Teaching Dossier

BENJAMIN J. DITTBRENNER

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I. BIOGRAPHICAL INFORMATION

Contact Information

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Education

PhD Candidate, School of Environmental and Forestry Sciences, University of Washington (March 2019)
MS, Biodiversity, Conservation, & Policy, State University of New York at Albany (2004)
BS, Biological Sciences, University of Wisconsin – Milwaukee (2001)
BS, Environmental Sciences & Conservation, University of Wisconsin – Milwaukee (2001)
II. APPROACH TO TEACHING

1. Statement of Teaching Philosophy

My ideal teaching day:
I had scouted a new field location for my class’s stream module the week before and now I was standing before 20 students, talking about the stream flowing in front of us. I was elaborating on the importance of ecological scale on stream processes and habitat creation. We were in a beautiful urban natural space and it was a perfect fall day, but I could still see a little doubt in some student’s eyes. This topic was a little theoretical – how was I going to get that ‘aha moment’? Just then, an osprey that had been perched in a nearby Douglas fir tree swooped down and snatched a 16-inch white sucker from the stream, not 15 feet from us, and pulled it to a gravel bar to eat it. Suddenly, ecology had gone from theoretical to real in the blink of an eye and my students were energized for the rest of the quarter.

While working on my PhD at the University of Washington, I have made teaching a central pillar of my graduate education and I have been fortunate to lead a number of classes as instructor of record. My overarching teaching objective is to create learning opportunities that foster an excitement for learning. I strive to develop learning environments in which all students feel that they have instructor support, flexibility to utilize learning styles that best fit their personality, respect for different cultural perspectives, and a clearly defined pathway to success. I place a high value on equity in the classroom and believe that an educator can be measured by how they empower their most at-risk students.

To achieve my teaching goals, the following components have been keys to my success:

*Create learning environments where students feel comfortable to try, fail, and succeed.* Learning is stifled in environments where students lack a sense of belonging, are marginalized, or are in various ways disenfranchised. This may be doubly true in the environmental sciences where people of color and other underrepresented groups are the minority and may feel out of place. I try to overcome these types of hurdles by creating classroom environments that encourage group interaction and cohesion among students. In ecological research and conservation, where nearly every aspect is multidisciplinary and occurs in team settings, I’ve found that peer learning and group projects have a high success rate and often lead to student relationships that transfer beyond the current class and assist with growth in learning in subsequent classes. For example, as Instructor of Record for the course *Wildland Hydrology at the University of Washington*, I designed a curriculum that emphasizes hands-on, team-based learning. Teams actively troubleshoot environmental problems in the field, such as deciphering the effect of urbanization on hydrologic processes, and solve them as a group. Back in the classroom, they are presented with challenging homework problems that require synthesis of concepts internalized in the field and are allowed to collaborate if they desire. The rigor of the homework motivates individuals to seek out classmates and work together, encouraging peer-learning, to produce superior results.

*Provide multiple pathways to success.* Active learning teaching methodologies have been shown to be very effective in reaching a diverse spectrum of students and can offer more inclusive learning environments for non-traditional students. To the degree possible, I strive to incorporate active and peer-based learning in my courses. I believe that the utilization of multiple forms of student assessment can
provide a more holistic view of how a specific cohort of students are performing in the class, and proactively orient the class to best suit individuals. For example, over eight quarters at the University of Washington, I transformed an Introduction to GIS course from a traditional, individualized computer-based class into an active learning and peer-based course. After teaching fundamental GIS skills through an active learning approach in the first half of each class, students work together in small groups to answer a complex spatial question in the second half. The questions, such as ‘how will alpine habitats be affected by glacial decline in Mount Rainier National Park over the next century’ have no single correct answer and force students to exercise technical and research skills as well as teamwork. Students can be overwhelmed by the problem at first, but are amazed at what they’ve accomplished by the time they present their results to the class. These students often don’t realize what they are capable of. By providing multiple pathways to success, we can push students beyond what they believe their limits to be, and the enthusiasm that this produces is contagious to both those students and myself.

**Individualized Learning:** The variety of personalities, life experiences, and learning styles that students bring to the classroom can make teaching challenging. I believe that the incorporation of multiple teaching formats, active learning methodologies, and varied assessment formats allows students to utilize learning styles that best suit them. Through the use of multiple teaching formats, such as a combination of group learning and one-on-one instruction, the prevalence of those who would typically fall through the cracks decreases significantly. My goal is to continue to explore different teaching methods to ensure that I find learning styles that appeal to all students.

**An effective instructor wears many hats.** I have found that student learning is most successful when classroom learning is treated as one aspect of a much larger academic experience. Beyond my experience in the classroom, I have mentored 24 students on senior or independent projects. These experiences allow students to apply knowledge and skills learned in the classroom and utilize higher thinking processes. I also use my professional network to link students with external agencies and organizations to find volunteer and intern opportunities with working professionals. I’ve taken great pride in watching a number of my students obtain jobs through these contacts and go on to contribute to field of ecology and conservation. The results of learning outside the classroom are increased confidence and a broadened perspective, which increase both the student’s scholastic and career success.

**2. Commitment to Teaching**

I am passionate about teaching and I am motivated to become continually more adept at reaching and inspiring my students. I have attended a number of collegiate teaching courses and received formal mentorship through my academic program at the University of Washington. In 2016, I was awarded the School of Environmental and Forest Sciences Director’s Award for Outstanding Teaching Service for my work incorporating a multidisciplinary teaching approach in my Wildland Hydrology class. I continue to actively participate in continuing education and teaching workshops, and am a member of SABER, a group focused on improving biology and environmental science education. I take great satisfaction in educating and inspiring young minds and I hope to have the opportunity to continue to do so.
III. TEACHING ACTIVITIES:

1. Teaching Responsibilities

   a) Courses Taught (as Instructor of Record)

University of Washington:

   Wildland Hydrology (ESRM 426) & Advanced Wildland Hydrology (SEFS 525)
   - Taught: Winter 2016, 2017
   - Typical enrolment: 35
   - An elective course for undergraduates (ESRM 426) and graduate students (SEFS 525)
   - One 2-hour lecture and one 3-hour field experience per week

   Calendar description for ESRM 426: Introduction to the hydrologic cycle and basic hydrologic methods as applied to wildlands. Effects of forest management activities on hydrologic processes.

   Calendar description for SEFS 525: Advanced treatment of hydrologic cycle and basic hydrologic methods as applied to wildlands. Effects of forest management activities on hydrologic processes. Graduate focus on a detailed field or modeling hydrologic analysis.

   Graduate Introduction to GIS (SEFS 520)
   - Taught: 2014-present (11 quarters)
   - Typical enrolment: 20
   - An elective course for graduate students
   - Two 3-hour combined lecture and labs per week

   Calendar description: Applications of GIS technology to forest science and management. Fundamentals of GIS systems: data sources, preprocessing, map analysis, output; remote sensing as a source of GIS data, image analysis, and classification. Emphasis on GIS as a source of management and technical information requests.

   Introduction to GIS (ESRM 250)
   - Taught: 2014-present (11 quarters)
   - Typical enrolment: 40
   - An elective course for undergraduate students
   - Two 3-hour combined lecture and labs per week

   Calendar description: Applications of GIS technology to forest science and management. Fundamentals of GIS systems: data sources, preprocessing, map analysis, output, remote sensing as a source of GIS data, image analysis, and classification. Emphasis on GIS as a source of management and technical information requests.
Introduction to GIS Online (ESRM 250b)

- Taught: 2016 – present (4 quarters)
- Typical enrolment: 20
- An elective course for undergraduates
- All course materials, including recorded lectures are online

Calendar description: Applications of GIS technology to forest science and management. Fundamentals of GIS systems: data sources, preprocessing, map analysis, output; remote sensing as a source of GIS data, image analysis, and classification. Emphasis on GIS as a source of management and technical information requests.

b) Courses Taught (as Module Instructor)

Environmental and Resource Management – Stream module (ESRM 304)

- Taught: 2015 – present (8 quarters)
- Typical enrolment: 50
- An required course for undergraduates
- Week-long Stream Module: Three 1-hour lectures, two 3-hour field sections, homework, and exam content.

Calendar description: The processes of measuring, monitoring, and assessment; illustrated in diverse environmental and resource case studies. Explores the scientific method, hypothesis testing, sampling, and experimental designs, the role of questionnaires and polling techniques, remote sensing techniques, and population measurements.

c) Guest Lectures


BIS 243: Introduction to Environmental Issues, University of Washington Bothell, Interdisciplinary Arts and Sciences, University of Washington, Bothell. November 2016. Developed and gave lecture
on life history and ecology of beavers, and their role as ecosystem engineers, keystone species, and their effect on hydrology. Course instructor: Caitlin Littlefield.


ESRM 429/SEFS529 Water Seminar, University of Washington, School of Environmental and Forest Sciences, University of Washington. March 2014. Developed and gave lecture on life history and ecology of beavers, and their role as ecosystem engineers, keystone species, and their effect on hydrology. Course instructor: Susan Bolton.

d) Teaching Assistant Positions

University of Washington

School of Environmental and Forest Sciences, University of Washington. January 2014 - June 2015. Taught lecture and laboratory for one 40 student section of ESRM 426 Introduction to Geographic Information Systems, taught jointly with SEFS 520 Graduate Introduction to Geographic Information Systems. Responsibilities included preparing and giving lectures, supervising labs, assisting course professors in laboratory assignment revisions, student assistance, and student evaluation, designing and proctoring exams.

University at Albany (SUNY)

Department of Biological Sciences, University at Albany. January 2003 - June 2004. Taught one 20 student laboratory section of Bio 122 & 123 Introduction to Biological Sciences. Responsibilities included preparing and giving laboratory lectures, supervising labs, assisting course professors in laboratory assignment revisions, student assistance, and student evaluation, and proctoring exams.

e) Continuing Education and Community Lectures

I have given numerous lectures and provided hands-on workshops and trainings to groups including:

- Local farming community
- Washington Conservation Corps
- Environmental groups
- Federal, state, local agencies
- Conservation Districts
- Elementary school classes
2. Course Development

a) Course Revisions

Wildland Hydrology (ESRM 426) & Advanced Wildland Hydrology (SEFS 525), University of Washington

I took over this course in 2015. Based on previous student evaluations, re-evaluation of the course objectives, and knowledge of relevant skills needed in the professional world, I revised the course. I chose a new textbook, revised lecture materials, created an online-based class organizer as well as online quizzes, performance evaluations, and tests. Through this process, I also incorporated active learning techniques, more opportunities for self-assessment, hands on learning, and group projects.

A detailed course outline can be found here.

b) Course Development

Introduction to GIS Online (ESRM 250b), University of Washington.

This course was developed as an online version of an existing class that I teach and first offered during the autumn quarter of 2015. The objective of the course development was to provide greater flexibility for non-traditional students, students with learning disabilities, and remote students. There was also interest in testing whether an online platform could be developed and scaled up to offer the course to other colleges and universities that lacked GIS instruction. Course development required the implementation of novel strategies to convey technical course content to a variety of users, delivering both lectures and course materials, but also the computational software to remote users. This course has been very successful and I am currently consulting with the University of Montana on how to develop a similar course there.

A detailed course outline can be found here.

3. Supervising and Advising Students

I have made many professional contacts and friendships throughout the region during my time working in various professional positions prior to returning to graduate school. I actively utilize my network to find internship and research opportunities for undergraduate students. I have mentored the following individuals:

Format: My role, student advisee: project title

1. Capstone advisor, Lena Wilson: Identifying fish passage constraints at actively-managed restoration sites (current)
2. Capstone advisor, Bridger Machus: Do beavers change the trajectory of plantings at restoration sites? (current)
3. Capstone advisor, Matthew Trabun: Effect of urbanization on fecal coliform bacteria and stream water quality (current)
4. Senior thesis advisor, Dana Needelman: Spatial distribution of macaques in Singapore (2016-17)
5. Undergrad research advisor, Alishia Orloff: Use of thermal infrared imagery in identification of stream temperature anomalies and thermal variability in riverine systems (2016-17)
7. Intern advisor, Olivia McGrath: Discharge variation in streams effected by reduced snow pack (2016)
10. Capstone advisor, Aaron Tam: Modeling the effects of changing climate patterns on headwater stream systems and beaver habitats (2016)
   • Student-authored peer-reviewed article currently in development
12. Volunteer mentor, Samantha Everett; Community liaison (2015 – current)
15. Senior thesis advisor, Chris DiTomaso: Using unmanned aerial vehicles (UAVs) to map wetland change (2015)
16. Senior thesis advisor, David Bailey: Reintegrating beavers in urban landscapes through design – evolution of landscape architecture to incorporate ecosystem function (2014-17)
   • Student-authored peer-reviewed article published
18. Volunteer mentor, Katie Wolstien: Landowner interactions and public sentiment towards wetland restoration sites (2014)
21. Intern advisor, Kate Terpstra: Using forward looking infrared imagery to evaluate instream habitat quality (2012)

22. Intern advisor, Brooke Clement: Mapping land use change to correlate effects on ecological systems (2011)

23. Intern advisor, Katherine Davis: Identifying effects of land use on ecological function in riparian areas using analysis of benthic macroinvertebrate communities (2010)

24. Intern advisor, Paul Fischer: Identifying effects of land use on ecological function in riparian areas (2010)

4. Activities Engaged in to Improve Teaching and Learning

Graduate teaching course: SEFS 595 Teaching Practicum, Instructor: Joshua Lawler, University of Washington, Autumn 2015

Graduate teaching course: BIOL 505 Teaching Biology Inclusively for Diverse Audiences. Instructor: Scott Freeman, University of Washington, Spring 2016

Graduate teaching course: SEFS 595 Teaching Practicum. Instructor: Thomas DeLuca, University of Washington, Spring 2016

Member: UW chapter of SABER – Society for the Advancement of Biology Education Research

Frequent participant: UW College of the Environment’s monthly education seminar “Meet, Greet, and Teach”

IV. SERVICE TO THE TEACHING COMMUNITY:

Training of Teaching Assistants for all courses listed in preceding section

Doris Duke Conservation Scholars Program, Program Instructor (2015-present)

Doris Duke Conservation Scholars Program, Scholars Selection Committee (2017)

Assist undergraduate mentees in applying for research funding

Provide instructional support to local elementary schools on environmental education and wildlife

Provided instructional support to Monroe Correctional Complex on environmental education and wildlife for inmate enrichment
V. TEACHING ASSESSMENT:

Copies of all student and supervisor teaching evaluations are available upon request.

1. Summary of Student Ratings

The following table provides summary data of end of quarter student evaluation scores in courses that I’ve taught as Instructor of Record or TA. (note: Scoring ranges from 5 (excellent) to 1 (poor)).

Table 1: Student evaluation scores for courses taught at the University of Washington.

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Year</th>
<th>course</th>
<th>Position</th>
<th>n</th>
<th>Instructor's contribution</th>
<th>Instructor's effectiveness</th>
<th>Overall Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>2014</td>
<td>Intro to GIS, ESRM250 &amp; SEFS520</td>
<td>TA</td>
<td>16</td>
<td>4.9</td>
<td>4.9</td>
<td>4.9</td>
</tr>
<tr>
<td>Winter</td>
<td>2015</td>
<td>Intro to GIS, ESRM250 &amp; SEFS520</td>
<td>TA</td>
<td>42</td>
<td>4.7</td>
<td>4.6</td>
<td>4.7</td>
</tr>
<tr>
<td>Spring</td>
<td>2015</td>
<td>Intro to GIS, ESRM250 &amp; SEFS520</td>
<td>TA</td>
<td>30</td>
<td>4.9</td>
<td>4.9</td>
<td>4.8</td>
</tr>
<tr>
<td>Summer</td>
<td>2015</td>
<td>Env. Resource Mgmt., ESRM304</td>
<td>Co-instructor</td>
<td>4</td>
<td>5.0</td>
<td>4.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Autumn</td>
<td>2015</td>
<td>Intro to GIS ESRM250b (online)</td>
<td>Instructor</td>
<td>8</td>
<td>4.0</td>
<td>4.0</td>
<td>4.5</td>
</tr>
<tr>
<td>Autumn</td>
<td>2015</td>
<td>Intro to GIS, ESRM250</td>
<td>Instructor</td>
<td>15</td>
<td>4.8</td>
<td>4.8</td>
<td>4.3</td>
</tr>
<tr>
<td>Spring</td>
<td>2016</td>
<td>Intro to GIS, ESRM250 &amp; SEFS520</td>
<td>Instructor</td>
<td>12</td>
<td>5.0</td>
<td>5.0</td>
<td>4.9</td>
</tr>
<tr>
<td>Autumn</td>
<td>2016</td>
<td>Intro to GIS, ESRM250</td>
<td>Instructor</td>
<td>19</td>
<td>5.0</td>
<td>4.9</td>
<td>4.9</td>
</tr>
<tr>
<td>Winter</td>
<td>2017</td>
<td>Wildland Hydrology, 426 &amp; 525</td>
<td>Instructor</td>
<td>15</td>
<td>4.8</td>
<td>4.9</td>
<td>4.8</td>
</tr>
<tr>
<td>Spring</td>
<td>2017</td>
<td>Intro to GIS, ESRM250</td>
<td>Instructor</td>
<td>37</td>
<td>4.8</td>
<td>4.8</td>
<td>4.7</td>
</tr>
<tr>
<td>Summer</td>
<td>2017</td>
<td>Intro to GIS, ESRM250 &amp; SEFS520</td>
<td>Instructor</td>
<td>8</td>
<td>4.7</td>
<td>4.4</td>
<td>4.9</td>
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Weighted Average for all classes

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</tr>
<tr>
<td>Summer 2015</td>
<td>Intro to GIS, ESRM250 &amp; SEFS520</td>
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<td>4.7</td>
</tr>
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</table>

2. Select Student Reviews

The complete student course surveys that the following reviews are taken from can be found in the Appendix of this document.

From Wildland Hydrology ESRM 426/SEFS 525:

...Ben actually legitimately cares about his students and helps them beyond the class to get internships and careers. Honestly the best teacher I have had. Doesn’t make things overly complicated, I was able to understand the concepts very well. He isn’t hard to approach like some teachers and students feel comfortable putting in their input and asking questions.

[Wildland Hydrology] should really be a 5 credit course for the workload given. Also make sure Ben keeps teaching it! He is extremely passionate and made this one of my favorite college courses I have ever taken.
From Introduction to GIS ESRM 250 – SEFS 520:

...I think that Ben's lectures were very relevant to the assignments at hand and he really set the class up for success. He was very willing to help out his students with whatever they needed and genuinely cared about his students and their learning. He was easily one of my favorite teachers and I wish more professors at this University were like him. He made this class one to look forward to every week even though it was at 8:30.

Ben is perfect in teaching and problem solving. He is friend of everyone and care about our lives and dreams. He is responsible and mindful teacher who always want to give the best suggestion for students for a better future. Thank you sincerely!

3. Teaching Awards/Recognition

2018 College of the Environment Award for Exceptional Mentoring Undergrads (nominee)
2017 College of the Environment Award for Exceptional Mentoring Undergrads (nominee)
2016 UW SEFS Director’s Award for Outstanding Teaching Service

VI. REFLECTIONS ON TEACHING

My long-term teaching objectives are to continue expanding my teaching abilities and tools to appeal to a broad student body. I am particularly focused on exploring how we can increase equity in the classroom for disadvantaged students. I am troubled by the lack of diversity in environmental sciences and the subsequent lack of diverse perspectives this could bring. Teaching methodologies should be varied and adaptable to respond to the individualized need that each student cohort demands. I plan to broaden my teaching skills by participating in teaching enhancement workshops, classes, and groups. However, I also feel that an individual’s approach towards teaching is based on personal perspective; I hope to broaden that perspective so that I can better relate to a larger breadth of students by exploring and participating in multicultural learning opportunities. Personal evaluation will be performed regularly to identify strengths, shortcomings, and where opportunity exists for improvement. Through this approach, I will continue to strive for teaching excellence.
APPENDIX: STUDENT EVALUATION COMMENTS

Evaluations from Wildland Hydrology, ESRM 426 - SEFS 525, Winter 2017, University of Washington

Note: Complete evaluations for all courses are available upon request

STANDARD OPEN-ENDED QUESTIONS

Was this class intellectually stimulating? Did it stretch your thinking? Why or why not?

1. Yes! It was awesome and Ben did a great job. He was always able to make even the mundane exciting and connect it to real world applications.
2. Yrs
3. Yes it stretched my thinking by throwing a lot of new information and data on hydrology at the class to try and comprehend and understand.
4. loved this class! one of my favorites. all of the information presented was new to me and it was overall a very enjoyable class
5. Yes, he exposed us to various hydrological problems and helped us build the tools to solve them
6. Yes, due to this being a lab/lecture class, I was expected to read from the text, come to lecture, and attend field stream and precipitation study at the Arboretum.
7. Yes, the field work helped us expand our critical thinking skills.
8. Yes this class was intellectually stimulating because the course material was engaging, new material was presented each week, and we were given a chance to apply our learning through field work.
9. Yes this course introduced a broad, yet understandable, range of knowledge surrounding the hydrologic cycle. The challenge was appropriate and overall enjoyable.
10. Yes, because I learned so much about hydrology than I ever thought I would and there are so many ways to collect data and formulate numbers.
11. This class lead me to think about river systems and water ways in a way and depth I had not previously. It was very well taught considering there's really only one general hydrology course - this one - so it has to cover all the major topics and go into them. It was great being able to examine many of these topics in person through the field component; helped a lot.
12. Yes. Ben forces you to think logically and apply the knowledge we've learned to real life— which is difficult but rewarding because you feel like you know the field better this way.
13. Yes, it was stimulating... I have to thank you, Ben, for the info on how to apply to grad school. I like how instead of letting students out early or making us do more work, you would talk about things we need to know about. Much appreciated!
14. Yes very much so, Ben actually legitimately cares about his students and helps them beyond the class to get internships and careers. Honestly the best teacher I have had. Doesn't make things overly complicated, I was able to understand the concepts very well. He isn't hard to approach like some teachers and students feel comfortable putting in their input and asking questions.
What aspects of this class contributed most to your learning?

1. Ben's lectures
2. Conceptual ideas taught in lecture
3. HW, and Labs
4. field time, and working in groups
5. Working in the field.
6. When the homework problems were clear and we had examples from lecture helped my personal learning style.
7. The hands-on field experience was the most valuable aspect of this class because it solidified and clarified the content we learned in the lecture.
8. Ben's contribution to the class was incredible, he knows his stuff and knows how to share his knowledge. The class format was well built and was an enjoyable, diverse, and challenging class.
9. Field trips
10. The field component; even though it may feel slow at times, it comes together very nicely when you're looking at all the recorded data and can now play with it and use it.
11. Homeworks (although some were difficult), lab section, lecture
12. Ben is great. He's very involved in the field, and had a great energy that he always brought to class.
13. All of it - the lectures, homework, in-class quizzes, and sampling.
14. the field work and homework, i don't retain information from timed tests literally at all. I loved how the tests were mostly take home and you had time to really think about it and do a great job at it. Field work helped put the class into perspective of what it will be like in a career in our field. I liked how we analyzed the field work data over the whole quarter and you could really see the whole picture coming together.

What aspects of this class detracted from your learning?

1. None
2. lecture sometimes was a little hard to stick with cause of the pace
3. na
4. The derivations of equations could be confusing on occasion. A lack of examples made some homework problems difficult.
5. None
6. The homework assignments were not perfectly written, which detracted from my ability to complete them in a timely and effective manner. The TAs grading of the assignments was not consistent either, providing a proper rubric for her would be useful.
7. Nothing
8. nothing really that I can think of
9. None
10. When groups didn't upload their information on time.
11. can't think of anything
<table>
<thead>
<tr>
<th>Suggestion</th>
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<tbody>
<tr>
<td>1. It should really be a 5 credit course for the workload given. Also make sure Ben keeps teaching it! He is extremely passionate and made this one of my favorite college courses I have ever taken.</td>
</tr>
<tr>
<td>2. Change up lecture to be some more group/interactive work with the material</td>
</tr>
<tr>
<td>3. Text doesn't seem that important - I stopped reading after the first week because you didn't really test on it - if you want us to read it - make it necessary for our success</td>
</tr>
<tr>
<td>4. The derivations could have been more concise and possibly give more examples for problems going to be on the exam or homework.</td>
</tr>
<tr>
<td>5. Sometimes the homework was worded in a confusing way which made it difficult to know how to properly answer the question. I would suggest rewriting some of the homework questions to make it very clear what is expected of us.</td>
</tr>
<tr>
<td>6. Very few, Ben is extremely easy to relate to and talk with, this lead to hydrology becoming an interesting topic. His passion and humor was contagious</td>
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<td>7. More extra credit duh</td>
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<td>8. Go through and check all the canvas links and such - I think there was some error somewhere in there or something. But great job otherwise! Need more hydrology courses so students can dive in deeper and learn more.</td>
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<td>9. None. Keep up the good work!</td>
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<tr>
<td>10. I thought it was great!</td>
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<tr>
<td>11. Oreos in class every day not just on special occasions, just kidding</td>
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Evaluations from Introduction to GIS, ESRM 250 - SEFS 520, Autumn 2016, University of Washington

STANDARD OPEN-ENDED QUESTIONS

Was this class intellectually stimulating? Did it stretch your thinking? Why or why not?

1. This class I learned a whole new skill. Out of all the classes I’ve taken here this one was really beneficial. We learned skills and put them to test. The course builds upon itself and provides opportunities to display the newly developed skills.
2. Yes, I think my research was very different from the course. Absolutely - GIS is a complicated program with a mind of its own; many times there were multiple different ways of completing a task. It definitely stretched my thinking.
3. Yes, I feel like it was an excellent introduction into GIS (a field I’ve heard about, but never gotten the chance to experience/learn about). It was interesting and engaging, and also very empowering when you were able to problem solve or figure things out. The class was organized and set up in a way that was easy to understand and succeed in if you put in the effort.
4. Allowed us to gain an skill set that will be useful in the workforce.
5. Not very intellectually stimulating. Learning about the program was very linear and simple, and the project helped solidify accessing and manipulating data found online.
6. The instructors’ enthusiasm and knowledge.
7. Yes, I had to apply myself much more efficiently in this course.
8. I thought this class was stimulating. We would get lectured/learn the skills necessary for our assignment and we would have to recall past skills in order to create the most efficient ways to complete the assignment.
9. Yes, I enjoyed the class very much.
10. This class was mostly problem solving after learning the concepts and techniques. There were many times that I felt that I ran into a wall while applying the tools and techniques. Ben did a great job at explaining why we were doing the steps even when it didn’t make sense in the moment. His insight when thinking about the task to be done and figuring out how to accomplish it. Overall, this class was challenging and rewarding.
11. Yes, GIS gives me tool to solve real world problems in handy way.

What aspects of this class contributed most to your learning?

1. How all the homework and tests are progressive. You need your prior skills learned early to continue to progress to more advanced techniques.
2. The instructors’ enthusiasm and knowledge.
3. The lecture/labs - being able to work on the material and follow along as the professor demonstrated everything was extremely necessary for increasing understanding.
4. Attending lectures was extremely important.
5. The assignments and exams were straightforward with information and tasks directly from the lecture.
6. The course materials that are available through canvas.
7. I definitely think that the lectures were the biggest contributor to learning. I also think that working with classmates really helped me learn as well as how well Ben was in helping us solve problems.
8. I felt the professors really wanted to teach us and cared about whether or not we learned what we needed to be learning.
9. Going to class each day was definitely helpful in working alongside with the instructor and other classmates. There were times when I left without finishing the assignment, but I felt somewhat confident that I would be able to complete it. The powerpoint slides were a valuable resource also. Many times I had to create repeated layers due to various reasons. The repetition helped me remember the concepts and techniques.
10. The fabulous GIS Ninja skills taught by wonderful and amazing GIS masters.

What aspects of this class detracted from your learning?

1. Nothing. This class is overall the best I’ve taken at this university.
2. N/A
3. N/A
4. Group project was a little annoying but ended up working out.
5. None really. I never really did the exercises unless I didn’t pay attention in lecture and need extra help solidifying the steps and the processes.
6. None. I would recommend this class to others.
7. Not any that I could think of. I think the structure of this class was very well and it was very organized.
8. None. Program crashing
9. Sometimes I felt rushed to keep up with the class due to falling behind a step or two or waiting on my computer to catch up with my work. Luckily, I usually caught up to the steps, but when I needed extra help, Ben would walk me through the steps.
What suggestions do you have for improving the class?

1. Keep it up! This class has all the factors needed for success. I actually learned the content and enjoyed doing it.
2. Keep it up-to-date - make project have more concrete objectives rather than a fluid question. I felt in the dark with the project many times. Also start it earlier.
3. None. I feel like I've heard horror stories of GIS classes making no sense, but this was set up in the perfect way and I felt like everything was fair and important, and that I learned a lot.
4. Potentially get more data to mess around with, rather than just Pack Forest.
5. Improve gibson; it was very slow, at times taking 15 minutes to run one tool from the toolbox.
6. It is a great course as is.
7. At the moment I can't think of any. I think that Ben's lectures were very relevant to the assignments at hand and he really set the class up for success. He was very willing to help out his students with whatever they needed and genuinely cared about his students and their learning. He was easily one of my favorite teachers and I wish more professors at this University were like him. He made this class one to look forward to every week even though it was at 8:30.
8. none
9. There were some glitches with files to download sometimes, or the wording for some assignments was a bit confusing. Both of these were quickly adjusted to help with understanding.
10. Ben is perfect in teaching and problem solving. He is friend of everyone and care about our lives and dreams. He is a responsible and mindful teacher who always want to give the best suggestion for students for a better future. Thank you sincerely!