Thoughts from 20 years of developing "curricula" for GIS

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20 years trying to figure it out..

1988-90: NCGIA Core Curriculum in GIS
1992-93: International Post-Graduate Course on GIS (TU Vienna)
1994-98: Core Curriculum in GIScience
1998: Interoperability for GIScience Education Workshop/ESRI's Virtual Campus begins
1998-2006: GIS&T Body of Knowledge
2000: University of Redlands MS GIS
2001-04: GIS Certification Institute
2005-2008: Encyclopedia of GIScience
Other efforts

- U. Miss. Curriculum
- Ken Foote's Geographer's Craft project
- Reg Golledge's efforts over many years with grad students
- U Wyoming Metadata Education Project [www.sdvc.uwyo.edu/metadata/education.html]
- Many, many more...
Process - what is the list of topics?

- NCGIA CC - Mike (mostly) and me
- TUW - Delphi process
- UCGIS BoK - endless meetings (large and small) and continuous revisions of lists and content
- UR MS GIS and Encyclopedia - extensive review of existing courses and textbooks
Granularity

- Courses → Lecture Topics → Lecture notes (NCGIA CC)
- Skills, Knowledge Areas and Topics → Topic List → Courses (TUW)
- Knowledge Areas → Topics → Units → Learning Objectives (BoK)
- Have never gotten to the spatial primitives
- Always thought it would be good to...
  - deconstruct the "1000 commands" of ArcINFO into the spatial knowledge required to do them correctly
Content

- What to include/what to leave out
- "Cross-cutting themes" (BoK)
  - Error
  - Metadata
  - Scale
- Focus on learning outcomes
- What to do about knowledge from other fields?
What is a "curriculum"?

- How to organize contents?
- Many paths through components
  - Depends on context, disciplinary background, learning style, teaching style...
Are we ready to **Design** a curriculum?

- Do we know what it will include?
- Do we know why it will include that?
- How do we begin the design process?
- Are there many solutions?
- How will we know if we've done a good job? If we're "right"?
Sources

NCGIA Core Curriculum in GIS -
http://www.ncgia.ucsb.edu/pubs/core.php

Interoperability for GIScience Education Workshop -
http://www.ncgia.ucsb.edu/ige98/

GIS&T Body of Knowledge -
http://www.ucgis.org/priorities/education/modelcurriculaproject.asp

University of Redlands MS GIS -
http://www.institute.redlands.edu/msgis/

GIS Certification Institute - www.gisci.org

Encyclopedia of Geographic Information Science - see www.amazon.com

Ken Foote's Geographer's Craft project -
http://www.colorado.edu/geography/geography/gcraft/contents.html

U Wyoming Metadata Education Project
www.sdvc.uwyo.edu/metadata/education.html