

**Dr. Stephanie Willerth, Department of Mechanical Engineering
2014 Faculty of Engineering Teaching Excellence Award**

1. What do you like about teaching at UVic?

Our Engineering Department has a diverse student body coming from a variety of backgrounds, including students who have significant work experience returning to school. I also enjoy being able to hire students who have taken my courses as co-op and work-study students in my research laboratory where they can develop as scientists. It also allows me to get to know them better. I even had undergraduate students win awards for their co-op reports and author peer-reviewed journal articles.

2. Who or what inspires your teaching (past/present/future)?

It depends on the course. When I taught our core thermodynamics sequences, I found inspiration in the cutting edge research being done to develop the engines used in Formula One and on experimental engines being designed in national labs like Sandia. These projects also show our students the relevance of their coursework. For my elective in Biomaterials and Tissue Engineering, I constantly update the course due to the major advances in stem cell biology as these therapies begin being tested in humans to determine their potential for curing diseases.

3. What is your favorite teaching tip?

Be fair and consistent.

4. What is your philosophy towards teaching?

I remember what it was like to be a student and plan my courses accordingly. Our engineering students often take 6 courses in a term, so I do my best to ensure that my exams and projects do not overlap with their other major deadlines.

5. When you design a course/teach a class, what are the main goals you have for your students?

For core courses, the main point is to cover the necessary material for them to apply in their upper level course. I enjoy teaching BME200 as it covers both cell biology and certain engineering principles in the same class. In my elective, I encourage the students to follow their own interests while learning how to critically assess primary scientific literature.

6. What do you take away from the students you teach?

Our students are quite passionate about their extracurricular clubs and it is motivating to see them apply their classroom knowledge in applied settings. For example, our biomedical engineering students recently established a BioDev student team that works on medical device design. Engineering also has their more established clubs such as Formula SAE and the ECOSat team.

7. What do you feel has been your most successful teaching innovation at UVic?

I am proud of our new undergraduate Biomedical Engineering program, which has an innovative curriculum including our two course sequence in Quantitative Physiology. Other schools in Canada have followed our lead and it is exciting to see the interest in combining two of my favorite subject areas (biology and engineering).