INTEGRATING GIS IN THE CURRICULUM

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The Alverno College Context: Since the early 1970s, the Alverno College faculty have been developing and implementing ability-based education. The distinctive feature of an ability-based approach is that we make explicit the expectation that *students should be able to do something with what they know.* Essentially, our goal for students is independent lifelong learning. The development and demonstration of specific abilities in disciplinary and interdisciplinary contexts are a means to that end. Adopting a developmental curriculum is also a key element in achieving the goal of lifelong learning. With that in mind, we are in the process of using various approaches for creating a developmental, cross-disciplinary GIS curriculum, as described below.

1. Develop GIS expertise on campus. Identify faculty and administrative staff who will receive training, attend conferences, etc. to further enhance GIS knowledge and applications.

2. Collaborate with other academic institutions (and other organizations) to foster GIS innovation on home campus – find out what others are doing (e.g., to refine your vision of what the GIS curriculum should be; to get a better sense of what is needed to institutionalize a GIS strand in the curriculum).

3. Identify majors/minors/programs whose students would benefit by learning and using GIS; get their support for offering GIS courses.

4. Make mini-GIS presentations to faculty, academic staff, and students to develop curiosity, interest and enthusiasm for GIS – help them see the power of GIS for its analytic and problem solving potential and for its career potential for students.

5. Identify courses in which GIS will be integrated, in order to create a developmental curriculum. Form partnerships with other majors/programs to offer cross-listed, interdisciplinary GIS courses. Identify course outcomes that are linked to outcomes for the major and think about how the learning experiences and assessment opportunities will be developed throughout the curriculum.

6. Create transportable GIS modules for integration in courses (especially key courses, like General Education courses) and with faculty/academic staff (especially key faculty/staff) across the institution, so that they can use GIS without needing to be an expert in the field.

7. Identify/create GIS Databases. Examples: Identify data sources from CDC, government agencies, ESRI, etc. that are applicable to courses. Scan the college for other potential sources of data that groups of faculty would find useful (e.g., set up a GIS database that utilizes photographs taken by the 25 faculty across Alverno who participated in the East Asian Studies Initiative – create the database so that it can be used in courses to demonstrate climatic and seasonal conditions, cultural relics, people, infant mortality rates, life expectancy, GNP, landforms, wildlife/habitat, and other features).

8. If hiring adjuncts to teach specific GIS courses, select individuals who have expertise, energy, enthusiasm, and connections with others in the field (e.g., so they can spark interest, facilitate internships for students, help build a pool of resources for the institution)

General Tips

- Start with what you have and build from there; don't wait for everyone to be on board
- No lone rangers
- Reward risk-taking
- Apply for grants to fund GIS activities & obtain resources.