

UCGIS GISci&T Body of Knowledge* Units and Topic Areas (P=primary, s=secondary)	GEO 301 Map & Img	GEO 360 Cartography	GEO 365 Intro to GIS	GEO 465/565 Intermed GIS	GEO 580 Adv GIS	GEO 444/544 +Remote Sens	GEO 466/566 +Image Proc
Analytical Methods							
AM1-Academic, analytical origins					P		
AM2-Query operations, languages			P	P	P		
AM3-Geometric measures	P		P	P	P		
AM4-Basic analytical operations			P	P	P		
AM5-Analytical methods				s	P		
AM6-Analysis of surfaces			P	P	P		
AM7-Spatial statistics				s	s		
AM8-Geostatistics					s		
AM10-Data Mining				s	s		
AM11-Network analysis					s		
AM12-Optimization, location-allocation					s		
Conceptual Foundations							
CF2-Cognitive and social foundations			s	s	s		
CF3-Domains of geographic information				P	P		
CF4-Elements of geographic information			P	P	P		
CF5-Relationships			s-topology	P	P		
CF6-Imperfections in geographic info				P	P		
Cartography & Visualization							
CV1-History and trends		s					
CV2-Data considerations	P	P	P	s			
CV3-Principles of map design		P	s	s	s		
CV4-Graphic representation techniques		P		s	P		
CV5-Map production		P					
CV6-Map use and evaluation	P			s	s	s	
Design Aspects							
DA1-Scope of GIS&T system design				P	P		
DA2-Project definition				P	P		
DA3-Resource planning				s	s		
DA4-Database Design				s	P		
DA5-Analysis Design			s	P	P		
DA6-Application Design			s	s	P		
DA7-System implementation				s	s		
Data Modeling							
DM1-Basic storage & retrieval structures			P	P	P		
DM2-Database management systems			P	P	P		

* Dibiase, D. et al. (eds.), 2006. Geographic Information Science and Technology Body of Knowledge, 1st ed., UCGIS and AAG, 162 pp.

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Data Modeling							
DM3-Tessellation data models			P	P	P		
DM4-Vector and object data structures				P	P		
DM5-Modeling 3D, uncertain, temporal				s	P		
Data Manipulation							
DN1-Representation transformation			s	P	P		
DN2-Generalization and aggregation		P		s	s		
DN3-Transaction management				s	s		
Geocomputation							
GC1-Emergence of geocomputation					s		
GC8-Uncertainty				P	P		
Geospatial Data							
GD1-Earth Geometry		P	s				
GD2-Land partitioning system	s						
GD3-Georeferencing systems	P	P	s	s	s		
GD4-Datums		P	s	s	s		
GD5-Map projections	P	P	s	s	s		
GD6-Data quality			s	P	P		
GD7-Land surveying and GPS			s-GPS	s-GPS	s-GPS		
GD8-Digitizing				s	s-on-screen		
GD9-Field data collection				P	s		
GD10-Aerial imaging, photogrammetry						P	P
GD11-Satellite & shipboard remote sensing						P	P
GS12-Metadata, standards, infrastructures			s	P	P		
GIS&T and Society							
GS3-Use of geospatial in public sector					s		
GS5-Dissemination of geospatial info				P	P		
Organizational & Institutional Aspects							
O1-Origins of GIS&T				s	s		
O14-GIS&T workforce themes				s	s		
O15-Institutional & inter-institutional aspects				s	s		
O16-Coordinating organizations				P	P		

+Note: In our view, a fully complete, rigorous, and **up-to-date** national model curriculum for remote sensing & digital image processing is not yet available.

Info **not** available for GEO 445/545 Computer-Assisted Cartography or 460/560 Multimedia Cartography

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