"GEO-visualization": Building a Community College GIS Program

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GEOGRAPHY

The Community College "Niche"?

- **What is NOVA?**
  - Largest educational institution in VA
  - 2nd largest community college in US
  - "The most economical state college
    in VA"   (*WJLA-TV*, May '08)
- *Traditional*: undergrads matriculating
    to 4-year institution
- *Newer*: workforce development
- *Newest*: "Grad school" of the 21st Century
  - "Career switchers"

Program Development Milestones

- Market analysis
- Business case
  - Hardware, software, etc. costs
  - Class subscription rates (ROI)
- The GIS classroom/lab—hardware, software, network, IT support
- Program/course development, scheduling
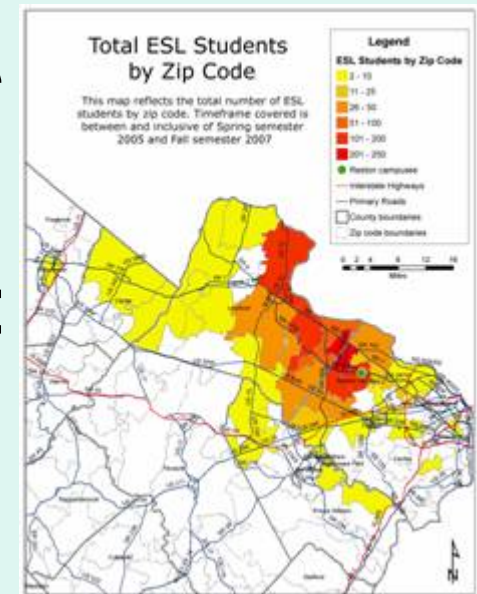 - Classroom & distance learning
- Faculty recruitment, adjuncts, training

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Essential Elements

- "Marketing" the program
  - GIS Day
  - Open houses (HS field trips)
  - Kid's summer camps
  - Industry and government visits
  - Campus flyers
  - Internet—Geosciences web page, Facebook, U-tube
- GIS career studies certificate (29 hours)
  - GIS&T
  - Advisory group
  - GIS programs other schools (George Mason Univ)
  - Internships!

Keys to Success

Total ESL Students by Zip Code

- Student term projects (portfolio): knowledge & experience

- Internships

- Partnering & consulting—education (high schools, school districts 4-year schools); government (feds, counties); industry; non-profit
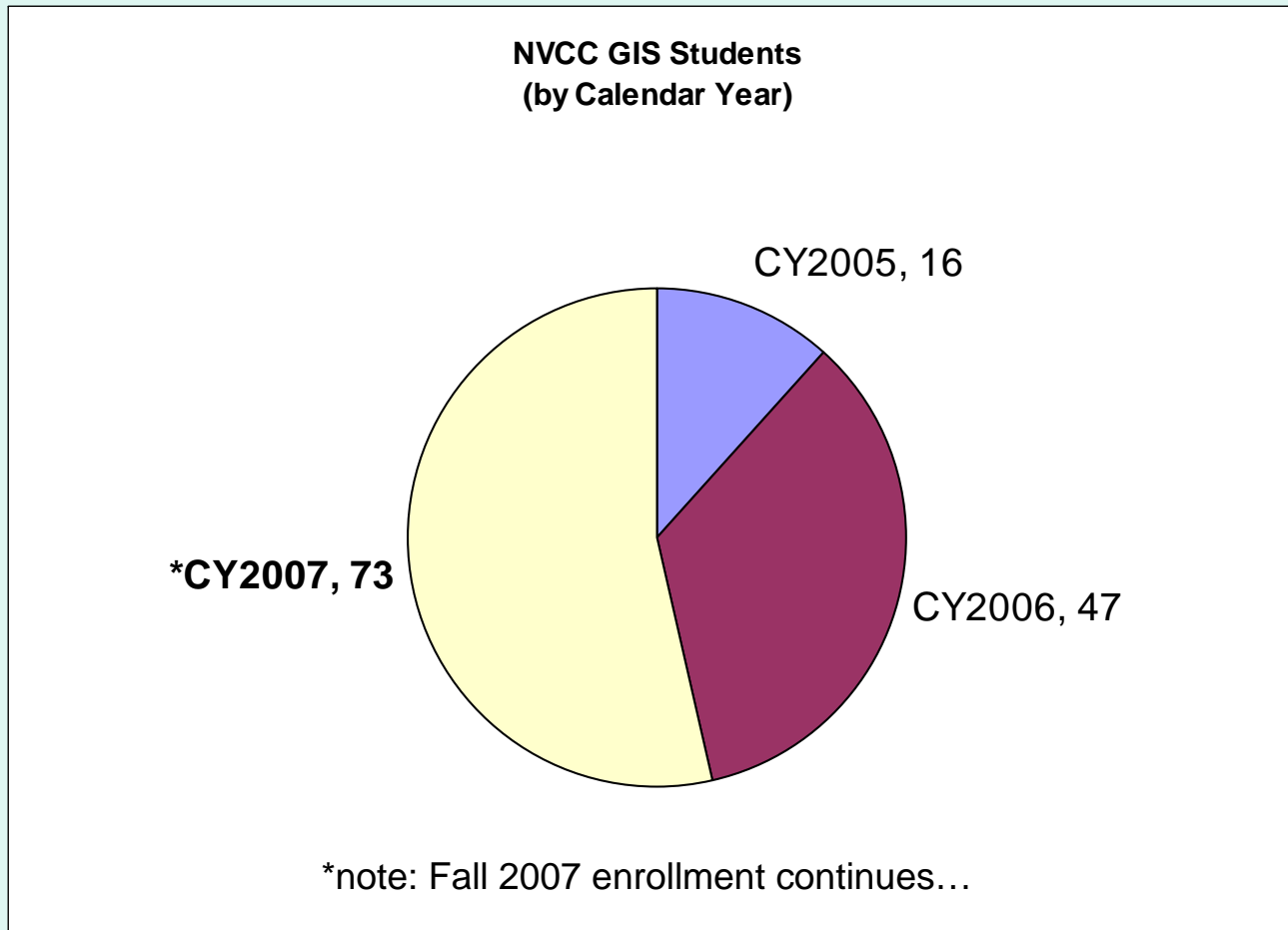
www.nvcc.edu/gis

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Backups

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NOVA's Growing GIS Program…

NVCC GIS Students
(by Calendar Year)

CY2005, 16

*CY2007, 73

CY2006, 47

*note: Fall 2007 enrollment continues…

Who are NVCC GIS Students?

- "Typical" student:
  - Adult with bachelors degree (or higher)
  - 1/3 with IT background (programming, dBase management)
  - Engineers, surveyors well-represented
  - Career switchers or job enhancement
  - Grad students "in waiting": GMU, VA Tech
- AOL, Dewberry, Boeing, SAIC, SPADAC, Fairfax County

Community College: the "New Grad School?"

NVCC GIS Offerings…

- **Introductory, Intermediate and Advanced GIS**
  - Each class includes labs & student term project
- **Cartography for GIS**
- **GIS Applications in Environmental Science**
- **Intro to Remote Sensing**
- **GIS Internship**
- **GIS for Continuing Education**
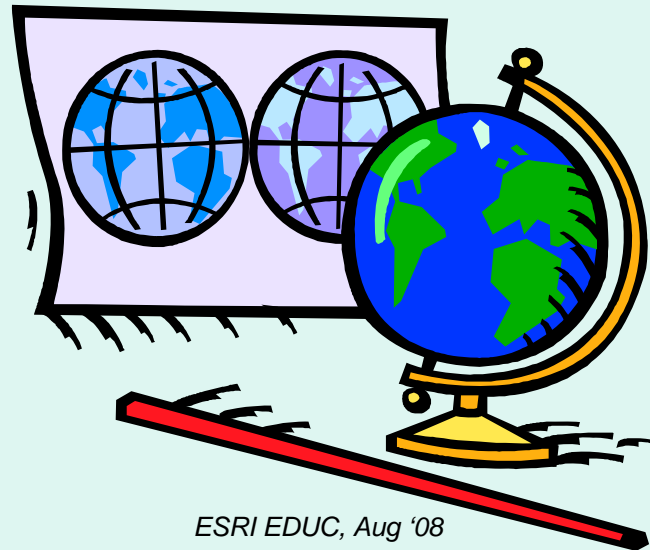- **GPS & Kids (summer program)**

NOVA GIS Lab

- Hardware:
  - 24 student seats (primary classroom)
    - Dell workstations
      - Dual Xeon processors, 2GB RAM, 512K video card, 250GB storage
      - Dual 19" flat panel monitors
  - Dedicated Dell Server
    - Dual Xeon processors, 8GB RAM, 2 terabytes storage

- Software:
  - ESRi ArcGIS9.2 (ArcInfo license)
  - ArcGIS Server (Workgroup license)
  - ITT ENVI
  - IDRISI Andes

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NOVA GIS Faculty

- Mr. Aaron Showker, NGA
- Ms. Lee Ebinger, USDA/SIS
- Ms. Melody Peppard, ITT Solutions
- Dr. Michael Krimmer, NVCC

GIS Certificate

Core Courses (23 hours required)   Credit Hours

ENG/SPD	Elective	3
GIS200	Geographic Information Systems I	4
GIS201	Geographic Information Systems II	4
GIS205	GIS 3-Dimensional Analysis	4
GIS290	GIS Internship (1 to 3 hours, based on advisor input)	1
GIS295	Topics in GIS—Introduction to Remote Sensing	4
GEO220	World Regional Geography	3

Technical Elective Courses (3 hours required):   Credit Hours

ENV/GIS230 GIS Applications in Environmental Science	3
GEO200 Intro to Physical Geography	3
GEO210 Intro to Cultural Geography	3
GIS293 Studies in Cartography for GIS	4
ITD110 Web Page Design (or higher ITD)	3
ITN101 Intro to Network Concepts (or higher ITN)	3
ITP112 Visual Basic.net (or higher ITP)	4
MTH241 Statistics I (or Math163 or higher)	3

Elective Courses (3 hours required):

Biology, especially ecology; Chemistry; Engineering; Environmental Science; Geography; Geology; History; Physics; Mathematics; Information Technology; Marketing

Some Student GIS Projects

- Elections
- "Green Roofs"
- Deer Hazard to Motorists
      (Fairfax County, VA)
- Katrina & Danger to Historic Sites
- Re-introducing Wolves into Virginia
- Extreme Racing (ultra-marathons)

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