The Senior Capstone: Transformative Experiences in the Liberal Arts

A Proposal to The Teagle Foundation submitted by
Allegheny College, Augustana College, Washington College, and The College of Wooster

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Prelude: Results from the Planning Grant

We began work on this project with the idea of constructing a single instrument to assess the learning outcomes of the capstones at the four institutions. However, as we worked through the initial proposal we saw other opportunities, which the planning grant process allowed us to explore in more depth. The interrelationship of two key insights that emerged from our discussions changed the direction of our proposal.

The first insight was that each institution regarded its capstone as a transformative experience whose full impact will not be realized until years after graduation. The second insight was that our four institutions provide different models for a capstone course (see Appendix A for a description of the four capstones). A consequence of these insights was the belief that a single capstone assessment instrument would be very difficult to create and would not capture the richness of the experiences of students and faculty mentors. We also saw that there were a host of experiential aspects of our capstones that were important to explore as key components of the learning for both students and faculty.

Rather than being dismayed or dejected by these insights, we realized that they suggested a different approach: to explore how the different constructions of a single concept can all lead to rich learning experiences for both students and faculty. We believe that this approach will complement other Teagle-supported studies (e.g., the Wabash National Study, the Five Colleges of Ohio Creative and Critical Thinking project, the Measuring Intellectual Development and Civic Engagement through Value-Added Assessment project led by Augustana College, and the Hampshire Senior Thesis project).

In exploring this idea, we were helped enormously by previous studies done by our two consultants. David Lopatto's work on undergraduate research (UR) has shown that students participating in UR opportunities not only develop highly valued skills, but also experience a changed sense of self and place within their disciplinary community. Charlie Blaich's preliminary findings from the Wabash Study provide evidence that there are greater learning differences within institutions than between institutions.

Our question thus became how could we learn what works best in the capstones, within our colleges and across them, and how could we use that knowledge to improve them and to create models of best practice others might adapt or adopt at a time when undergraduate research has become the most dynamic pedagogy in US higher education? Hence we shifted our efforts from pursuing the creation of a single instrument towards a "thicker" and more

holistic case-study approach that looks at learning outcomes, process, infrastructure, and opportunity costs.

Proposal

Allegheny College, Augustana College, Washington College, and The College of Wooster are distinctive in that they require all students to engage in a capstone experience built around a one-on-one mentoring relationship with a faculty member.[1] For each of us, institutional culture is significantly shaped by this involvement, and strategic thinking and decision-making are fundamentally influenced by the existence of the universal capstone program.

Thus these programs are of singular importance to us, and we invest heavily in them because we believe them to be fundamental to the development of our students. At the same time, however, it is also true that we have an incomplete understanding of the nature, costs, and benefits of this investment.

We believe that the senior capstone experience is transformative and lays a foundation for lifelong creativity, learning, and reflection in a way that no other curricular experience provides. However, we have only limited indirect evidence[2] and a history of anecdotal information to support these beliefs.

We know that there is variation in the way students experience the capstone, but we do not know the reasons for that variation. We need to identify what contributes to a positive capstone experience.

We believe the experience is transactional and that the faculty mentor can gain from the interaction just as the student does, and we want to learn about the impact capstone supervision has on the mentors.

Clearly, each institution devotes substantial resources to support its capstone. We would like to have a better understanding of what those costs are, including the opportunity cost.

We recognize that there is more than one way to implement a successful capstone program, as the four institutions in this study demonstrate. It would be valuable to identify elemental commonalities that contribute to successful outcomes.

There has been a growing belief in American higher education that undergraduate research is an especially valuable form of learning because it provides an authentic context for the development of a broad range of skills associated with common educational goals (e.g., communication,

[1] Allegheny College recently polled more than 100 nationally-ranked liberal arts colleges and found that only 16 institutions require all students to engage in a capstone experience.

[2] The College of Wooster surveyed seniors at Wooster and three other colleges in 2008 and found that Wooster students responded favorably and significantly differently from the other colleges. It also found that Independent Study allowed them to think critically and to be creative in ways that they would otherwise not be able. See *The Five Colleges of Ohio Creative and Critical Thinking: Assessing the Foundations of a Liberal Arts Education,* 2008, report to the Teagle Foundation prepared by Nancy Grace and Sarah Murnen.

critical and creative thinking, technology fluency and information fluency). This belief has been supported by an emerging body of research on the impact of UR experiences upon learning and attitudes (Lopatto, D., 2004; Seymour, E., et al, 2004; Bauer, K.W., et al, 2003; Kardash, C.M., 2000). What these studies show is that students make gains both in the development of skills *and* in areas that contribute to lifelong learning (Lopatto, D., 2006). These "dispositional" lifelong learning outcomes point to habits of mind that students are more inclined to use following a high quality UR experience.

These studies, however, are based mainly in the natural and life sciences, mathematics, and engineering fields, and they concentrate primarily on summer research programs, honors research programs, or research programs for a limited number of undergraduates. By contrast, little formal research[3] has been conducted on capstone experiences, and even less has been done on capstones required of *all* students. This study will help to fill that gap and add to the emerging literature on undergraduate research.

Studying the practices and measuring selected outcomes of our capstone programs will have multiple benefits both for our institutions and for the wider understanding of capstone experiences. We will benefit from being more informed about the value of programs in which we invest an enormous amount of resources and significant cultural capital, and from learning how best to develop the capstone experience in response to assessment data. Most importantly, our project will shed light on the educational benefits of undergraduate capstone projects for all students and provide four case studies of the implementation of a required capstone that will enrich the national conversation about the experience and its significance in undergraduate education.

A four-year research project is thus proposed with the following overall goals:

- To assess the degree to which a universal capstone contributes to outcomes that lead to lifelong learning. We have identified the following outcomes as possibilities to investigate:

  Being able to plan and conduct an intellectually demanding project
  Creative and critical thinking/problem solving skills
  Independence in thought, action and initiative
  Tolerance for obstacles, ambiguities; perseverance
  Information fluency skills
  Time management skills
  Leadership/teamwork
  Acceptance of responsibility

[3] Some proprietary studies have been conducted (e.g. Robert E. Shoenberg conducted an assessment of the Senior Thesis Program at Bates College in June, 2000, and as part of Allegheny College's self-study in 2004 during its re-accreditation process it devoted a full chapter to its Senior Project) and less formal research (e.g. Bonthius, Robert E., Davis, F. James, and Drushal, J. Garber, 1957, *The Independent Study Program in the United States,* New York: Columbia University Press.)

Developing an understanding of one's self and one's interests and capabilities
- Career path clarification and commitment
- Development of an interest in research
- Development of an interest in higher level cognition
- Growth of intellectual self-confidence
- Critical reflection on one's own perspective

Understanding of the nature of research and how knowledge is constructed
- More sophisticated understanding of research practice in a discipline
- More sophisticated epistemological understanding of how things are known
- Awareness of the interrelationship of knowledge
- Valuing different points of view

- To identify capstone program components and characteristics at each institution by refining the inventory developed during the planning grant. This inventory will include institutional resources and program elements that create the institutional infrastructure for the program. Data gathered through the completed inventories will provide a framework (costs, benefits, and opportunity cost) for potential change for each of the four institutions.

- To identify features of the capstone – from a combination of the program components and the experiences and characteristics of students and faculty mentors – producing positive experiences. This information will be used to describe best practices, and to inform program planning, and can be used as models for the development of capstone programs at other institutions.

- To distinguish variations in program characteristics, experiences, and outcomes across institutions and disciplines, and for specific segments of students (e.g., by academic profile, discipline, gender) and to gather enough information so that we can identify a range of experiences more likely to create consistently successful outcomes.

Research and Analytic Questions

Each research is question will be explored through multiple assessment instruments, which are described in the methodology section that follows.

1. What is the impact of the capstone experience on outcomes leading to lifelong learning? What is the perceived impact one, five and five-plus years after graduation?

2. How does the capstone experience benefit the student and the faculty mentor?

3. What are the similarities and the differences in how our capstone programs are formulated?

4. What resources (programs, structures, and personnel) are our colleges providing to support their capstone programs? What is the opportunity cost of our capstones?

5. How do faculty, students, and other college constituencies perceive and experience the capstone?

6. How do students experience the capstone? What is the range of capstone experiences for our students, and what are the conditions and practices that result in the most positive capstone experiences?

7. How do we modify our programs to implement best practices?

8. How can our history of universal capstones and what we learn through this study produce models for the development of similar programs at other institutions?

Methodology

This project will apply quantitative and qualitative methods in three phases. In the first phase we will gather mostly quantitative summary measures. These findings will be used to guide the second phase, which will involve a more in-depth qualitative study consisting of interviews with alumni and focus groups with students, faculty and others involved with our institutions' capstone programs. The third phase will the work of "closing the loop" by making recommendations for enhancing our capstone programs based on the findings from the analyses of the first two phases of the study, and pursuing implementation of projects based on these recommendations.

Preparation (spring 2009)

During the spring of the 2008-09 academic year we will develop or adapt several basic instruments designed to answer the research questions. These instruments will be administered to students and faculty mentors in the first full year (2009-10) and repeated with a new cohort of students and faculty mentors in the second full year (2010-11). An important part of this development process will be to identify the sub-areas within our three main outcomes listed above that we are best able to assess within our methodological framework and to design an appropriate approach for each instrument. Approval from each institution's Human Subjects Review Committee will be received before applying any instruments.

The following is the list of assessment resources to be developed during the preparation period:

- *Institutional capstone inventory:* We will refine the inventory checklist developed during the planning grant to explore the structures and resources at the institutional and departmental levels. Our initial inventory done during the planning grant revealed a great variety of capstone approaches taken between and within institutions and, consequently, the need for a revised capstone inventory. The survey will have a section on institutional information to be completed by the relevant administrators, and a section to be completed by all participating academic departments to identify similarities and differences across departments. The instrument will also capture similarities and differences across and within the institutions. A component of the survey will ask administrators and departments to comment on the opportunity cost in their areas to support a required capstone.

  This instrument addresses research questions: 3 and 4

- *Student record database:* We will identify data elements from our institutional student records that are relevant to our research questions and design a database for analysis. The obvious candidates are student background items such as SAT/ACT scores, GPAs, gender, parental education levels, etc.

  This instrument addresses research questions: 1, 2, 4 and 6

- *Pre-capstone student survey*: This survey instrument will capture basic background and other pre-capstone information about each (rising) senior. Suggested items to be included are the students' self assessment of their academic and personal abilities or skills, their level of interest/motivation for doing the capstone, their post-graduate career or graduate school interest, their major life objectives, and their level of enjoyment of the higher level cognitive activities generally associated with capstone projects, as measured by the Need for Cognition Scale. We intend to adapt survey items from existing sources such as the CIRP, CSS, NSSE, SURE-II and the Wabash National Study to provide national comparative data.

  This instrument addresses research questions: 1, 2, 5 and 6

- *Post-capstone student survey*: The post-capstone student survey will be designed as a repeat of the pre-capstone survey, but with the addition of a section focusing on the capstone-related experiences of students, including basic items such as the discipline of the capstone, degree of integration across disciplines, hours per week devoted to the capstone, contact hours with the faculty mentor, selection of the capstone topic (student selected or faculty assigned), selection of the faculty mentor (student selected or departmentally assigned), as well as other experiences to be determined. Additionally, we will ask for the students' self-assessment of their growth in a number of general knowledge, skill, and ability areas, and the contribution of the capstone to their growth.

  This instrument addresses research questions: 1, 2, 5, and 6

- *Pre-capstone faculty report:* We will design an instrument for the faculty mentor, or other faculty member familiar with the student's most recent work in his/her major, to provide an assessment of the student's cognitive engagement as demonstrated in work done prior to beginning the senior capstone. The instrument will be based on the Mentored Advanced Project (MAP) Form developed by David Lopatto, Grinnell College, and grounded in the reflective judgment development theories of Marcia Baxter Magolda.

  This instrument addresses research questions: 1, 2, 5 and 6

- *Post-capstone faculty report*: The post-capstone faculty report will be completed by the faculty mentors and will include the pre-capstone items based on the MAP. It will also ask faculty mentors to report the student's grade on the capstone along with a small number of general evaluation questions relating to the capstone as a product and the processes used by the student.

  This instrument addresses research questions: 1, 2, 5 and 6

- *HEDS Alumni survey:* We will design a module of questions to be added to the Higher Education Data Sharing (HEDS) consortium's Alumni Survey focusing on the retrospective judgments of alumni (five years out and beyond) concerning the value and impact of the capstone experience. The main alumni survey will be used to gather additional information about alumni evaluations of their undergraduate experiences and details of their career and graduate school histories. Data from peer liberal arts colleges also using the HEDS Alumni Survey will provide the opportunity for comparative data from alumni without a capstone experience, or with alternative types of experiences such as honors programs.

  This instrument addresses research questions: 1, 2, 4, 5 and 6

- *Alumni phone interview protocol:* We will design the protocol for conducting brief phone interviews with samples of seniors from the 2009-10 graduating class about nine months after graduation. The questions and protocol for the interviews will focus on the short term impacts of the capstone experience on graduate school or career choices and preparation.

  This instrument addresses research questions: 1, 2, 4, 5 and 6

All instruments contribute directly or indirectly to answering Research Questions 7 and 8.

Reviewing and finalizing the project instruments and resolution of implementation issues will be done electronically in spring 2009. The project co-directors will each visit two of the participating campuses to discuss the project and its instruments, and to answer questions.

An additional activity is the development of a project Web site where our procedures and results will be posted. This site will serve as a clearinghouse for information, models, best practices, assessment tools, and advice for other institutions that are considering creating their own programs of capstone undergraduate research and creative projects.

Phase 1: Quantitative Investigation (2009-10)

In 2009-10 we will administer the pre-capstone faculty report and the pre-capstone student survey early in the fall term. The post-capstone student and faculty post-capstone report will be administered near the end of the academic year. The capstone inventory and HEDS Alumni Survey will be administered in the fall and spring, respectively. The resulting data will be analyzed during the summer and fall of 2010; the analysis will focus on a basic summary of the results of the various instruments, including pre- and post-change measures based on the pre- and post-capstone student surveys and pre- and post-capstone faculty reports. The analysis, which will likely continue throughout the entire project, will be designed to explore our research questions using a merged multi-institutional unit-record database for the students participating in the study.

Phase 2: Qualitative Investigation (2010-11)

Building on the data gathered in the first phase, in 2010-11 the focus will shift toward the qualitative analysis and the construction of case studies exploring the capstone programs at our four institutions. Activities will include:

- Ongoing analyses of the data collected in 2009-10.

- A repeat of the student and faculty surveys/reports with the 2010-11 senior capstone students and faculty mentors.

- Preliminary findings of the initial analyses of the data collected in 2009-10 will be presented at a workshop of representatives from the four institutions to be held in the late summer or early fall of 2010. Findings also will be posted to the project's Web site. An additional objective of the workshop will be to formulate the protocol guidelines for a series of interviews and/or focus group meetings to explore the capstone experiences of students, faculty mentors, and others (librarians, information technology personnel, department chairs, and faculty development administrators who provide support for capstone programs).

- Capstone Focus Group Visits. We will send a four-person team to each institution during the spring of 2010-11 to conduct the interviews and/or focus groups using the protocols and questions developed in the summer / fall 2010 workshop. The interviews/focus groups will be recorded for future reference, but each team will have at least one scribe whose notes will form the basis of a written report that will be completed by the last day of the focused visit at each institution. The report will be discussed in an exit interview with the Campus Steering Committee representatives of the visited institution.

  This instrument addresses research questions: 1, 2, 3, 4, 5 and 6

- A follow-up phone survey of a sample of the graduating seniors from 2009-10 will be conducted to explore early capstone impacts relating to career and graduate school choices and preparation. Current students will be trained to interview the sample of recently graduated students.

  This instrument addresses research questions: 1, 2, 3, 4, 5 and 6

Phase 3: Closing the Loop (2011-12)

The focus in 2011-12 will be on using the results to gain a comprehensive understanding of our capstones, to recommend improvements to the programs, and to explore how those improvements might be implemented. The resulting case studies will be summarized and distributed via a clearinghouse Web site and/or as a monograph. Final-year project activities and deliverables will include the following:

- During the summer of 2011, a comprehensive review of the collected data will be conducted, including the analysis of the pre-/post capstone instruments just completed in the spring and the focus group reports.

- A written summary of the four case studies with our general findings will be distributed to the four campuses for further dissemination and discussion. Each institution will explore ways to integrate this capstone assessment into its regular assessment cycle to promote continuous improvement.

- In the fall of 2011, the project co-directors, the campus steering committees, the project consultants, and representatives from the Teagle-funded Hampshire project will be invited to attend a workshop to review and discuss the project findings. In addition to providing a venue for discussing the results and sharing with the Hampshire project, the workshop will provide an avenue for each college to identify one or more capstone improvement projects.

- Building on the project findings and workshop discussion, each institution will develop a plan to implement one or more of the improvements suggested by the study. Because these capstones are such an important part of our cultures, changes come slowly and only after careful consideration and extensive consultation. Consequently, planning for improvements will occur in the final year of the project, with the implementation and assessment to begin in the first year following the project. We may pursue proposals for additional external funding to further explore aspects of our capstones revealed by the study and/or to implement additional improvements to our capstones.

- The project Web site will be updated with the case studies and other new material.

- Materials will be developed for use in internal and external professional presentations.

Communication and Dissemination

- Each institution will be kept informed of project goals, methods, and progress through reports to the relevant committees and occasional reports to administrators and faculty.
- A private wiki will be used internally by the project to share documents among project participants and to have online discussions. This was an effective tool used during the planning grant.
- A public Web site will be created to disseminate information about the project as it develops. This will include project goals, instruments, summary of results, and lessons learned.
- Annual progress reports will be submitted to the Teagle Foundation and each institution.
- A final report of findings will be distributed to each institution following completion of the project.
- Project participants will make presentations at national meetings, such as those sponsored by AAC&U, ACE, HLC, CUR, AIR, HEDS, etc., to further disseminate our findings.
- A monograph describing the project may be published. The four case studies will be presented, discussing the role of the capstone experience on each of the participating campuses and a summary of the project results.

Management Teams

Project Co-directors: The project will be co-directed by a faculty member (Simon Gray, College of Wooster) and a staff member with institutional research experience (Tim Schermer, Augustana). They will report to the project steering committee. Simon and Tim co-directed the planning grant.

Institutional Research or Educational Assessment Directors (IR/EA directors): The Institutional Research or Educational Assessment Directors from the four institutions and the project data analyst will work closely with the co-directors and each other to coordinate data gathering and analysis activities.

Campus Steering Committee: Each participating institution will have a campus steering committee composed of three faculty members and the campus IR/EA directors. Faculty participants will reflect diversity across each of the institution's academic divisions. The committees will be chaired by a faculty member, and the project co-directors will collaborate with these committees. Each committee will be responsible for overseeing the project activities on its campus.

Project Steering Committee: Project co-directors, IR/EA directors, faculty chairs of the campus steering committees, and chief academic officers will comprise the project steering committee and will be responsible for coordinating the project activities on the four campuses and for arranging the project's consortial activities.

The project steering committee also will seek input from each institution on current institutional activities that contribute to project goals and will identify additional institutional and collaborative activities required for the successful implementation of the project.

Consultants: Two consultants will be contracted to help with the design of instruments and to provide analytical/assessment support. Charles Blaich, Director of the Center of Inquiry in the Liberal Arts at Wabash College, and director of the Wabash National Study of Liberal Arts Education, and David Lopatto, Professor of Psychology at Grinnell College and author of the Survey on Undergraduate Research Experiences (SURE II), have agreed to continue consulting on this project.

Roles and responsibilities of project participants are further identified in the time line.

Project Participants

Most of the faculty members for the Campus Steering Committees have not been identified yet. Below are the names of participants from the planning grant who will be continuing with the multi-year project.

Jeff Abernathy: Dean of the College, Augustana College

Christopher Ames: Provost and Dean of the College, Washington College

Charles Blaich: Consultant; Director of the Center of Inquiry in the Liberal Arts at Wabash College, and director of the Wabash National Study of Liberal Arts Education

Iain Crawford: Vice President for Academic Affairs, College of Wooster

Linda DeMeritt, Dean of the College, Allegheny College

Theresa Ford: Director of Educational Assessment; College of Wooster

Simon Gray: Project Co-director; Department of Mathematics and Computer Science, College of Wooster; *c.v.* attached

David Lopatto: Consultant; Professor of Psychology at Grinnell College, author of the Mentored Advanced Project (MAP) Form and the Survey on Undergraduate Research Experiences (SURE II)

Timothy Schermer: Project Co-director and project contact; Director of Institutional Research, Augustana College; *c.v.* attached

Marian Sherwood: Director of Institutional Research, Allegheny College

Ben Slote: Faculty; Professor of English, Associate Dean of the College, Allegheny College

Dale Trusheim: Director of Institutional Research, Washington College

Time line

			Spring 2009	2009-10	2010-11	2011-12
	Activity or Event	**Responsible Person/Parties**	**Phase 0: Preparation**	**Phase 1: Investigation**	**Phase 2: Investigation**	**Phase 3: Closing the Loop**
Refined Capstone Inventory Checklist						
	Revise institutional capstone checklist	Co-directors Campus Steering Cmts	*			
	Post capstone profile inventory to project web page	To be determined	*			
	Inventory each institution with capstone checklist	Relevant administrators Campus Steering Cmts Academic departments		*		
	Collect inventory data	Co-directors IR/EA directors		*		
	Summarize inventory data	Co-directors IR/EA directors		*		
Survey Development / Adaptation						
	Identify outcomes to assess	Co-directors Campus Steering Cmts Consultants	*			
	Prepare IRB requests	Co-directors Campus Steering Chairs IR/EA directors Consultants	*			
	Pre-and post-capstone student surveys	Co-directors IR/EA directors Consultants	*			
	Capstone faculty report form	Co-directors Campus Steering Cmts Consultants	*			
	HEDS Alumni Survey	Co-directors Campus Steering Cmts Consultants	*			
Survey Implementation						
	Pre-capstone student survey	To be determined		*	*	
	Post-capstone student survey	To be determined		*	*	
	Pre-capstone faculty report	To be determined		*	*	
	Post-capstone faculty report	To be determined		*	*	
	Alumni Survey	IR/EA directors		*		

			Spring 2009	2009-10	2010-11	2011-12
	Activity or Event	**Responsible Person/Parties**	**Phase 0: Preparation**	**Phase 1: Investigation**	**Phase 2: Investigation**	**Phase 3: Closing the Loop**
Survey Data Analysis						
	Create database	Analyst and IR at Augustana		*		
	Collect data	Analyst IR/EA directors		*	*	*
	Merge survey data with institutional data	Analyst IR/EA directors		*	*	*
	Analyze merged data	Analyst Co-directors Consultants IR/EA directors		*	*	*
Focus Group / Interview Protocol Development						
	Telephone Interviews with Recent Graduates	Co-directors Campus Steering Cmts Consultants			*	
	Student Focus Groups	Co-directors Campus Steering Cmts Consultants			*	
	Faculty Focus Groups	Co-directors Campus Steering Cmts Consultants			*	
Focus Group / Interview Implementation						
	Hire Student Interviewers	Campus Steering Cmt Chairs			*	
	Train Student Interviewers	IR/EA directors Faculty expert			*	
	Telephone Interviews with Recent Graduates	Student interviewers - supervised by a Campus IR/EA director			*	
	Support Staff Focus Groups	Focus Group Team			*	
	Student Focus Groups	Focus Group Team			*	
	Faculty Focus Groups	Focus Group Team			*	
	Focused Visit debrief	Focus Group Team Campus Steering Cmt			*	
	Focused Visit written summary	Focus Group Team			*	
Project Website						
	Campus content coordination	IR/EA directors				
	Design and development	To be determined	*			
	Maintenance & Updating	To be determined		*	*	*

			Spring 2009	2009-10	2010-11	2011-12
	Activity or Event	**Responsible Person/Parties**	**Phase 0: Preparation**	**Phase 1: Investigation**	**Phase 2: Investigation**	**Phase 3: Closing the Loop**
Four College Consortium Meetings / Focused Visit						
	Pre-implementation campus visits Summer 2009	Co-directors	*			
	Four College Workshop - Summer/Fall 2010	Co-directors Campus Steerng Cmts Consultants Analyst			*	
	Institutional Capstone Focused Visits - Spring 2011	Focus Group Team Campus Steering Cmts			*	
	Project Steering Committee Summary Workshop - Fall 2011	Co-directors Campus Steering Cmts CAOs Consultants Guests				*
Professional Conferences						
	Conferences TBD	TBD		*	*	*
Case Studies and Reports						
	Annual reports	Co-directors	*	*	*	*
	Write case study summaries	Co-directors and campus representatives				*
	Revise case study summaries	Co-directors and campus representatives Consultants				*

Budget

					Teagle Proposed Budget				Institutional Proposed Budget			
Budget Category		**Item Count**	**Amt per Item**		**Phase 0: Sp 2009**	**Phase 1: 2009-10**	**Phase 2: 2010-11**	**Phase 3: 2011-12**	**Phase 0: Sp 2009**	**Phase 1: 2009-10**	**Phase 2: 2010-11**	**Phase 3: 2011-12**
Project Steering Committee												
	Co-Directors (2@1/6FTE)											
	Augustana (1/6 FTE@replacement costs)											
	Salary (@ 1/6 of $90K base, 1/2 to Teagle for replacement cost, 1/2 Augustana)	1	16.7%		$3,750	$7,725	$7,957	$8,195	$3,750	$7,725	$7,957	$8,195
	Benefits @ 25% of base	1	25%		$938	$1,931	$1,989	$2,049	$938	$1,931	$1,989	$2,049
	Wooster (1/6 FTE @replacement costs)											
	Wooster adjunct replacement	1	$12,000		$0	$11,000	$11,000	$11,000				
	Adjunct's FICA, Workers Compensation		7.90%		$0	$869	$869	$869				
	Faculty summer stipend	1	$2,000		$0	$2,000	$2,000	$2,000				
	Travel	2	$1,000		$1,500	$2,000	$2,000	$2,000				
	Campus Steering Committee											
	Faculty Chairs											
	Stipends (benefits, 1/2 for first/last year)	4	$2,000		$4,000	$8,000	$8,000	$4,000				
	Faculty Committee members (2/inst.)											
	Stipends (benefits, 1/2 for first/last year)	8	$1,000		$4,000	$8,000	$8,000	$4,000				
	IR/Assessment Staff Members											
	Salary (@ 1/10 of $60K base)	3	$6,000						$18,000	$18,000	$18,000	$18,000
	Benefits @ 25% of base	3	25.0%						$4,500	$4,500	$4,500	$4,500
	(Augustana co-director doubles as IR)											
	Alumni Volunteers	4	-									
Administrative Support (Clerical)												
	Part-time salary (1/4 FTE@$22,500 base)	1	$5,625						$5,625	$5,625	$5,625	$5,625
	Benefits @ 25% of base	1	25.0%						$1,406	$1,406	$1,406	$1,406

Budget Category		Item Count	Amt per Item		Teagle Proposed Budget				Institutional Proposed Budget			
					Phase 0: Sp 2009	Phase 1: 2009-10	Phase 2: 2010-11	Phase 3: 2011-12	Phase 0: Sp 2009	Phase 1: 2009-10	Phase 2: 2010-11	Phase 3: 2011-12
Data Analyst (Staff)												
	Part-time salary (1/2 FTE@ $45k)	1	$22,500			$22,500	$23,175	$23,870				
	Benefits @ 25% of base	1	25.0%			$5,625	$5,794	$5,968				
	Travel	1	$1,000				$1,000	$1,000				
	Office set up & expenses									$3,500	$1,200	$1,200
Consultants												
	Assessment (stipend)	2	$2,000		$3,000	$4,000	$4,000	$5,000				
	Travel	2	$1,000		$0	$2,000	$2,000	$2,000				
Survey/Instrument Expenses (all four insitutions)												
	Inventory Checklist survey web hosting	1	$200		$200							
	Scannable survey forms printing (2 admin/inst)	8	$500			$4,000	$4,000					
	Senior Participation Raffle Prizes (2 admin/inst)	8	$500			$4,000	$4,000					
	Alumni Participation Raffle Prizes (1/inst)	4	$300			$1,200						
	HEDS Alumni Survey Fees (1/inst)	4	$825							$3,300		
	Phone Surveys (1/inst)	4	$800				$3,200					
	Focus groups (1/inst)	4	$5,000				$20,000					
Project Workshops												
	(Item count is of traveling participants only)											
	Summer or fall 2010	7	$1,000				$7,000					
	Project Summary Fall 2011	19	$1,000					$19,000				

Budget Category		Item Count	Amt per Item		Teagle Proposed Budget				Institutional Proposed Budget			
					Phase 0: Sp 2009	Phase 1: 2009-10	Phase 2: 2010-11	Phase 3: 2011-12	Phase 0: Sp 2009	Phase 1: 2009-10	Phase 2: 2010-11	Phase 3: 2011-12
Conference Travel (present results)							$3,000	$5,000				
Research Resources (books journals, etc.)					$350							
Total					$17,688	$84,850	$118,984	$95,951	$34,219	$45,988	$40,677	$40,976
Offsets												
	Institutional commitment	4	($7,500)					-$30,000				$30,000
	Planning grant remainder	1	($2,563)					-$2,563				
								$284,960				$191,859

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Appendix A: Descriptions of the Capstones at the Participating Institutions

Allegheny College
Senior Project
1942-2008

Description:
Allegheny College has had some kind of a required capstone experience for all students since its first graduating class in 1821. Since 1942, that capstone experience has taken the form of an independent Senior Comprehensive Project (including its oral defense) in a student's major or majors. The dimensions of these projects vary across, and sometimes within, departments and major programs: in some disciplines they are four-credit, one-semester projects; in others they span two semesters, the first usually consisting of a two-credit seminar in which students conduct research and develop their project proposals, the second in which they independently produce the project itself. Senior projects vary in substance, as well, ranging from the results of original quantitative research or lab-based experimentation, to critical arguments based on research into primary and secondary sources, to creative works in the fine and performing arts. In all cases, senior projects are conducted under the supervision of one or two faculty in the department(s) or interdisciplinary programs of a student's major (or major**s**, when they are double-majoring).

Objective:
The Senior Project, the culminating experience of an Allegheny education, is the one sustained occasion when Allegheny students can put into independent practice the intellectual, creative, and expressive habits cultivated in their major field(s) of study and in the college's liberal arts environment more generally. In it students are called on to integrate discipline-specific knowledge with the communication and research skills they have practiced, since their first semester, in the College's general education sequence of writing- and speaking-intensive seminars.

Prerequisite:
Some departments require a preparatory course (usually two credits) the semester before the senior project is written or created, and nearly all departments require students to write a senior project proposal that must be approved by the two or three faculty members on that student's senior project board. All departments also require a Junior Seminar of majors that frequently, though not always, serves to prepare students for the Senior Project. Practically speaking, nearly all other College and departmental requirements are prerequisites for any senior project.

Length:
Senior Projects can be either one or two semesters long, depending on departmental practice and, in the case of a few departments, the nature of individual projects. In Chemistry, for example, projects can be one semester long and worth four credits, or they can fill two semesters and earn four, six, or eight credits in all, depending on the rigor and ambition of the project.

Format:
Format varies by department, though most projects take the final form of a bound manuscript, 40-80 pages in length and archived in the department(s) involved. Projects in the performing and

visual arts also include representations of that work. Every project has a substantive written component and concludes with an oral defense or presentation before two or three faculty on the student's senior project board.

Supervision:
Each student works individually with his or her senior project advisor—or, in the case of a joint senior project (for double-majors), with the two advisors, individually, one from each department. The frequency and length of these meetings vary, depending on the nature of the project (and the student). Most students meet their senior project advisors once every week or two, for an hour, though in laboratory situations they may "meet" (or do collaborative research) much more often. Some departments also schedule occasions in which multiple students meet with a shared advisor. All single-major projects have a second faculty reader, as well, with whom students sometimes confer.

Through a recently instituted point system, advising senior projects now counts toward faculty teaching load. Faculty receive three points for advising a senior project, and one point for being a second reader. When faculty accumulate 44 such points, they receive a course release (scheduled in consultation with the department chair and the Dean).

Evaluation:
All senior projects receive a letter grade. While grading criteria vary by department, the quality of the project itself, more than the oral defense, usually dictates its evaluation. In most cases the senior project grade is arrived at collectively by the two or three faculty on the project board after the oral defense. A passing grade is required for graduation.

Augustana College
Senior Inquiry
2007 – 2008

Description:
Senior Inquiry at Augustana College refers to the process in most majors that expects students to produce a culminating project in an inquiry-based curriculum that asks them to synthesize, analyze and reflect on their course work in the major, their broad college experience and its relationship to the needs of the community.

Guidelines for Senior Inquiry:
Rather than instituting prescribed requirements, departments have developed Senior Inquiry programs for their majors that meet a set of guidelines, as described below. Majors including more than 90% of our students have developed a Senior Inquiry program, with implementations in progress.

The guidelines for Senior Inquiry established by a vote of the full faculty include a number of general provisions. The expectation for student Senior Inquiry projects is that they will meet the following outcomes:

- Substantial in meaning and impact

- Communicative of the discoveries made through the project
- Reflective of one or more of the following:
    - the nature of knowledge and inquiry
    - self-awareness and connection with others
    - the relationship of individuals to a community

In addition to these outcomes, departments have been encouraged to design programs that enable students to integrate two or more of the general education dispositions. Given the breadth of these outcomes, departments are expected to state the particular goals they expect for their majors, as well as the means by which they will assess those outcomes.

Departments establish their own standards for the completion of SI within a major. Multiple models within each department are encouraged. Projects may extend beyond a single term, whether for data collection, literature review, or the like. All SI projects—including creative projects—are to result in a permanent record. A department might choose to require a methods seminar or other course before accepting direction of a student's project. Most students register for the specific element of their major labeled SI during senior year. Students are expected to present the results of their work in a public forum (with the guidance of the department). Departments have taken a variety of approaches in developing their Senior Inquiry programs within the above guidelines. The variety of projects students might engage in includes:

- conducting laboratory research with peers;
- creating a portfolio of artwork;
- composing a work of music;
- developing a market analysis as part of an internship in the Quad Cities;
- conducting classroom research as part of the student teaching experience.

The following are examples of the questions students may address in the reflective component of Senior Inquiry:

- Who outside of Augustana would care about my SI project? Who are my conversation partners in this discussion?
- What did I learn from this project? What do I know now that I didn't know before?
- Communities are constructed in part by ideas and values: what are the essential ideas that my project offers or advances? How does my project question or test received wisdom?
- How did my education at Augustana prepare me to do this properly?
- And what will my education and this project prepare me for? How will this work relate to future goals? What will the meaning of this work be to me in five years? In fifty?
- What questions did this project fail to answer?
- How did the experience change my view of the discipline?

- What are the implications of my work for those in my field?
- What community does my project contribute to?
- What did I do for my projects?
- Why did I do this project? What difference does it make? Why might this matter?
- How does this project fit into my story? Why do I care about it? Who was I when I came to Augustana and who am I now?

Objective:
The objective of the SI process is that the student will be able to demonstrate integration of knowledge within a discipline with all aspects of the Augustana experience and beyond. A goal is that programs will be established in ways that encourage and enhance meaningful one-on-one relationships between students and participating faculty and staff.

Prerequisites:
Each department determines the prerequisites within that department. Often this includes a course (or set of courses) that prepare students for the sort of inquiry being expected in the later process. In most cases there also are a series of reflections that take place throughout the progression of the major that ask students to think about the context of their work, both within the discipline and within the community.

Length and format:
No campus-wide requirements are set concerning the length of course work or of the form of the project itself. The specific needs of the curriculum of the department are determinative.

Supervision:
Ideally, each student works with an individual faculty advisor. In some cases groups of students may be supervised on a project that involves a team of students. Some departments, but not all, have the 'second reader' requirement.

Each department has structured the supervision into load in ways that work best for the department. In some cases the curriculum is designed in such a way that the supervision is built in to courses without any need for 'extra' work. In other cases departments are 'banking' credits toward future course credit. The number of supervisions that 'count toward' a course varies by the nature of the supervision given in a particular department.

Assessment:
Each department has submitted a plan for assessment as part of their adoption of SI. Assessment of student completion of the program rests in the hands of each department.

Washington College
Senior Capstone Experience
1959-2008

Description:
All candidates for the B.A. or B.S. degree at Washington College are required to complete a Senior Capstone Experience (SCE) in their major or majors. Though work on the SCE typically extends for two or three semesters, the SCE is credited as a four-credit course in the semester of completion.

Objective:
The Senior Capstone Experience is intended to demonstrate the student's ability to think critically and to engage in a project of active learning within the student's major field of studies. The experience will integrate acquired knowledge and skills in a senior project designed to produce upon its successful completion a sense of mastery and intellectual accomplishment that goes significantly beyond classroom learning.

Prerequisite:
Departmental approval is required for a student to begin an SCE. Some departments require a research methods course in preparation for the SCE. All students must complete the Writing Requirement prior to beginning the SCE: an English composition course, a first-year seminar, two writing intensive courses, and the writing in the disciplines component of the major.

Length:
Scheduling of the SCE varies by department (each department publishes and posts on the web detailed guidelines for completion of the SCE). Most commonly, the SCE is a two-semester project under the guidance of an individual faculty advisor.

Format:
Format varies by department and may include: thesis, research experiment, public performance, creative art work, or comprehensive exam, or a combination of these elements.

Supervision:
Each senior works individually with a faculty advisor.

Advising SCE students counts towards faculty load. Each SCE student counts as 1/12 of a course.

Evaluation:
Departments set grading policies. Some departments grade the SCE: Honors, Pass, Fail. Others grade the SCE: Pass, Fail. Others use the regular letter grades. In all cases, a passing grade is required for graduation.

The College of Wooster
Independent Study
1948-2008

Description:
All candidates for the B.A. degree at The College of Wooster are required to complete one course of Junior-year Independent Study (I.S.) plus a two-course Senior-year I.S. Thesis (or equivalent creative project) and may register for up to two additional courses of Independent Study. The I.S. courses, including the 2-unit I.S. Thesis, count toward the total number of courses required for a Wooster degree.

The I.S. Thesis must be done in the student's major unless the student has approval of the major department or program to register for the thesis in a different department or program. Creative projects which count as the I.S. Thesis should be more than creative events and should result in a permanent record or critical appraisal of the work achieved.

Objective:
The capacity for individual inquiry and expression is a mark of a liberally educated person. As President Lowry described the challenge of the program more than forty years ago, "...it invites all students to come to their best in terms of their own talents." The objective of the Independent Study program is to provide an opportunity through which this capacity may be nurtured. Independent Study is the culmination of liberal education and provides the basis for independent learning throughout life.

Prerequisite:
A department may require a methods seminar or a one-semester Independent Study (commonly referred to as Junior I.S.) course before accepting direction of a student's Independent Study Thesis as a senior.

Length:
Junior Independent Study or an equivalent methods/theory course is one semester in length. Senior Independent Study is two semesters. The thesis is due by 5 PM on the Monday following our Spring Break: usually the last week of March.

Format:
Three elements of Independent Study 451-452 (thesis or equivalent project) are content, method, and form:

Content - Students differ in their individual interests and the requirements for various courses of study are not uniform; consequently, there are few rules for the proper choice of content for I.S. projects. A well-selected thesis or project should be governed by such consideration as the significance of the subject for personal intellectual development, the progress of professional understanding, and the needs of society. Given the constraints imposed by available resources and time, the manageability of the topic is also an essential consideration.

Method - Implicit in every inquiry is a method or plan which includes a logic, a design, or a deliberate conception of what is being attempted. The method selected will determine the techniques, devices, or tools appropriate for the project.

Form - The successful completion of the project requires the communication of what has been discovered or developed. Through the form of the thesis or creative project, students share with others the results of their efforts. Whether by exposition or through an act of creative expression, the forms of communication should be consistent with the content and method and should be chosen carefully to communicate as clearly and forcefully as possible the results.

Typically there is an oral defense of the thesis.

Supervision:
Each senior works individually with a Senior I.S. advisor (two in the case of a double major). Typically a senior will meet with his/her advisor once a week for an hour. Meetings may be more or less frequent and longer or shorter depending on the student's needs. Independent Study projects generally have a second reader or additional readers.

Advising Independent Study students counts towards faculty load. Each Senior Independent Study student counts as 1/5 of a course, so five I.S. students advised counts as a single course. I.S. overload can be "banked", thus advising of seven students with only a single course counting toward teaching load, means that there is a 2/5 course credit that can be drawn upon in a subsequent year.

Evaluation:
The I.S. Thesis will be graded No Credit, Satisfactory, Good, or Honors. The final grade will be decided on the basis of the work accomplished during each of the semesters, on the basis of the completed Thesis, and on the basis of the defense of the Thesis. Each Thesis will be evaluated by at least two faculty, and the two will jointly assign the grade.