

Assessment of Idaho State University's Geospatial Course Curriculum Relative to the UCGIS Body of Knowledge

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Throughout much of the 2009-2010 academic year, the Idaho State University (ISU) Geospatial Coordinating Committee (GsCC) critically evaluated its course offerings in relation to the UCGIS Body of Knowledge (BoK) (DiBiase et al., 2006). The BoK is the current revision of an effort to improve GIScience education through the specification and assessment of curricula for a wide range of student constituencies (Kemp and Wright, 1997).

The GsCC began its evaluation efforts by compiling a description of all geospatial and associated courses taught at ISU. Following this, each instructor was asked to critically evaluate their course relative to the core unit knowledge areas (table 1) described in the BoK. GsCC members reviewed the self-assessments and summarized their findings in a spreadsheet.

Table 1. Core unit knowledge areas identified in the 2006 UCGIS Body of Knowledge (BoK)

BoK Alpha Code	Knowledge Area	Core Unit	
AM3	Analytical Methods	Geometric measures	
AM4		Basic analytical operations	
AM5		Basic analytical methods	
CF3	Conceptual Foundations	Domain of geographic information	
CF4		Elements of geographic information	
CV2	Cartography and Visualization	Data considerations	
CV3		Principles of map design	
CV6		Map use and evaluation	
DA4		Database design	
DM2	Data Modeling	Database management	
DM3		Tessellation data models	
DM4		Vector and object data models	
DN1		Representation transformation	
DN2	Data Manipulation	Generalization and aggregation	
GD1	Geospatial Data	Earth geometry	
GD3		Georeferencing systems	
GD4		Datums	
GD5		Map projections	
GD6		Data quality	
GD10		Aerial imagery and photography	
GD12		Metadata, standards, and infrastructure	
GS6		GI S&T and Society	Ethical aspects
OI5		Organizational & Institutional Aspects	Institutional and inter-institutional aspects
OI6			Coordinating organizations

This paper was prepared as an executive summary of the findings of the GsCC and can be used as a benchmark or baseline for future geospatial curriculum assessment at ISU.

Results of the GsCC review indicate a comprehensive treatment of the core unit knowledge areas is available through ISU's current geospatial course offerings. The review likewise indicated a focus upon the analytical methods, data modeling, and geospatial data knowledge areas as approximately 25% of courses covered various core units of these knowledge areas. Similarly, the review revealed four core units that were offered by only one course (DM3, DM4, GD10, and GS6).

This report was not developed to suggest ISU needs to add additional courses to their existing geospatial curriculum but rather to act as an appraisal of the strengths and weaknesses of the various programs. In addition, this review suggests the geospatial courses offered at ISU and the expertise of the instructors teaching these courses lies within the area of applied geographic information science rather than basic/theoretical applications. It is recommended that a similar review be occasionally conducted.

References Cited

DiBiase, D., M. DeMers, A. Luck, A. Johnson, B. Piewe, K. Kemp, and E. Wentz (eds.) (2006). *Body of Knowledge 2006*. University Consortium for Geographic Information Science. 127 pp. URL = http://giscenter.isu.edu/gsc/toPDF/BoK2006_DD_25Feb2006.pdf visited 11-April-2011.

Kemp, K., and R. Wright. 1997. UCGIS identifies GIScience education priorities. *Geo Info Systems* 7(9): 16-18, 20.