

State University of New York College at Cortland

Geology Department Strategic Planning Initiative (2008-2013)

Mission Statement (from Department Program Review May 2005)

The Geology Department at SUNY Cortland is committed to providing a strong and challenging curriculum in the geological and associated earth sciences, earth science education, environmental science, and water resources. Our goal is to provide a combination of diversified undergraduate coursework, independent and faculty-guided research opportunities, and a wealth of field experience designed to give our graduates the breadth and depth of knowledge required for success as professionals in the geosciences, prepared for entrance to graduate school, and as graduates with diversified liberal arts and sciences backgrounds. The department accomplishes this goal through the diverse teaching and research specialties of its full and part-time faculty, a well-grounded program of study based on national expectations of a program suitable for certification in professional geology and earth science education, and by exposing students to topics, techniques and equipment of current use by professionals in the field.

Context

This Geology Department Strategic Planning Initiative is built with the core mission statement of the department in mind at all times, and with the realization that the document is created as a template for progress, and not as a strict timeline for accomplishments. This document addresses Goals I-IV as set out in the SUNY Cortland's "Academic Affairs Strategic Plan (2005-2010)." It does not address Goals V and VI which we feel pertain to other aspects of Academic Affairs beyond the scope of our department. Each Goal is addressed in narrative fashion followed by a set of templates containing Objectives, Actions Required, Indicators of Success, Target Completion Dates, Budget and Resources Needed, and Person Responsible. Unless otherwise stated, the entire department faculty take responsibility for addressing the objectives, but the chair takes specific responsibility for implementation of the overall plan in the framework of the department's mission.

GOAL I – SUPPORT AND ENHANCE ACADEMIC EXCELLENCE

Vision statement

Academic excellence for our students is at the core of our vision for the Geology Department. We expect our students to meet high standards in core skills areas of our programs and are committed to providing them with the necessary resources to meet these expectations. We also continue to raise our expectations, particularly in the use and application of technology in the discipline. The explosive expansion of geospatial data and technologies (e.g. geographic information systems (GIS), global positioning systems (GPS), digital elevation models (DEMs), etc.) in recent years has reinvigorated many areas of the geological and associated earth sciences and it is important that our students be exposed to these growth areas. We seek to encourage more of our students to complete culminating experiences within our programs, as we find that students who complete such work grow significantly in the process and are more marketable as graduate students, professionals and as contributing scientists and teachers. Our excellence in the area of Earth Science teacher preparation is a critical component of our mission, and we make no distinction in our expectations of students enrolled in Geology degrees (GLY) or Adolescence Earth Science Education (AES). The department sees as its challenge the continuing support of the professional maturation process of our students as they move through our programs, including exposure to current theories, controversies and technologies in the discipline.

Geology faculty members are the key resource for enabling our students to attain excellence. Therefore, support for current members of the department, including improved funding for attending professional meetings and better access to computer resources, are essential for realization of our vision for student academic excellence. In evaluation of our current departmental expertise and with a view to the future, it is apparent that we need to augment our current faculty with a new tenure track line that will be targeted in a recognized growth area of the discipline, such as geophysics, energy resources or remote sensing. This new position will allow us to enhance our upper-level courses and to contribute youth and enthusiasm within our faculty ranks. We also aim to propose a

discipline-specific CAP 100 class to address computer and technology needs within our market base, which we feel we can best offer in-house.

Objectives, Actions, Indicators and Resources

See attached Template for Goal I following this section.

Description

All students in the Geology Department are currently given a copy of the “Writing in the Geological Sciences” document so that they have consistent guidelines for writing assignments in different courses in their programs. However, recent experience has shown that students need more specific guidelines in areas such as plagiarism vs. collaborative writing, on the correct use of web sites as sources of data, and on how to read and understand peer-reviewed literature. Such guidelines need to be agreed upon by the faculty, and we propose a faculty retreat to update our departmental writing guidelines.

We also wish to increase student use and practice with computers in all of our courses, and in particular wish to increase our application of geospatial data and technology (e.g., GIS skills). Expansion of our mobile computer lab (currently 12 PC notebooks) will allow us to continue to integrate our computer use with other laboratory and field experiences and will reduce the computer lab scheduling problems which seem endemic to the institution. We propose formal training in ArcGIS 9.X (and other software specific to the geospatial sciences) and will request funding to allow us to bring in an outside trainer or fund our travel to a training facility in such software. This initiative may be coordinated with activities proposed by the Geography Department.

Adding a new tenure track line to the department will meet several departmental goals in that we will be able to offer upper level courses in areas which are currently not adequately addressed, and it will also allow us to offer a discipline-specific CAP sections (perhaps as part of the Earth and Sky learning community, or one open to all natural science students). A new tenure-track line will also help current faculty manage additional advising, and committee and administrative duties during sabbatical leaves when the department is reduced to only four tenure-track members. The area specialty for this line

is being openly discussed, and includes the areas of geophysics, energy resources, geospatial sciences, and remote-sensing science.

We would like to see more of our upper-level students participate in culminating experiences such as peer teaching, research, and supervised internships. These experiences are uncommonly valuable to students and serve as capstone experiences in their programs. Our department is not large enough to take on all students in any one of these areas, and the option of teaching (student teaching experience required of our Adolescence Earth Science Education majors), internships (required of our GLY-WRES and GLY-ENVS majors), or research should be discussed in future planning. Monetary support for faculty members attending meetings has remained stagnant while the costs of such meetings have increased dramatically. Meetings are essential for networking and professional growth, and we ask that the campus, most likely through the Dean's annual allocation, find a way to provide more support for faculty to attend conferences and other supportive research and scholarship growth related travel, in their disciplines.

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Department: Geology

GOALS & OBJECTIVES

GOAL I: SUPPORT AND ENHANCE ACADEMIC EXCELLENCE

OBJECTIVES	ACTION REQUIRED	INDICATOR OF SUCCESS	TARGET COMPLETION DATE	BUDGET & RESOURCE NEEDED	PERSON RESPONSIBLE
<p>A. Enhance students' mastery of core skills.</p> <p>B. Increase students' exposure to emerging areas & technologies.</p> <p>C. Increase student involvement in culminating experiences.</p> <p>D. Increase support for faculty growth.</p>	<p>A1. Update "Writing in the Geological Sciences" document, with emphasis on plagiarism vs. collaborative writing, use of online sources, and reading of peer-reviewed literature.</p> <p>A2. Increase infusion of computers in program.</p> <p>A3. Include geology-specific section of CAP 100 in Earth and Sky learning community.</p> <p>B1. Offer upper-level courses in Applied Geophysics and/or Remote Sensing and/or Energy Resources.</p> <p>B2. Infuse geospatial software and data (e.g. ArcGIS, DEMs, etc.) in appropriate courses.</p> <p>C1. Increase opportunities for AES students to practice teaching as TAs in lower and upper-level courses.</p> <p>C2. Increase opportunities for students to participate in research.</p> <p>D1. Increase support for faculty to attend professional meetings.</p>	<p>Revised "Writing in the Geological Sciences" document.</p> <p>New or expanded lab exercises that include data collection and/or analysis on computers.</p> <p>CAP 100 offered as part of Earth & Sky.</p> <p>New 400-level courses.</p> <p>ArcGIS 9.3 lab exercises.</p> <p>More AES students enroll in GLY 494.</p> <p>More students enroll in GLY 499.</p> <p>More faculty attend professional meetings</p>		<p>Departmental retreat</p> <p>Expand mobile PC lab to 24 notebooks & add printer & mice.</p> <p>Include in teaching load of new tenure track hire (see next item).</p> <p>New tenure track line.</p> <p>Training for faculty in ArcGIS 9.3.</p> <p>None.</p> <p>Formally include research mentoring in workload of faculty.</p> <p>Dean's annual allocation increased by \$200.</p>	

***GOAL II – TO MAKE CORTLAND A MORE CULTURALLY COMPETENT
INSTITUTION***

Vision statement

The geosciences are global in their scope and yet within the United States, the geosciences fall behind most other sciences in recruitment of ethnically and culturally diverse students, professionals and academics. The geoscience community is beginning to examine this issue discipline wide, but is still collecting data to determine the causes of this phenomenon and effective ways to address it. Geoscience professional organizations such as AGU and AGI have and continue to examine the diversity issue. The faculty in the Geology Department at SUNY Cortland look forward to their findings and have in the meantime come up with strategic planning initiatives towards addressing diversity within the College's strategic plan as outlined in the following table.

Objectives, Actions, Indicators and Resources

See attached Template for Goal II following this section.

Description

To support the College's efforts to increase the number of ethnically and culturally diverse faculty, the department proposes to work closely with HR and the Office of Affirmative Action to target our underrepresented groups. This initiative will be enhanced by our proposal to host an international scholar (part of Goal III). This is a particularly difficult goal for our department to realize due to its stability (no foreseen growth in tenure line positions for the near future) and due to the fact that the Geosciences are traditionally the least diversity-represented of all the natural sciences (at least in terms of gender equity).

To support the College's efforts to increase the number of ethnically and culturally diverse students, the department plans to begin to identify additional scholarship opportunities for ethnically diverse students, as well as begin to work with admissions in identifying culturally diverse students in local high schools. The presence of the Onondaga Tribe and its schools in the vicinity is one area where we may put additional

effort. We will also use our significant influence and contact with local community colleges to identify these students through articulation programs in our Geology and Adolescence Earth Science programs.

To “Infuse Diversity into the Content” of our curriculum, we hope to encourage our faculty to incorporate examples of geology problems and topics that affect people of diverse backgrounds and cultures in core department course curricula: GLY 160, GLY 171, GLY 261, SCI 180; by developing a bank of case studies for use in curricular development (e.g., Hurricane Katrina, Social-Environmental issues). This is similar to the infusion aspects of our objectives and actions for Goal III.

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OBJECTIVES	ACTION REQUIRED	INDICATOR OF SUCCESS	TARGET COMPLETE DATE	BUDGET & RESOURCES NEEDED	PERSON RESPONSIBLE
<p>A. To support the College's efforts to increase the number of ethnically and culturally diverse faculty</p>	<p>A1. Work with HR to advertise open positions at institutions that have been identified as graduating high numbers of ethnically and culturally diverse doctoral graduates.</p> <p>A2. Work with HR to advertise open positions within organizations targeting ethnically and culturally diverse faculty and professionals within our discipline.</p> <p>A3. Host an international scholar to spend a week with the department evaluating ways to exchange international information, resources, students and faculty. <i>(Same as Obj C. under Goal III Internationalization).</i></p>	<p>An increase in applicants from ethnically and culturally diverse backgrounds.</p> <p>An increase in applicants from ethnically and culturally diverse backgrounds.</p>	<p>1 year after we have an open position</p> <p>1 year after we have an open position</p> <p>Fall 2011</p>	<p>MLC should be able to ID these institutions.</p> <p>HR office oversees</p> <p>HR office oversees</p> <p>1 course release for department international coordinator during period of Fall 2009-Fall 2012</p>	
<p>B. To support the College's efforts to increase the number of ethnically and culturally diverse students</p>	<p>B1. Support AASP Strategy II.3.b. By identifying scholarship opportunities within our discipline for ethnically and culturally diverse students</p>	<p>An increase in the number of ethnically and culturally diverse students in our department</p>	<p>2012</p>	<p>Assoc. Provost for Enrollment Management</p> <p>Admissions</p>	

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OBJECTIVES	ACTION REQUIRED	INDICATOR OF SUCCESS	TARGET COMPLETE DATE	BUDGET & RESOURCES NEEDED	PERSON RESPONSIBLE
C. Infuse Diversity into the Content	<p>B2. Support AASP strategy II3.c. Work with Admissions to ensure high schools with high percentages of ethnically and culturally diverse students are included in any recruitment efforts. i.e. Syracuse and Lafayette schools.</p>	<p>An increase in the number of ethnically and culturally diverse students in our department</p>	<p>2012</p>	<p>Assoc. Provost for Enrollment Management</p>	
	<p>B3. Support AASP strategy II3.d. Work with Admissions to ensure colleges with high percentages of ethnically and culturally diverse students are included in any recruitment efforts for transfer students and graduate students. i.e., Use existing contacts at OCC, BCC, TC3 and other community colleges to recruit from their diverse student population.</p>	<p>An increase in the number of ethnically and culturally diverse students in our department</p>	<p>2012</p>		
	<p>C1. Encourage faculty to include examples of geology problems and topics that affect people of diverse backgrounds and cultures in core department course curricula: GLY 160, GLY 171, GLY 261, SCI 180; by developing a bank of case studies for use in curricular development. e.g., Hurricane Katrina, Social-Environmental issues.</p>	<p>Program review recognizes individual case studies used in core department courses.</p>	<p>2013</p>	<p>Release time for individual faculty to assist development of case study bank.</p>	

GOAL III – TO INTERNATIONALIZE THE CAMPUS

Vision Statement

The Geology Department will strive to give its students and faculty the opportunity to pursue international experiences through exchange of students, exchange of faculty, pursuit of visiting scholar positions, and use of curricular initiatives to focus on international aspects of the geosciences. In all cases the department should use faculty and students who show particular interests in pursuing these goals. The aim of this initiative is to emphasize a global perspective in geoscience issues and problems such that graduating students are equipped to face international as well as national challenges in terms of graduate school placement, employment, and teaching positions. This is particularly important for our Adolescence Science Education majors in that they in turn affect the attitudes of future students and the academic environment. To realize this vision, the department will aim to:

- A. Develop Ongoing Student International Exchange Program with partner institution;
- B. Encourage faculty to include international examples of geoscientific problems and topics in core department course curricula.
- C. Host an international scholar to spend a week with the department evaluating ways to exchange international information, resources, students and faculty;
- D. Write a grant proposal which specifically addresses the goal of building international curricular experiences for students and faculty, and encourage at least one faculty member to apply for an international Fulbright Scholarship;
- E. Encourage one faculty member in the department to take on an international committee position with one of the major geoscience professional societies.

Objectives, Actions, Indicators and Resources

See attached Template for Goal III following this section.

Departmental Resources Necessary for Implementation

The department has 5 full-time faculty members, two full-time lecturers and one part-time lecturer. To accomplish the goals listed in the Part III Template, the department requests release time for one faculty member to assist the department in addressing these issues. This faculty member will be appointed as **international coordinator** in the first year of the program. This

position will be nominated and elected by the department. The faculty member must be willing to spend adequate time in pursuing these objectives and agree to the release time and a “resource” requested by the department. This faculty member will have 1 course load reduction in the first three years of the program (release time as determined by the needs of the department) to assist the department in pursuing the listed goals. This release time will be made up by employment of a part-time instructor during the period of the release time. Some of the expenses for this adjunct faculty will be covered by the School of Arts and Sciences

Once a faculty member is identified who will pursue a Fulbright Scholarship application, the faculty member will receive a 1 course reduction in load in the semester of the final submission of the grant application (as determined by the needs of the department) and the course load reduction will be compensated for by employment of a part-time instructor for that semester. \$15,000 is requested in either new budgetary allocations to the department, or as internal college grants-in-aid, to support Objective A (see Part III template). \$1000 of this will be used for initial explorations by the department to seek out sources of aid. \$7000 of this will then be used to assist in identification and relocation of a foreign student to the Geology Department, and \$7000 will assist a Cortland Geology student in identifying and attending a foreign university department for at least one-semester of study. In addition, the department will consider “international initiatives” in the awarding and determination of DSI under the “service” and “scholarly reputation” categories, with concurrence with the Dean and the department faculty as to guidelines for this category.

Summary for Internationalization

The Geology Department is dedicated to serving its students and presenting them with realistic experiences, including an introduction and exposure to the importance of an international perspective in the geosciences. The department has a history of its faculty participating in funded international research projects and taking selected students on these international experiences. Countries in which the department has spent research time include Italy, Nepal, Canada, Ecuador, China, Argentina, Austria and Australia. The department chair recently attended a SUNY Cortland/Capital Normal University Beijing visitation program, and is presenting a seminar concerning environmental issues in China in the spring. Other seminar topics have included

studies held in Nepal and British Columbia, and Canada. We also have a faculty member who is the Secretary General of the International Union of Geological Sciences Commission on Stratigraphy's Subcommittee on Triassic Stratigraphy (<http://paleo.cortland.edu/sts/index.html>). Recently, students have expressed interest in doing semesters abroad, and one student did his student teaching experience in the University of Sunshine Coast, Australia, program. These experiences are difficult for our students mainly due to cost issues, and several have needed to pass on international experiences due to these costs. Major barriers to such exchanges and faculty participation in exchanges include expense, inability to arrange appropriate release time, and lack of support in the form of fellowships. With this strategic initiative, the department makes initial efforts at bringing an international flavor to its course offerings, its faculty and student experiences, and its relevance to daily life.

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OBJECTIVES	ACTION REQUIRED	INDICATOR OF SUCCESS	TARGET COMPLETE DATE	BUDGET & RESOURCES NEEDED	PERSON RESPONSIBLE
<p>A. Develop Ongoing Student International Exchange Program with partner institution.</p> <p>B. Encourage faculty to include international examples of geoscientific problems and topics in core department course curricula.</p>	<p>A1. Identify partner institution with appropriate program and willingness to develop mutual exchange program.</p>	<p>Institution Abroad Identified</p>	<p>Fall 2009</p>	<p>\$1000 to identify grant money sources for grant application to explore appropriate exchange institutions.</p>	
	<p>A2. Send one student in either the GLY or AES undergraduate program abroad to participate for one semester in a geosciences undergraduate program.</p>	<p>One student exchange</p>	<p>Fall 2010</p>	<p>-\$2000 for travel to exchange Institution by Chair or Designated Department representative.</p>	<p>- \$5000 to support travel and housing of one Cortland student at institution abroad.</p>
	<p>A3. Bring one international student to Cortland to complete one semester in the Geology Department.</p>	<p>One student exchange</p>	<p>Fall 2013</p>	<p>-\$2000 for travel by exchange institution representative by Chair or designated department representative.</p>	<p>-\$5000 to support travel and housing of one international student at Cortland.</p>
	<p>A.4. Open the Geology Field Camp at Brauer Field Station up to an international student.</p>	<p>One exchange student</p>	<p>Fall 2012</p>		
	<p>B1. Develop a bank of international case studies for use in curricular development using current syllabi and future special topics courses.</p>	<p>Program review recognizes individual case studies used in core department courses.</p>	<p>Fall 2013</p>	<p>-1 course release for department international coordinator during period of Fall 2009-Fall 2012 to assist development of case study bank and work with individual faculty in using case studies in their courses.</p>	
	<p>B2. Develop a GLY 329/529 Special Topics Course in "International Geoscience Topics"</p>	<p>Offering of GLY 329/529 Special Topics Course</p>	<p>Fall 2013</p>	<p>-1 course release for faculty member chosen by the faculty to pursue development of the course.</p>	

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OBJECTIVES	ACTION REQUIRED	INDICATOR OF SUCCESS	TARGET COMPLETE DATE	BUDGET & RESOURCES NEEDED	PERSON RESPONSIBLE
<p>C. Host an international scholar of to spend a week with the department evaluating ways to exchange international information, resources, students and faculty.</p>	<p>C1. Search International Geoscience Databases for appropriate international contact using the services of GSA, AGU and/or AGI.</p> <p>C2. Host a Department International Geology Night presentation given by the invited scholar and attended by all department faculty and students, invited high school teachers, and international faculty on campus. Follow up with reception and dinner for interested guests.</p> <p>C3. Host international scholar in a department retreat to identify areas of strength and weakness in our internationalization programs.</p>	<p>Success in invitation of scholar to Cortland.</p> <p>Feedback from faculty and students considering the presentation and reception.</p> <p>Checklist of department strengths and weaknesses presented by the department international coordinator.</p>	<p>Fall 2013</p> <p>Fall 2011</p> <p>Fall 2011</p>	<p>1 course release for department international coordinator during period of Fall 2009-Fall 2012.</p> <p>1 course release for department international coordinator during period of Fall 2009-Fall 2012</p> <p>1 course release for department international coordinator during period of Fall 2009-Fall 2012</p>	

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OBJECTIVES	ACTION REQUIRED	INDICATOR OF SUCCESS	TARGET COMPLETE DATE	BUDGET & RESOURCES NEEDED	PERSON RESPONSIBLE
<p>D. Write a grant proposal which specifically addresses the goal of building international curricular experiences for students and faculty, and encourage at least one faculty member to apply for an international Fulbright Scholarship.</p> <p>E. Encourage one faculty member in the department to take on an international committee position with one of the major geoscience professional societies.</p>	<p>D1. Work with Office of Sponsored Programs and International Programs to develop and submit a “science-focused” internationalization grant for use by Cortland Science Departments and their faculty to develop international curricula and experiences. NSF or DOE.</p> <p>D2. Work with Office of Sponsored Programs and Faculty Development to identify faculty member in Geology interested in submitting a Fulbright Scholar application. Work on submittal of Fulbright Scholar application.</p> <p>E1. Identify faculty member(s) interested in serving on committees when openings occur. Identify openings on the major committees of the Geological Society of America (GSA), the American Geophysical Union (AGU) and the American Geological Institute (AGI).</p>	<p>Successful submittal of department internationalization grant to NSF or DOE Funding of grant.</p> <p>Successful submittal of individual faculty Fulbright Scholar proposal. Funding of proposal.</p> <p>Faculty member identified and committee membership applied.</p>	<p>Fall 2012</p> <p>Fall 2013</p> <p>Fall 2013</p>	<p>Department meetings and work of the department international coordinator with OSP and International Programs. 1 course release in semester in which grant is to be submitted.</p> <p>Department meetings and work of the department international coordinator with OSP and International Programs. 1 course release for faculty member identified as Fulbright Scholar, in semester in which grant is to be submitted.</p> <p>Faculty time devoted to “service” and “scholarly reputation” once interested faculty member identified.</p>	

GOAL IV – SUPPORT RESEARCH AND SCHOLARSHIP THROUGH SPONSORED ACTIVITY

Vision Statement

The Geology Department currently consists of five full-time tenure-track faculty members with a strong national and international reputation, with high scholarly output and demonstrable success in external funding. Among its faculty is the former director of the Hydrologic Sciences Program at the National Science Foundation, and others have joint appointments in international organizations (e.g., International Union of Geosciences) or research appointments with state and regional institutions (e.g., New York State Museum, American Museum of Natural History, Binghamton University). The Geology faculty actively publish in top journals in their field (e.g., *Science*, *Geology*) and have collectively published more than 30 peer-reviewed journal articles in the past 10 years. Perhaps more significantly is that in the past 10 years, geology faculty at Cortland have secured more than \$1,000,000 (of which more than \$635,000 has been awarded through SUNY Cortland's Research Foundation) in external research funds from sponsors such as the National Science Foundation, EPA, USDA, and the Petroleum Research Foundation of the American Chemical Society (see Table below).

While Geology's success at obtaining external funding could be considered "good", faculty members in the department submit many more proposals than are funded. Data provided by Cortland's Office of Research and Sponsored programs suggests that on average the department submits two or three external proposals per year with an average requested amount of about \$70,000. Of those proposals submitted, the department has an average success rate of 40-45% with the average award of \$44,000. Over the past five years, our undergraduates have been involved in a number of research activities among the diverse range of geoscience disciplines of our faculty. Although many of these undergraduate research experiences take place in the laboratory, many students have conducted field-based investigations throughout New York State (e.g., Tug Hill Plateau, Adirondacks, Catskills), across western North America (e.g., Alaska, Nevada, British Columbia) and internationally (e.g., Italy and Austria). Several of our students have been authors in high-impact peer-reviewed publications (e.g., *Tectonophysics*, *Journal of Paleontology*) and many others have gone on to prestigious graduate schools (Indiana University, Queens College,

University of British Columbia, University of Texas, University of Nevada-Reno, Penn State University).

Objectives, Actions, Indicators and Resources

See attached Template for Goal IV following this section.

Summary

Although the College's Strategic Plan Goal #4 specifically address research and scholarship through sponsored activity, it is the view of the Department that all of our department scholarly and research activities are integrated with, and are essential to, our educational mission. It is the view of the Department that we can do better with respect to increasing both the number of external grant proposals and the success rate of submitted proposals. However, Geology faculty are currently stretched too thin with respect to current expectations regarding workload (teaching, service, and scholarly expectations). Indeed, workload issues has been identified as the single most detriment to scholarly output, including writing grant proposals and performing the research on successful proposals. Time spent on assessment and accreditation activities in particular has negatively impacted Geology faculty's ability to take on any more responsibility.

The Department would like to increase the level of participation of qualified students in undergraduate research experiences. Currently, many students engaging in research do so either for credit by enrolling in GLY 499 under a faculty supervisor or as paid research assistants within existing faculty member's research grant. Supervising undergraduate research is a very time-consuming endeavor and presently faculty who choose to participate provide supervision on their own time in addition to their normal teaching, research, and service obligations. A second detriment to undergraduate research is also one of financial resources necessary for laboratory equipment and supplies and travel support for field-based research projects. While there exists some institutional support for undergraduate research (e.g., the Undergraduate Research Council's Summer Research Fellowships), these programs are too few in number, largely relegated to research conducted during the summer months, and for larger projects outside of program curricula. Despite individual and departmental efforts to make modest improvements through submission of grants (NSF instrumentation awards), building their own equipment, and seeking

donations of used equipment from other laboratories, significant investment in and attention to the science building are prerequisites to reaching the goal of increased sponsored activity.

Geology Department Sponsored Activity

PI	Sponsor	Award year	Amount	RF Cortland Amt.
External Awards				
Gleason/Darling	Ansbro Petroleum	2007	2300	2300
McRoberts	NSF	2005	50900	50900
Cirimo	NYC DEP/SDWA	2003	95000	95000
Cirimo	NSF	2002	30000	30000
Cirimo (co-PI)	NSF (Penn State)	2002	128000	128000
McRoberts	ACS-PRF	2002	46350	46350
McRoberts (co-PI)	Alaska Geol. Surv.	2002	10000	10000
Darling (co-PI)	NSF	2001	12040	12040
Cirimo (co-PI)	NSF (ESF)	2000	543000	120000
McRoberts (co-PI)	IGCP	2000	50000	50000
Barclay (co-PI)	NSF	1999	56625	56625
Cirimo	USDA	1999	100000	100000
Cirimo	NYS Conserv.	1999	5002	5002
Cirimo	NYC	1999	2000	2000
McRoberts	NSF	1997	59575	59575
Darling	NSF Instrum.	1995	19150	19150
			1209942	726942
Internal Awards (Faculty Research program & Summer Research Fellowships)				
Barclay	Cortland FRP	2005	2298	2298
Gleason	Cortland FRP	2005	2880	2880
Gleason	Cortland FRP	2001	2678	2678
McRoberts	Cortland FRP	2001	2328	2328
Cirimo	Cortland FRP	1999	2156	2156
Darling	Cortland FRP	1999	1256	1256
Cirimo	Cortland SRF	1998	4000	4000
McRoberts	Cortland FRP	1998	2778	2778
Darling	Cortland FRP	1996	3500	3500
Darling	Cortland FRP	1993	2579	2579
			26454	26454

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GOAL IV: SUPPORT RESEARCH AND SCHOLARSHIP THROUGH SPONSORED ACTIVITY

OBJECTIVES	ACTION REQUIRED	INDICATOR OF SUCCESS	TARGET COMPLETE DATE	BUDGET & RESOURCES NEEDED	PERSON RESPONSIBLE
A. Increase Geology Faculty Participation in Externally-Funded Research	A1. Faculty should be granted flexible workload (service and/or advising and/or teaching loads) and offer support to prepare competitive externally funded proposals	Increased departmental submission rate and increase the success rate of submitted proposals to better than 50%.		New tenure-track line in Geology to accommodate shift in FTEs.	
	A2. Encourage geology faculty to participate in internal faculty development/OSP programs (e.g., the REDI program) to aid in the development of successful programs.	Faculty participate in REDI program and submit competitive proposals.		None.	
	A3. Hire one new tenure-track geoscience faculty in emerging field with proven research success and external funding potential.	New faculty with proven research success and external funding potential hired.		New tenure-track line in Geology	
B. Increase Undergraduate Research Experiences in the Geological Sciences	B1. Identify students early in their academic career (e.g., sophomores) willing to engage in research.	Students are identified and participate in research.		None.	
	B2. Develop a new curricular offering: <i>Research Topics in Geological Sciences</i> , offered as a 300-level team-taught (entire Geology faculty) course offered once per year to provide our students with current topics within our individual faculty expertise and provide them an opportunity to explore a particular research topic at greater depth.	Write new course proposal. Course and curricular changes passed by Curricular Committees. Offer the course		New tenure-track line in Geology to accommodate shift in FTEs	

STRATEGIC PLANNING GUIDE**Department: Geology****GOALS & OBJECTIVES****GOAL IV: SUPPORT RESEARCH AND SCHOLARSHIP THROUGH SPONSORED ACTIVITY**

OBJECTIVES	ACTION REQUIRED	INDICATOR OF SUCCESS	TARGET COMPLETE DATE	BUDGET & RESOURCES NEEDED	PERSON RESPONSIBLE
	B3. Encourage faculty to include support for undergraduate research experiences within internal and external funding opportunities.	All faculty research proposals (internal and external) include support for undergraduate research		None.	
	B4. Develop an equitable procedure for Geology faculty to be assigned FTE (contact hours) for supervising undergraduate research projects.	Faculty can include undergraduate research supervision within their existing FTE.		New tenure-track line in Geology to accommodate redistribution in departmental FTEs	
	B5. Encourage students to apply for specific internal programs such as the Undergraduate Research Council's Summer Research Fellowships.	Undergraduate students in Geology apply for internal programs in support of research.		None.	
	B6. Encourage interested and capable students to enroll in GLY 499 and match thus identified students with faculty supervisor.	Increased enrollments in GLY 499.		New tenure-track line in Geology to accommodate shift in FTEs	
	B7. Establish an "Undergraduate Geology Research Fund" to promote equipment and supplies and travel for geology undergraduate research activities	"Undergraduate Geology Research Fund" is created			
C. Upgrade and Enhance Research Facilities in Geology: Teaching and Research Laboratories, Equipment and Instrumentation	C1. Acquire a new X-Ray diffractometer to be used in interdisciplinary research and teaching.	Successful research proposal and acquisition of new X-ray diffractometer		1-course release time for principle investigator to write proposal. Matching funds from administration (approximately \$15,000)	