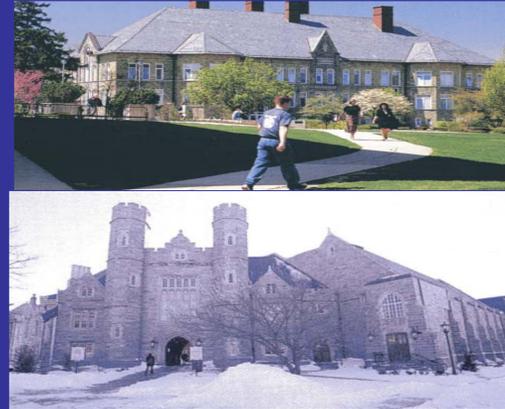


Strategies for Geoscience Department Survival & Success in the Business-Model Management of Universities

Steve Good, Dept Geology & Astronomy, West Chester University, PA

Regional comprehensive university

- 12,000 students and growing
- part of PA State System of Higher Education
- 30 miles west of Philadelphia
- About 75 majors



Productivity

•Class size

FTE ratio = ((credit hrs/contact hrs)*enrollment)

Management sets department targets

Our department goal = 23.25

Our department incentive > 23.85

Science lab problem; credit hr = 1, but contact hr = 2

Individual faculty FTE ratios for Fall semester 2004

48.3 42.8 42.4 40.1 34.4 26.3 26.3 24.3 24.2 21.0 20.8 14.5

Lect	Credits	Lab/Lec	Lab	Credit	FTE	Fac Hr	FTE ratio
26	2	1	26	1	78	4	19.5
52	2	2	26	1	156	6	26.0
78	2	3	26	1	234	8	29.3
104	2	4	26	1	312	10	31.2

•Graduation rates

"Low enrollment" = less than 12 graduates per year per program

Our department was operating 6 baccalaureate programs, reduced to 3 programs

(and 3 minor programs and one MA program)

BS Geology; BS Environmental Geology, BS Earth Systems..... BS Geology, BS Earth Systems
BSEd Geology, BSEd Environmental Geology, BSEd Astronomy BSEd Earth & Space Science

Efficiency

•PA State System of Higher Education (SSHE) mandate to reduce BS/BS programs to 120 credits by Fall of 2003

- BS programs were at 128 credits

- BSEd programs were at 134 credits

Accountability

•SSHE in 2000 mandated assessment plans for all programs.

Internal instruments: student portfolios, surveys, etc., and

External standardized test results

BSEd: Praxis Content Knowledge Tests

BS: GRE advanced? (not appropriate as outcomes test)

ASBOG Fundamentals of Geology Test (Association of State Boards of Geologists)

•SSHE in 2001 mandated all programs to be accredited by appropriate professional organizations

BSEd program must be approved by the PA Dept of Ed, next accreditation visit is in Spring 2006

BSEd: WCU is accredited by NCATE (National Council for Accreditation of Teacher Education),

spring 2006 visit requires NSTA (National Science Teachers Association) folio approved.

Appendix 2



ASBOG FG & PG TEST BLUEPRINTS
Number and Percent of Items by Domain

CONTENT DOMAINS

- Field Methods And Remote Sensing
- Mineralogy, Petrology, Petrography, & Geochemistry
- Sedimentology, Stratigraphy, Paleontology
- Geomorphology
- Structural Geology & Tectonics
- Geophysics & Seismology
- Hydrogeology
- Engineering Geology
- Mineral, Petroleum, & Energy Resources

Forces of Change

Student & parent mandate

-Vocationalization of higher education, **GET A JOB**

External mandates on our department

- Productivity Efficiency Accountability

Internal Department mandate:

- Equity: distribute courses among faculty, produce share of productivity



Business Model in Higher Education

- Productivity
- Efficiency
- Accountability

Success = rewards

Staffing: faculty lines

This year, requested one line, Dean gave us two lines

Space: square footage

Requested 4 biology offices be reassigned to our department, dean approved the transfer

Budget: more money

Provost awarded discretionary budgets to departments based on productive, our department received highest award level (of 3)



Failure:

You're fired



BS Environmental Geology

Education: Major in Geology or related discipline w/ 30+ semester hours in discipline

Experience: 5 years professional geology work, less a yr for each grad. degree

Examinations: ASBOG tests

Fundamentals of Geology (FG) Examination: test of knowledge & skills acquired in an academic setting that leads to a baccalaureate degree

Practice of Geology (PG) Examination: test to assess skills & knowledge acquired or expanded through employment, typically after 5 years of experience

PA Teaching Certification

PDE Standards for Earth & Space Science

I. Knowing the Content

I.A. Basic principles of biology, chemistry, physics and math as related to earth & space science

I.B. Concepts of Earth & Space Science interactions of lithosphere-hydrosphere-atmosphere-biosphere

I.C. Physical Geology I.D. Historical Geology

I.E. Oceanography I.F. Meteorology

I.G. Astronomy and Space Science

I.H. Environment, Natural Resources, Social Impacts

I.I. Scientific Instrumentation and technology

New Curricula

BS Geology

Require: Statistics & Calculus

Require: Chem 1, Phys 1

Recommend Bio 1, Chem 2,

Phys 2

Core Geology

101 Intro to Geol

204 Historical Geol

201 Field Techniques

213 Env Geochemistry

302 Mineralogy

331 Paleontology

343 Geomorphology

405 Petrology

420 Structural Geology

450 Sed & Stratigraphy

BS Earth Sys & BSED

Require: Stats & Pre-Calculus

Require: Bio 1, Chem 1, Phys 1

Recommend: Chem 2, Phys 2

Core Geology (10 courses, 30 cr.)

Additional requirements

111 Astronomy

370 Meteorology

330 Oceanography

Other stuff

Document student success

Dept chair led Dean search

Dept faculty are campus leaders

Manage dept. for admin metrics

Earth and Space Sciences: Content Knowledge (0571)

Test at a Glance			
Test Name	Earth and Space Sciences Content Knowledge		
Test Code	0571		
Time	2 hours		
Number of Questions	100		
Format	Multiple-choice questions		
Content Categories	Approximate Number of Questions	Approximate Percentage of Examination	
I. Basic Scientific Principles of Earth and Space Sciences	8-12	8-12%	
II. Tectonics and Internal Earth Processes	18-22	18-22%	
III. Earth Materials and Surface Processes	23-27	23-27%	
IV. History of the Earth and its Life-Forms	13-17	13-17%	
V. Earth's Atmosphere and Hydrosphere	18-22	18-22%	
VI. Astronomy	8-12	8-12%	