PEER REVIEW

Review ID	:	2689
Reviewee	:	Dr Denitza Dimitrova Voutchkova (GEODDV)
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Review Status	:	Peer Review Completed
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A. Classroom Teaching

Module: GE5211 - Dynamic Environments

Acad Year	Semester	Class Type	Enrolment	Attendance %	Observation Time
2018/2019	1	SEMINAR-STYLE MODULE CLASS	15	86 %	29/08/18 02:00 PM
2018/2019	1	SEMINAR-STYLE MODULE CLASS	15	100 %	29/08/18 02:00 PM

Qualitative Evaluation

1. **Preparation for, organization and effectiveness of the classroom activity in achieving the intended learning outcomes.**

   I have attended one of the teaching session conducted by Denitza D Voutchkova. The webcasts for the lectures is not available, I think the meeting room assigned to her for the seminar was not webcast ready. The first part of the session the session that I attended was focused on explaining the research paper on "Abrupt Change in Ecological Systems: Inference and Diagnosis". She has discussed the research findings in detail. Her preparation for the session including the organization and communication with the students was very good.
   The first part of the session was focused on the brief description of the research on abrupt change in the ecological systems, where she discussed the contents with examples from the real world, augmented with the power point presentation and a video. The second part of the session was a discussion on the research. I think here again her preparation for the organization and the effectiveness of the classroom activity was very good.

   Denitza and her students seemed prepared for the classroom activity, apparently having read the covered texts beforehand. One highlight of the class was a video she screened on the return of a wolves population in Yellowstone National Park, to provide context/example to the topic being covered.

2. **Quality of faculty member's exposition and delivery.**

   Her reflection on the discussion as well as the presentation was well planned and organized, therefore she gained and maintained the student attention throughout the session. Content delivery was limited to a short period interspersed with various real-world examples that were effective in maintaining the active engagement. In short, the overall quality of Denitza's exposition and delivery was very good.

   Denitza speaks clearly, always pausing to check whether there are questions and to take comments. Her teaching style for this module is very discussion based, where there is no one correct answer, but a spectrum of answers within a framework that provides some organizing principles. If anything, I even think she can speed up a little, taking less comments. By speeding up a little, perhaps being a bit tougher, she can save some time to wrap up comments, or point out connections and takeaways. For example, following the wolves in Yellowstone video and the conceptual framework/discussion, she can emphasize for that setting how she would define state variables ("major components of the system that evolves over time") and the external drivers ("variables that affect the system but are not affected by it" -- for example, society's reintroduction of the wolves? otherwise everything seemed "endogenous" to me. Or, How is a disturbance different from an external driver?).

   Compared to other classrooms I have observed, the amount of discussion is quite refreshing. Students are very engaged. Slides are well done.

3. **Faculty member's knowledge of the subject matter in relation to the content and intended learning outcomes of the module.**

   The GE6211 DYNAMIC ENVIRONMENTS basically introduces techniques through which dynamic environmental conditions can be measured and monitored and provides a basis for reasoned debates about issues related to environmental change. Denitza's focus on the real world examples and was very supportive, and I found her knowledge of the subject matter in relation to the content and intended learning outcomes of the module was comprehensive.

   Denitza specializes in hydrology (I believe) among the broader fields on ecology hydrology and climatology, which seems to me as very appropriate to the content and intended learning outcomes.

4. **Degree of student engagement facilitated by the faculty member within the constraints of the class size.**

   Denitza started her lecture asking a number of fundamental questions that definitely facilitated the student engagement, in turn, students also asked the
    questions, and discourse between the lecturer and the student, based on the questions exchange; the questions asked by the lecturer and the students during the class. With the 13 students in the class, I noticed that the degree of student engagement was very well facilitated by the lecturer.

   Students are very engaged, raising questions, offering their own views and examples, discussing questions Denitza posed among themselves in small groups before sharing with the class. A larger classroom -- beyond Denitza's control -- might allow her to move from one student pair to the other, listening to their discussion and gauge their own learning pace, rather than waiting for the small-group discussion to finish.

5. **Faculty member's ability to show the relevance of the day's topic, its relation to other topics within or outside of the module.**

   The observed session was Week 3 lecture, Denitza's initial discussion was the summary of the course covered up till Week 3, the lecture slide comprised of the bullet points; a brief description of the course covered in each lecture. During the lecture, she was linking the practical applications of the topic with the real-life environment, and with the course covered in the previous two lectures with a good command.

   A video on the return of a wolves population in Yellowstone National Park, and how this affected the ecosystem in several ways (probably unexpected to the non-expert), was fun, refreshing, and highly relevant. I even screened the video to my teenage children at home that evening!

6. **Faculty member's ability to encourage students' thinking.**

   During the lecture she was very positive, encouraging the students to ask questions. Time to time, she was asking questions herself and encouraging the students to ask more question. She was very interactive and I felt that she was just simplifying the more complex concepts with simple examples. I am sure that could have encouraged the student thinking as well as deep learning.

   Judged by their level of engagement, it was quite clear that students were thinking through the questions and material posed during the class.

Additional comments to align with your own Department/Faculty/School's practice.

Aligned with our department, I think she is a very good teacher.

The pace of teaching is probably a bit faster in my Department, though the level of student engagement is lower. These variables are obviously not independent choices.

B. Teaching and Assessment Materials

Module: GE5211 - Dynamic Environments

Academic Year	Semester
2018/2019	1

Qualitative Evaluation

7. Currency and relevance of the teaching materials (textbooks, readings, cases etc.) for the intended learning outcomes.

There are no requisites for the module, and as far as I understand, the teaching materials (particularly for first three weeks) are very well aligned with the intended learning outcomes of the module and contain updated knowledge and practices within the subject domain (i.e., Dynamic Environments), and is appropriate to the level of the module (i.e., level 5), and there is an extensive list of recommended or suggested reading list or web links etc. for the module.

My understanding is that there are different ways/angles/settings in which to teach GE5211 Dynamic Environments, a module previously taught by Alan Ziegler. This is a new module to Denitza, and over time she will probably gain confidence to increase the list/breadth of readings, cases, and material covered in class. This means that in the same class she can provide, say, one deep example (e.g., wolves and Yellowstone) and, around this, a variety of shorter examples that may speak to each student's own interest or expertise, which is possibly quite diverse (e.g., ecology, climatology, hydrology, human drivers and responses, and interconnections).

8. Emphasis on application of knowledge as well as independent thinking and learning in the teaching materials.

The module comprises several interrelated blocks i.e., seminar-style sessions (weeks 1-5, 13), group-activities & student-led sessions (weeks 6, 7, 11,12), field-trips (weeks 8, 9, 10). Students are expected to prepare and participate actively in discussions. Generally speaking, all the blocks are carefully designed to provide application knowledge as well as liberty for independent learning and thinking, particularly seminar-style sessions are good for deep learning and group-activities & student-led sessions are for the independent thinking and learning. In short, in the teaching materials and the added field-trips, there is ample emphasis on application of knowledge as well as independent thinking and learning.

During class, each student was asked to pair with a student next to him/herself, to discuss specific dynamic processes that were shown on the slides, and to think of real-world examples and applicability.

9. Usefulness of information technology (IVLE, Internet, software, videos, animations etc.), if applicable.

Denitza used the PowerPoint presentation and an Online Video very effectively in connection with her discussion in the class to explain the complex concepts very clearly. Based on the module structure including seminar mode embedded in contents, I am sure she uses effectively the IVLE, Internet, video, and animations for teaching.

I saw an example of Denitza communicating with her students on a research article that had just been published in Nature that was relevant to the module.

10. Appropriateness of the continual assessment tasks (essays, tutorials, projects, practical exercises, etc.) and/or final examinations in achieving the intended learning outcomes.

This course examines techniques through which dynamic environmental conditions can be measured and monitored and provides a basis for reasoned debates about issues related to environmental change. It's 100 % CA, no final exam. The continual assessment tasks research presentation (individual assessment), blog or vlog field report (individual assessment) and academic poster & poster presentation of group projects are appropriate and suitable for achieving the intended learning outcomes at this level. Rubrics for both individual and group project are very well defined and clear.

Key assignments consist of (i) a research presentation, (ii) a field report and (iii) an academic poster. This feels like the right way to help students develop their own research questions and sharpen their critical thinking also as consumers of research. The presentation in class of both (i) and (iii) allows for individual student knowledge and interest to be disseminated collectively, as well as putting peer pressure on individual students to perform.

11. Effectiveness of the continual assessment tasks and/or final examination in differentiating students with differing accomplishments.

I have gone through the CAs, sixty percent of the continual assessment tasks including the research presentation and blog or vlog field report is achieving the assessment, and the other forty percent academic poster & poster presentation is a group work with a compulsion of peer-evaluation. To the best of my understanding, continual assessment tasks crafted by Denitza has good range (simple to difficult), and are good enough to differentiate students with differing accomplishments.

A 40% component for the academic poster may make it marginally harder to differentiate students when it comes to grading, but this being a research-focused module I don't find that particularly concerning. Moreover, students can learn from each other when working on their group poster presentation.

12. Appropriateness of the assessment tasks in challenging the students to think independently and to apply knowledge effectively.

Having a careful look at the CAs; research presentation (individual assessment), blog or vlog field report (individual assessment) and academic poster & poster presentation (group Assessment, peer- evaluation) I noticed that they were carefully designed to provide an appropriate and challenging assessment task. I have also noticed the assessment task provide an independent thinking and application of knowledge as well, and provide the possibility of the individual as well as collective assessment.

The assessment tasks are quite open ended in terms of empirical setting/application, to be chosen by the students, with conceptual frameworks provided during classes to guide the choice and the analysis. This seems appropriate for a research module.

Additional comments to align with your own Department/Faculty/School's practice.

Aligning with our department, I would like to say that this is a carefully designed and comprehensive module at level 5.

Over time, Denitza will develop the confidence to disagree with students, or better, to take a student's comment/viewpoint and iterate on it, taking it to the next level by adding an angle or connection that was not explicit in the student's original comment. This is the next step from thanking/agreeing with the student and moving on. At the same time, I understand that Denitza wants to encourage comments/discussion, and she seemed quite successful in this respect.

HOD/Dean/Reviewee Comments

HOD/Dean
This report has been endorsed by the Head and the Dean (or their representatives).

Reviewee's Comments

HOD/Dean

This report has been endorsed by the Head and the Dean (or their representatives).