

CWSEI – PHYS & ASTRO Newsletter

September 2010

Our department has always been committed to high standards in education. Recently, with support and leadership from the CWSEI, we have made increasing progress in successfully implementing research based educational methods in our classrooms. An increasing number of our faculty are showing keen interest in these developments. In response, we will distribute this monthly newsletter to keep you up-to-date with the latest CWSEI efforts.

In this issue, Mona Berciu gives a brief summary of the new and on-going CWSEI activities in our department during the Fall term.

Prof. Mona Berciu (CWSEI Director for Physics and Astronomy)

Currently, we have a total of five CWSEI STLFs (Science and Technology Learning Fellows) in our department. Two are full time – Louis Deslauriers and Peter Newbury – and three are various fractions ($\leq \frac{1}{2}$) of part-time – Jim Carolan, James Day and Ido Roll. Their role is to offer support in implementing and testing various new teaching methods, in the on-going efforts to help transform courses in our department.

When our department applied for CWSEI funds, we agreed that participation of the faculty/instructors will be voluntary. The hope was that these methods will speak for themselves, and there will be enough volunteers willing to try them out, especially given the support from our highly qualified STLFs. This is indeed what has happened. In fact, this is the first year when more instructors are interested in pursuing this opportunity than we can help with our limited number of STLFs.

In partial response to this, we have initiated a search for one more full-time STLF, and we hope that later in the term a new person will join the PHAS CWSEI group. He or she will likely require some training, but soon enough there should be another available helping hand. Even so, since there are 50-60 faculty/instructors vs 5-6 STLFs, it is clear that if the demand continues to be high enough or even grow further, it will be impossible to satisfy all requests. Since I am currently in charge of our CWSEI group, I respectfully ask you to keep this fact in mind when you make a request for CWSEI support for your course.

The decision – taken at higher levels – on how to allocate resources if the demand exceeds the supply, is that priority is given to first year courses, for obvious reasons: usually they have large enrollment, so more students at once benefit from this. And more often than not, there are multiple instructors as well, so more than one at a time can be exposed to and trained in the proper use of the new methods in one go.

This is why this term, most of the CWSEI efforts are focused on 1st year courses. In random order, Ian Affleck is working with Jim C. on Phys107; Don Witt, Sarah Burke and Andrzej Kotlicki are working with Louis D. on Phys153; Ido R. and Jim C. are helping George Rieger with the Phys100 lab; Ingrid Stairs and Peter N. are working on Astro311 (higher level course but with large enrollment). Peter is also providing on-going support to a gradual rethinking of the Phys101/102 lab activities. Finally, James is wrapping up the transformation of the Phys109 lab, and together with Ido and Jeff Young are starting to rethink the PHYS153 lab. These are the “big items”. Additionally, each of our STLFs is involved in many other activities, including final iterations of courses/labs/tutorials that were under transformation in previous years, surveys to try to understand what and when is learned (and forgotten) by our students, various PER projects, etc.

As a way to mitigate the problem of not having enough support for everybody interested, we issue this monthly newspaper which lets you know who has tried what – so you can use your colleagues as primary sources of information. In previous years we have run a bi-weekly brown-bag seminar where various education-related topics were discussed. We plan to re-start it soon. If there is anything in particular you would like to see addressed, please let me (or any STLF) know. This should be an effective way to provide focused training on specific topics.

Finally, if you contemplate getting engaged in CWSEI activities, please let me know asap – even if your plans are rather vague and you're teaching higher level courses. I will do my best to provide STLF support if at all possible, and the sooner I know what are the requests, the easier it is to optimize the use of the available resources. Any other suggestions on how to improve these efforts are welcome. Note: our CWSEI support is only guaranteed for two more years, so the time to take advantage of this opportunity is running out!