

## Teaching Philosophy

### Dr. Jeff R. Havig

I am excited for the opportunity to contribute to the teaching curriculum for the Department of Earth, Atmospheric, & Planetary Sciences at MIT. I am prepared to teach classes that fall under the general themes of geochemistry, environmental science, and geobiology at the undergraduate and graduate level, as well as introductory geology, and in participating or developing team-taught courses. I also anticipate developing new courses that will complement the current curriculum. Examples of courses I have taught recently include an Environmental Studies Capstone (University of Cincinnati) and co-instructor for Earth Surface Dynamics (ESCI 2203, Spring, 2018-2019, UMN). New courses I am working to develop at UMN include a freshman seminar in Astrobiology (ESCI 1904, Fall, 2018), a freshman level Intro to Environmental Geochemistry course (ESCI 2XXX, Fall, 2019) to help draw new students to Earth Sciences, and an Advanced Techniques in Environmental Geochemistry course (ESCI 4XXX/8XXX, Spring, 2020) to help students hone essential tools for sampling, analyses, and data interpretation in preparation for careers in research, government, or the private sector.

If you are my student, I will tell you that you are responsible for your learning, and that it is my purpose as your teacher/mentor to put you in the best possible place to learn, and that I will trust you to invest what you can in your learning. I will ask you questions, I will ask for your perspectives, I will ask for your experiences, and I will challenge you to think critically. I would present your class as a team, with your peers as a cohort and myself as a guide to the topic. I would do my utmost to peck away at the effects of 12 plus years of teaching to tests, and foster an environment of query and introspection.

As a trainer and mentor of students and postdocs in my lab, I am given the opportunity to teach in a one-on-one environment. In training, I provide the knowledge base, teach trainees how to do a given task in the most scientifically rigorous manner I know, and then step back to let them develop their personal technique, making myself available to them if they need help or guidance. Part of learning is struggling, and I encourage students to develop their self-reliance through marshaling their personal resources to tackle a problem before they come to me or another more senior member of the lab.

An example of a review that I once received from a student said that I had ‘ruined mountains for the them’...that before taking the geology lab I taught, when they looked at mountains, they just saw things. But after taking the course, they found themselves wondering how the mountains got there, and thinking about the processes involved. Here was a student that had signed up for introductory geology to fulfill a science credit requirement for their non-science degree, and they had come to the class expecting not to learn. Instead, they had the seeds of curiosity and inquiry planted through their experiences in the class, and as a result were now thinking about the world around them on a deeper level. To me, this is a great example of the sort of success I am proud of.