Nadine Schuurman. Teaching philosophy.

GIS:

Teaching GIS requires the ability to convey abstract concepts of digitial representation to students who are sometimes unfamiliar with computer science. Teaching GIS must also forge links between theoretical concepts and available software in a manner that balances theory and application. The proper pedagogical mix of theoretical and laboratory components of GIS has been debated over the part decade. While students often favor the "point & click" software training approach, I emphasize the appropriate deployment of concepts and judgement rather than keyboard commands. Throughout, I stress that GIS, remote sensing and spatial statistics are an integrated set of tools that allow researchers to examine patterns in natural and built environments.

the classroom:

I strive to engage students by generating excitement about the theoretical bases of GIS. My strategy has been to introduce GIS as a new system of representation, different from but as legitimate as text. Although I rely on an interactive lecture format, I incorporate some discussion in each class. I accommodate different learning styles by using a liberal number of overheads, slides and diagrams to illustrate ways in which space is organized and manipulated in GIS.

Beyond delivery style and the cultivation of student interest, I endeavour to link concepts and applications of GIS to the social realm along two different but complementary axes. First, I illustrate ways in which key concepts, such as the field view of geographic space, developed in response to social *as well as* digital parameters. Second, I emphasize that GIS is not a neutral technology but one which influences outcomes simply by virtue of its use, over and above specific results. By using these two approaches, I am able to demonstrate that GIS exists in a state of reciprocal influence with the society we live in.

the lab

My goal is that students develop a working knowledge of GIS packages as well as a deep appreciation for the data structures, models and algorithms which underlie them. I do this by using a single application for the duration of the introductory course, in an attempt to

illustrate various concepts. This approach is tailored to geography students who often become disoriented when confronted with changing software environments. By teaching students how code operates and how to implement it, I feel that I am empowering a digital generation.

At the intermediate level, I integrate systems programming into the laboratory component in order to stress the importance of being able to modify operations as well as respond to local needs of individuals and institutions. Likewise, the computational and algebraic bases for GIS operations are introduced during intermediate and advanced courses. Set theory, topology, database concepts and management, neighbourhood operations as well as common spatial algorithms are critical elements of a GIS education and provide a gateway to advanced study and application.

At both the introductory and more advanced levels, I aim for a relaxed atmosphere in the lab, one where students feel that they can ask questions and expect support. I also encourage students to explore the limits as well as possibilities of the applications they are using. Finally, I would like to stress that my teaching style is not static but evolving; I am enthusiastic about refining my teaching in order to generate student enthusiasm and involvement through practical field exercises involving data collection, classification and analysis.