Undergraduate Research Projects in Physical Geography

A Watershed Monitoring Perspective

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Continued Monitoring

• Geography
  – The discipline that studies spatial and temporal relationships
    • Short term records or investigations rarely tell all of the story
      – Longer-term monitoring or data collection is often necessary to tell the story
Continued Monitoring

• Introduction
  – Watershed monitoring
    • River systems are hierarchical
      – The larger scale influences the next smaller scale, which influences the next smaller scale and so forth
        » Changes that influence different scales occur at different rates
          » Undergraduate research projects at different scales (i.e., ecoregion, watershed, stream reach, microhabitat)
        » Channel dynamics are often influenced by seasonal trends
          » Summer vs. winter sampling
Continued Monitoring

• Baseline/Tend Studies
  – Watershed monitoring
    • Channel characteristics
    • Water quality
    • Macroinvertebrates
    • Fisheries
    • Sediment yield
    • Land use change

Undergraduate projects are intended to be a year long = Season Trends
Continued Monitoring

• Finding Students
  – Watershed monitoring
    • Undergraduate research grants (UW-W) and independent studies
    • Look for enthusiasm, class projects, and prior experience
      – Do not take on too many students at once
      – Set a limit
        » Depends on course load, service, family, etc.

Everyone has obligations outside of school
Continued Monitoring

• Baseline Study
  – Watershed monitoring
  • Selecting a watershed
    – Go local
      » Your student’s study does not have to set the World on fire
      » It just has to set them on fire!
      » Focus on graduate school preparation or skills needed to enter the job market

Allen Creek, Fort Atkinson, WI

Whitewater Creek, Whitewater, WI
Continued Monitoring

• Additional Funding
  – Watershed monitoring
    • Baseline data is critical for future funding
      – Funding for larger grants often look for preliminary data
        » EPA
        » National Science Foundation (NSF)
        » Great Lakes Basin Program

Drainage ditch north of Whitewater, WI
Towards Tenure

• Tenure
  – 1. Teaching
    • Undergraduate research is a part of teaching
  – 2. Research
    • Undergraduate research helps in my own research and grant writing
  – 3. Service
    • Local interest to the community

Michele Eisenhauer surveying Channel cross-section with Julia Ganja (not pictured)
Towards Tenure

• Tenure

  – 1. Teaching

    • Undergraduate research is a part of teaching

      – I have been able to use water quality collected by myself and students for homework assignments in Water Resources (Geo 323)

      – Can use the data collected by undergraduate research students in lecture…the best lectures!

    » Good teaching = tenure
Towards Tenure

• Tenure
  – 2. Research
    • Undergraduate research projects in the Whitewater Creek watershed are a spinoff of my research
      – Students are helping me complete my research, while gaining important skill sets that are helping prepare them for graduate school or the workforce
        » Manuscripts = tenure!

Gina Cook, 2008 collecting Water samples at the outlet of Whitewater Lake
Towards Tenure

- Tenure

  2. Research

  Conference Presentations

  - Presentations Given 2008-2011:

    » At the Association of American Geographers Meetings in Boston, MA (2008), Las Vegas, NV (2009), Washington D.C. (2010), and Seattle, WA (2011)
Towards Tenure

• Tenure
  – 3. Service
    • Local interest to the university, community, and state
      – Presentations Given:
        » 2010. Whitewater Rotary Club, Whitewater, WI
      – Committees and Organizations:
        » 2007-Present. Friends of the Allen Creek Watershed. A watershed monitoring group
        » 2008-2009. Whitewater Lakes (Trippe and Cravath) Management Committee
          » Service = tenure!
Towards Tenure

• Advancement to Tenure
  – Mission statements
    • Make sure to read and understand what is expected from you with respect to tenure as soon as possible
  • Review mission statements
    – Department mission
    – College mission
    – University Strategic Plan
    – University mission

http://www.uww.edu/career/common/images/uww-logo_100.gif
Towards Tenure

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