help from the Waterloo Engineering Endowment Foundation (WEEF) and the MME department. The winter was spent building an integrity testing station designed to ensure that the students re-assembled the engine properly and building a test station for determining the efficiency of the engine. This task required additional help and the department paid for a coop student to help Chris. In addition, we developed guidelines for students to clean the engines before returning them, which became part of the course. The resources of the MME department and the belief and commitment of its staff and faculty made the integration possible.

A few years ago the first year office decided to hire upper year engineering students as TAs for first year courses. They are commonly referred to as the WEEF TAs. This decision helped us a lot. The upper year TAs recognized the importance of introducing a hands-on experience in first year and devoted themselves to making it a success.

The teaching team decided at an early stage that they would go to WEEF for project funding on a regular basis. This has proven to be very helpful. The WEEF directors know the team and know the accomplishments of the team and thus have supported us with over $20,000 in funding over the past year.

*Q: What were the most significant challenges you faced teaching in this collaborative manner?*

Three personalities and teaching styles

Flexibility, trust in each other that it would work out was a benefit

Keeping in sync – regular meetings – new baseline

Time commitment compared to teaching a regular course

Teaching evaluations can take a hit

Minimized fear of failure – enthusiasm

“Guardian angel” like Sanjeev to make it “all better” – gave us a safe place to experiment

Future Plans

The final question we asked was whether they would do this again. Their response was a very enthusiastic yes. They will run the integrated courses next year and possibly the year after. Their next step is to formalize how to study the impact of these changes and to determine what information they need to capture. This project was an interesting success story that was able to achieve its goals of enhancing the students’ learning experience, creating the balance between theory and experiential learning, as well as developing students’ team work and leadership skills.

Veronica Brown and Samar Mohamed

# Teaching Award Recipients

The Centre for Teaching Excellence is pleased to announce the recipients of the Distinguished Teacher Award for 2012:

A headshot of Tim Kenyon 

Tim Kenyon

Philosophy

Recipient of the 2012 Distinguished Teacher Award

Tim Kenyon, an associate professor and Chair of the Department of Philosophy, is highly regarded for his “great ambition for student success”. Students note that Tim incorporates memorable examples and humour into his lectures while encouraging student questions. His “mastery in the classroom” challenges their understanding of the course material while maintaining a positive atmosphere within the classroom. His genuine concern for his students’ success exists beyond the classroom, demonstrated by the extra study sessions he organizes. Tim also mentors junior faculty members. He works to cultivate a departmental environment in which faculty members and graduate students have regular opportunities to discuss their teaching practices, to learn from each other and to seek advice when they face challenges in their teaching. While being open to new teaching methods, he shares his own teaching tips with his colleagues and graduate students. In 2008, Tim participated in the Teaching Excellence Academy, where he redesigned his course to enhance his students’ learning. Tim’s influence motivated other faculty members, both within his department and other departments, to participate in the Teaching Excellence Academy. He recently served on the Task Force on Innovative Teaching Practices to Promote Deep Learning at the University of Waterloo.

A headshot of Firas Mansour 

Firas Mansour

Physics & Astronomy

Recipient of the 2012 Distinguished Teacher Award

As a Lecturer in the Department of Physics and Astronomy since 2007, Firas Mansour’s exceptional teaching style has gained respect and praise from his students. He currently teaches first year Physics classes to Engineers, Life Science and Physical Science students and has taught upper year elective Physics courses in the past. He is highly regarded for his quality of teaching, his enthusiasm in teaching, and his understanding of students’ needs. Many students have praised Firas for the extra help sessions that he holds through-out the term, as well as during the exam period. In the classroom, students find his lectures fun and enjoyable, stating that he has a “fantastic sense of humour” and teaches the course material with great enthusiasm. Firas remembers the names of all of his students, forming stronger teacher-learner bonds and motivating his students to be successful. His approachable manner and unique teaching style captivate his students’ attention while also effectively building their confidence and problem solving skills. The students note that “Prof. Mansour demonstrates all of the characteristics that the best professors display”. While his dedication to teaching is exemplary, so is his interest in outreach activities in bringing scientific knowledge beyond the university boundary.

A headshot of Alfred Menezes 

Alfred Menezes

Combinatorics & Optimization

Recipient of the 2012 Distinguished Teacher Award

Alfred Menezes, as a professor and Chair of the Department of Combinatorics & Optimization, is an instructor in cryptography, coding theory and introductory combinatorics and algebra. In addition to teaching undergraduate and graduate students, Alfred is an active graduate supervisor with more than 25 successful supervisions at Waterloo. In 2010, he was awarded the Mathematics Faculty’s Award for Distinction for his contributions to the faculty since he was hired in 1998. Students compliment Alfred on his exceptional teaching, stating “Alfred was clear, clever, and concise; an excellent combination for effective teaching”. One student wrote that he was amazed at how Alfred returned midterm tests personally without calling out their names. By memorizing the names and faces of his students using Watcard photographs, Alfred shows his dedication towards understanding his students. He maintains a well-organized website where he posts lecture summaries, assignments, and solutions in a timely manner. Alfred’s devotion to teaching excellence and student success displays his dedication to his profession. One nominator summarized the students’ view of Alfred as a teacher. “Based on the applause at the end of the final day of lectures, I think that others share my high opinion of Menezes”.

A headshot of Tracy Penny Light

Tracy Penny Light

Sexuality, Marriage, and Family Studies

St. Jerome’s University

Recipient of the 2012 Distinguished Teacher Award

Tracy Penny Light is an assistant professor and Acting Chair of the Department of Sexuality, Marriage, and Family Studies at St. Jerome’s University. Students praise her various teaching methods including the use of ePortfolios, PowerPoint, films, radio clips, research articles and small group work. Her students’ ePortfolios have been published and won prizes, and their collaborative experimental classroom processes have led to exciting learning outcomes such as Be Inclusive! (a documentary film examining inclusivity at Waterloo), an annual conference on sexuality, marriage, and family studies, and a ground-breaking first-year transition program to help high school students adapt to university learning.

Tracy impacts students directly through her classroom teaching style, mentorship, and pedagogy, and indirectly through her contributions to curriculum redesign and support for her colleagues’ own growth as teachers. She was a key leader in the establishment of the Teaching Excellence Academy, a four-day workshop for faculty members to engage in a course design process to revise a course that aligns intended learning outcomes, teaching activities, and student assessment. She has also been an excellent ambassador on behalf of Waterloo to other institutions, and a catalyst for advancing teaching nationally and internationally.

The Centre for Teaching Excellence is pleased to announce the recipients of the Amit & Meena Chakma Award for Exceptional Teaching by a Studentfor 2012:

A headshot of Keith Delaney 

Keith Delaney

Earth & Environmental Sciences

Keith Delaney, a graduate student in Earth and Environmental Sciences, is currently a PhD student specializing in geohazards and natural disasters. His remarkable teaching abilities are greatly appreciated by the students and faculty members in his department. The enthusiasm and interest he displays in the big first year courses in which he instructs gives inspiration to undergraduates to continue in this field of study. “It is in part through Keith’s enthusiasm and passion for the Earth Sciences that reconfirms my personal decision to dedicate my studies and future career to the geoscience field”, a student writes. Another writes “Earth 121 became my favourite course”. Keith is helping to ignite the interests of students in this important field of study.

A headshot of Andrea Murphy 

Andrea Murphy

School of Architecture Andrea

Murphy is a graduate student in the School of Architecture and is currently completing her Master’s degree. Throughout her time at the University of Waterloo, Andrea has been a dedicated teaching assistant and served as the president of the undergraduate student society while being an excellent architecture student. She is recognized in the school for her affinity for the technical side of the profession as opposed to the more common interest in the design and cultural aspects. By integrating the technical and design aspects together in her tutorials, the students achieved a better under-standing of the material. Her excellent teaching abilities are reflected in the students’ support, stating that she was “Clear, concise, and flexible to student needs”. Others complimented her on how familiar she was with the course, saying “her knowledge base far exceeded that required for the course”. These excellent qualities of Andrea as a teaching assistant are appreciated by all of the students in her tutorials.

A headshot of Arash Shahi 

Arash Shahi

Civil & Environmental Engineering

Arash Shahi is a graduate student who is completing his PhD in the field of Construction Management. Since joining the University of Waterloo in Fall 2002 as an undergraduate student, Arash has developed into a respected teaching assistant and mentor. His strong teaching abilities are recognized by those in his own department as he was assigned a sessional lecturer position in a 3B course with a class size of over 110. In course critiques, students consistently praise his efforts stating “Arash is very good at answering questions and guiding students”. Arash’s influence extends beyond the classroom to instructing and mentoring other graduate students to develop as teachers, through his work with the Centre for Teaching Excellence. It is noteworthy that his contribution to teaching excellence is in a broad range of areas.

A headshot of Hamed Shateri 

Hamed Shateri

Mechanical & Mechatronics Engineering

Hamed Shateri, a graduate student in Mechanical Engineering is currently completing his Master’s degree. He is an exceptional teaching assistant in that he is “friendly, patient, teaches at the student’s level, and open to feed-back”. He is known to form close bonds with students in his tutorials in or-der to make an interactive student–instructor teaching environment. He is highly regarded for his genuine concern for the success of each and every student. “Hamed has helped forge me into a better student”, one student writes. His influence extends far beyond the classroom as the students ask him for advice in other aspects of being a university student, such as “techniques used to succeed”. With his extraordinary mentoring abilities and friendly personality, Hamed has helped make a difference in a large first year required course.

Kin Wong

# Course Internationalization Grant Profile: SOC226

*CTE and Waterloo International are pleased to announce the latest recipient of a course internationalization grant which provides funds to instructors who seek to internationalize their courses. In March,* [*Jennifer Schulenberg*](http://sociology.uwaterloo.ca/Schulenbergwebpage.html) *from the Department of Sociology and Legal Studies was awarded a grant for SOC226: Juvenile Justice course. Below is a brief summary of the proposed course internationalization plan.*

This popular undergraduate course with an enrollment of over 100 students is offered every term and serves as an overview of the Canadian youth criminal justice system. The grant funding will be used to incorporate international perspectives into the course to help students develop an understanding on responses to youth crime not only in North America but around the world. The overall internationalization strategy for this course is threefold: (1) conduct a literature review on international approaches to youth crime to supplement course readings and lecture material; (2) create a print and visual media database with global resources on the topic; and (3) restructure the ten small group assignments to help students demonstrate their acquisition of an international perspective.

Jennifer Schulenberg, Department of Sociology & Legal Studies

# Peer Review of Teaching at Waterloo

Student evaluations of teaching are a common method used to assess faculty members’ teaching as part of tenure and promotion application packages. However, are they the only means available of assessing teaching? The answer is no.

Recently a small group of departmental representatives has been meeting with Julie Timmermans and me to explore peer review of teaching practices. We have been exchanging current practices used at Waterloo and elsewhere for engaging in this additional way to collect feedback about teaching. Peer review of teaching, or PRT, involves making evidence-based judgments about colleagues’ teaching and is part of a comprehensive system of teaching review.

We have learned that PRT can be used for summative as well as formative purposes. So just like when we give students assignments before a major test or exam, using PRT to develop ourselves and our col-leagues as teachers can provide feedback that is critical when preparing for a high-stakes career decision such as tenure or promotion.

Currently PRT is primarily being used at Waterloo to observe classroom teaching, but it may be used to assess other elements and artifacts of teaching such as course outlines and assignments. At the most recent Chairs’ Forum, we heard from three Directors/Department Chairs about their use of various versions of PRT, including reviewing the students’ work, engaging in multiple classroom observations, and launching a mentoring network focused on teaching development.

CTE has produced a [Peer Review of Teaching tip sheet](http://cte.uwaterloo.ca/teaching_resources/tips/peer-review-of-teaching.html) that identifies a multi-step scholarly approach to PRT: an approach that involves interpreting teaching effectiveness based on multiple sources of evidence. I encourage you to take a look if your department or School is interested in starting or revising a PRT system. We are also launching a community group on LEARN where we will share what is learned at our various meetings and where we hope the participants will share their PRT processes as they evolve.

Fostering a culture of teaching and learning at Waterloo is important. PRT provides a relevant process for contributing to that culture. If you would like more information about PRT, please [contact Donna Ellis](mailto:donnae@uwaterloo.ca).

Donna Ellis

# New LITE Grants

We are pleased to announce the new Learning Innovation and Teaching Enhancement (LITE) Grants which replace the LIF/PIF Grants. The LITE Grants will provide support for a wide and interesting variety of initiatives to experiment with and investigate innovative approaches to teaching and program development that aim to foster deep student learning. Two kinds of grants will be available: LITE Seed Grants ($500 –$5,000, one year) and LITE Full Grants ($5,000 – $15,000 per year for up to 3 years). Proposals for Seed Grants should emphasize improved student learning through the enhancement of individual teaching skills, course level or program-level (re)design, or curricular innovation. The emphasis of Full Grants should be on longer-term initiatives that investigate new methods of instruction and assess their impact, in terms of effectiveness, efficiency, sustainability, and transferability. Both grant formats should emphasize the contribution of the proposal to the University of Waterloo learning com-munity. Additional information about the grants is available on our [teaching awards website](http://cte.uwaterloo.ca/teaching_awards_and_grants/index.html?tab=2), or you may [contact Julie Timmermans](mailto:julie.timmermans@uwaterloo.ca) at (x32940). We look forward to reading your proposal!

# GID News

In April we said goodbye to two Graduate Instructional Developers, Martin Smith, who is continuing with his Waterloo PhD in Chemistry and Arash Shahi, who will be graduating with his PhD in Civil Engineering, starting a new job and continuing to teach a course at Waterloo. We wish both of them all the best.

# New Graduate Instructional Developers (GIDs)

## Alex Shum

Picture of New Graduate Instructional Developer:Alex Shum 


As a Graduate Instructional Developer, Alex Shum is very excited to be able to share his ideas and experiences on teaching with other graduate students, and to improve upon them. His responsibilities include facilitating and developing workshops, as well as mentoring and observing graduate students in their teaching. In 2007, Alex completed his undergraduate studies at Queen's University with a BSc Eng degree in Mathematics and Engineering, with a focus in Mechanical Engineering. In his final year, he began his university teaching as a lab instructor. Coming to Waterloo to pursue his graduate studies in Applied Mathematics, he furthered his passion for teaching as a teaching assistant, providing tutorials, guest lectures, review sessions, small group, and one-on-one help. He received his MMath in 2009 and is currently pursuing his PhD in Applied Mathematics, studying the optimal path planning for the Mars rover. He has had a total of twelve teaching assistant assignments, and is ready to take on the next challenge of teaching his first course in Spring 2012. In his spare time, he enjoys the piano, running and participating in community work (helping impoverished communities and fundraising for events benefiting seniors’ homes).

## Mihaela Vlasea

Picture of New Graduate Instructional Developer: Michaela Vlasea


As a Graduate Instructional Developer for the Centre for Teaching Excellence, Mihaela Vlasea is committed to sharing her knowledge and experience with graduate students interested in enhancing their university teaching skills. Mihaela will be involved with facilitating workshops and microteaching sessions, as well as providing feedback to students looking to further their teaching abilities towards creating a direct positive impact on student learning. Her teaching experience and communication skills have been enriched through mentoring, award-recognized teaching assistantships, guest lecturing and Certificate in University Teaching training. Mihaela has demonstrated a keen interest in enhancing student learning through her direct involvement as a Graduate Student Advisor for the Undergraduate Student Experience Committee established by the Mechanical and Mechatronics Engineering Department at the University of Waterloo as part of the global departmental Vision 2015 Strategic Plan. Mihaela is also involved with the graduate community through her work as the Vice President Communications for the Mechanical and Mechatronics Graduate Student Association.

Since 2008, Mihaela has been working on her PhD research focusing on developing an innovative Additive Manufacturing Platform for fabricating bone and cartilage tissue engineered implants for joint and bone reconstruction procedures. Prior to this, she graduated with a BASc from Mechatronics Engineering at the University of Waterloo. She is also an International Space University alumna, graduating from the Space Studies Program 2011, Graz, Austria. Mihaela is enthusiastic about joining the Centre for Teaching Excellence team and is looking forward to providing assistance to her graduate student peers.

# Congratulations to CTE Winter 2012 Grads!

The following 10 students completed the [Certificate in University Teaching program](http://cte.uwaterloo.ca/graduate_programs/index.html?tab=1) in Winter 2012: Michele Bristow (ENG), Rebecca Brookham (AHS), Rachel Campbell Murdy (ENG), Matthew Johnston (MATH), Stephen Mattucci (ENG), Michael McIsaac (MATH), Lana Ozen (ARTS), Rahul Rahul (MATH), Reza Ramezan (MATH) and Alejandro Salinger (MATH).

In addition to CUT graduates, 22 graduate students completed the [Fundamentals of University Teaching program](http://cte.uwaterloo.ca/graduate_programs/index.html?tab=2) in Winter 2012. The numbers by faculty are: Applied Health Sciences 3, Arts 6, Engineering 7, Mathematics 4 and Science 2.

Darlene Radicioni

# Thank You!

As part of the [CUT program](http://cte.uwaterloo.ca/graduate_programs/index.html?tab=1), faculty members are asked by graduate students to observe their teaching. We would like to thank Kaan Erkorkmaz, Mechanical & Mechatronics Engineering., Shreyas Sundaram, Electrical and Computer Engineering. and Owen Ward, Biology for taking time out of their busy schedules to assist us this past Winter term.

*Teaching Matters is published by the Centre for Teaching Excellence at the University of Waterloo. At the Centre, we foster teaching and learning of the highest quality at Waterloo.*

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