Creating Geospatial Professionals

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Guidance: No Single Source, Differing Purposes

• GEOTECH Center
• US DOLETA GTCM
• USGIF EBK
• UCGIS BOK
• NCGIA Core Curriculum
• National Society of Professional Surveyors accreditation program
• NGA GPC Handbook
• US DOL O*NET job descriptions
Pedagogy (How do we teach?)

• Most agree that education moves from generalist to specialist

• Progression of learning outcome objectives (early lessons enable later/more advanced lessons)

• Subjects are defined and delimited by discipline early on, interdisciplinary later
What is geospatial?

• Geographic Information Systems
• Remote Sensing
• Data Management and Distribution
• Positioning
• Visualization
• Analysis
• Reporting
Curriculum

• 10 Liberal Arts Core Courses
• 14 Geospatial Courses
• 3 Geography Courses
• 4 Specialization Courses
Required Geospatial Courses

- Micro Computer Applications
- Introduction to GIS
- Advanced GIS
- Introduction to Remote Sensing
- Digital Image Processing
- Case Studies in GEOINT
- Topographic Mapping
- Hyperspectral, Microwave, and LIDAR
- Trends in Geospatial Technologies
- Analytic Techniques
- Geospatial Math and Algorithms
- Programming GIS
- Spatial Databases and Internet Technologies (Server side)
- Internship
Geography

• Human Geography
• Physical Geography
• World Regional Geography
Specialization

• Computerized Mapping and Cartography
• Introduction to Surveying
• Advanced Surveying
• Surveying and the Law
• Photogrammetry I
• Photogrammetry II
• Advanced Remote Sensing
• ??? To be developed as program grows
Challenges

• Sequencing
• Curriculum documentation (must support licensure, certification...)
• Re-structure grad program to offer industry specializations (Oil and Gas applications, GEOINT, Homeland Security, etc...)
• Promulgating model
  • Employers
  • Fellow academics
  • Prospective students