



Cofrin Center for Biodiversity

UNIVERSITY of WISCONSIN—GREEN BAY

Cofrin Arboretum • UW—Green Bay Natural Areas • Richter Museum • UW—Green Bay Herbarium

6 August 2012

I am applying for the opportunity to participate in the UWGB Teaching Scholar program for the 2012-2013 academic year. I think I will prove to be an insightful and enthusiastic participant in the program. I currently teach non-majors environmental science courses in a completely on-line format. Discussion is an implicit part of my teaching philosophy and strategy that allows students to use newly acquired knowledge, practice thinking skills, and appreciate and evaluate the perspectives of others. While I am constantly trying to improve my courses to better fit the needs of online students, I feel stymied by the limitations imposed on constructive dialogue and discussion because of the isolation inherent in the online environment. As a teaching scholar I would work to improve the quality of online asynchronous discussions, a universally used technique in online courses, that includes recognized and well-researched weaknesses. The options proposed by most sources do not offer, in my opinion, satisfactory solutions to these recognized weaknesses. I would seek to develop options that I and other instructors might employ to improve the success and efficiency of online discussion.

Teaching Statement and philosophy: Most students are bound for careers outside science, and may only take one or two science classes during their college career. However, as citizens in our increasingly complex and data rich society, they will be called on to participate in important decisions that will demand good scientific and critical thinking skills. The decisions that they make as professionals, consumers, patients, parents, voters, or homeowners will impact not only their individual quality of life, but that of their global neighbors, as well as those of future generations. I think it is important for an educator to create courses that help students understand basic scientific concepts by providing basic content skills and concepts in a rigorous but understandable way, to discover and appreciate how intricately their lives really are intertwined with science, and to help them to develop and practice the skills they will need in order to become good world citizens.

When I first arrived at UW Green Bay I was asked to fill in for a biology lab section. I have since taught nearly every semester for Natural & Applied Sciences, Human Biology, Environmental Science & Policy, as well as for the Adult Degree Program. While the format of my teaching has changed considerably as UWGB has embraced on-line technology, my teaching style and content have remained consistent. I strive to provide the most up-to-date research based content to my students in ways that allow them to understand and develop the skills they will need in order to progress with their degrees and their future career and life experiences. In addition to traditional content presentation, I like to include inquiry based activities and open discussions of topics derived from the current literature that allow students to use real scientific techniques and help them develop thoughtful and informed decision-making skills.

Teaching accomplishments: While I have not kept detailed summaries of my CCQ results I consistently received rankings of 8 out of 10 in my face-to-face courses. Some of my recent comments from students evaluating my online courses in 2011 include the following:

- The course is one of the most creative engaging internet courses I have ever taken. The instructor did AN AMAZING job pulling together so many relevant and meaningful sources chock full of information.

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- There should be more teachers like [REDACTED] that are more worried about their student's learning the content and material, than making sure we can recite a book, word for word.
- By the way, I would love to take the opportunity to thank you for the opportunity to read though Guns, Germs, and Steel as well as the Discoverers. I really enjoy the material and find it to be quite engaging and thought provoking!
- Discussions were lively, additionally the group project allowed meaningful interaction both personally and academically

I measure my accomplishments by those of my students. My goal is to provide students with the tools and initiative to become better citizen scientists. Based on my conversations with former students they have told me that my classes have inspired them to continue with their environmental interests and become citizen scientist volunteers monitoring local streams, or to take on environmental issues in their neighborhoods, even one who joined the Peace Corp. Often students mention that they have made what seem like simple life-style changes. For example, one man told me that after my class he decided to just "eat less meat". One student eating 1 less burger each week or month saves the planet 672 to 2688 gallons of fresh water every year. More importantly, this small commitment indicates to me that this student not only absorbed but is basing a real-life decision on reflection of that material as well as the costs and consequences of their actions on their health and the environment. I see that small act as a real measure of the success of the course.

Teaching challenge: Discussion is an important part of the learning experience. It builds community and collaborative learning and allows students to share knowledge, personal experience, reflect on ideas and content, in order to practice and improve critical thinking skills. Unfortunately, the online environment requires a student to work mostly independently and in isolation. There are obvious advantages to the ability of on-demand access to course materials, but unless an instructor requires students to commit to a specific date and time in order to discuss via chat or other technology, the ability to foster meaningful discussion is limited. Most instructors, including myself, instead use electronic forums that allow the asynchronous posting of electronic messages by students on topics designated by the instructor.

While this asynchrony is a big advantage in terms of on demand access for students, there is a significant pedagogical drawback in terms of collaborative work and problem solving. An obvious advantage to this system is that students have time to evaluate the posts of other students and then more carefully construct their responses before they post. This is especially beneficial to students who are shy or uncomfortable in face-to-face discussion environments. Unfortunately, this format has some serious problems as well. The major problems I have encountered include effective design of asynchronous online assignments, and instructor participation in on-line discussions.

- **Effective Design:** Even when students are provided with a clear and consistent rubric, some still have difficulty with the format. Students often participate in the discussion as if the topic statement or questions represent a quiz question where they must answer the question as originally posted. This results in repetitive commentary that shuts down conversation. Students are sometimes not used to participating in threaded discussions and do not insert their comments properly so that conversations become jumbled and difficult to follow. Students also typically wait until the last day to post, which results in less thoughtful and lower quality discussions.
- **Instructor participation:** How and when an instructor should interject their perspective in a conversation can be problematic. If the instructor participates too much it limits the opportunities for others to participate. If the instructor's responses are not carefully crafted, they can be construed by some students as critical or intrusive. If one student is praised, others might think their points are less relevant or not as good. Again the result is that

I would like to investigate more thoroughly the growing body of literature on the best methods of constructing and evaluating online discussions so that they are meaningful learning tools for the students that can be completed in a timely way by students and evaluated in an efficient and positive way by the instructor. In the spring semester I would then like to test the most promising of the researched techniques to determine those that best fit my courses.

Commitment to attend: I will, of course, attend the required meetings for this program, as my position at the Biodiversity Center and your online teaching commitments result in a very flexible schedule.

Sincerely,

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