Quality Enhancement Plan Proposal: An Undergraduate Research Initiative

Summary:
This full white paper proposes that Trevecca implement an undergraduate research initiative as the Quality Enhancement Plan [QEP]. Such an initiative defines "undergraduate research" broadly, using the definition developed by the Council on Undergraduate Research [CUR] (n.d.): "An inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline" (¶ 3). CUR's definition incorporates scholarship in a wide-variety of disciplines; indeed, some institutions label their initiatives, "undergraduate research and creative activities" (URCA) or "undergraduate research and scholarly activities" (URSA) to clarify the inclusion of the humanities and fine arts. For example, Western Carolina University (2012) clarifies that, "In some fields this work [undergraduate research initiative] may consist of a discovery-based research project while in other disciplines this may consist of the demonstration of creative achievement through public performance, juried exhibition or demonstration" (Western Carolina, "Undergraduate Research," ¶ 1). Trevecca's initiative will begin in the School of Arts and Sciences and will include students and faculty in the Departments of Communication Studies, English, Exercise and Sport Science, Music, Science and Mathematics, and Social and Behavioral Sciences.

The proposal asserts that promoting undergraduate research in the School of Arts and Sciences will foster a culture of creativity and stimulate an atmosphere of scholarly endeavor. Although the first year of the initiative is essentially a "pilot" of the initiative and is comparatively inexpensive, as the program grows, the University will need to increase resources to support that growth. Importantly, the desire of this QEP is not for Trevecca to become just another "research institution," but for Trevecca to become an "undergraduate research institution" where students actively engage in conducting their own research.

The initiative consists of five goals: (1) contribute wide-spread coordination and administrative support to existing and future research endeavors, (2) promote an interest in research at the freshman and sophomore levels, (3) champion grant-writing efforts and corporate support for faculty/student research, (4) advocate recognition and compensation for both students and faculty, and (5) develop additional means for sharing or publishing the student research.

Student Learning:
An undergraduate research initiative addresses <u>all four</u> of the QEP topic areas identified by the Trevecca community in the spring of 2011 as most important: critical thinking, effective communication, academic rigor, and student research. The impact of undergraduate research on students, faculty, and institutions has been studied extensively. Bauer (2001), Bauer and Bennett (2003), Ishiyama (2002), and Levinson (2010) verified that undergraduate research experiences enhance students' critical thinking skills. Grobman (2010), Lopatto (2010), Seymour, Hunter, Laursen, and Deantoni (2004) concluded that undergraduate research experiences improve student oral and written communication. Ishiyama (2002) and Lopatto (2004, 2010) found that undergraduate research experiences strengthen academic rigor and achievement.

Students who participate in an undergraduate research experience also report increased satisfaction with the institution, have higher undergraduate retention rates and increased enrollment in graduate school, and express greater interest in their discipline (Hu, Scheuch, Schwartz, Gayles, & Li, 2008).

Kuh (2008) identifies student-faculty research as one of six "high-impact activities" (p. 10) that deepen undergraduates' learning and contribute to student engagement. Undergraduate research also incorporates all of Chickering and Gamson's "best practices" in undergraduate education (encouraging student faculty contact, encouraging cooperation among students, promoting active learning, giving prompt feedback, emphasizing time on task, communicating high expectations, and recognizing diverse talents and ways of learning (Wolf-Wendel, 2008).

The following specific student learning outcomes (SLOs) are suggested in the undergraduate research initiative. Upon completion of the undergraduate research initiative, successful students will be able to:

SLO1 Students will demonstrate awareness of scholarship topics in their discipline and will be able to articulate those topics at the level of undergraduate preparation. (Trevecca institutional goal #9; QEP topics: student research, academic rigor)

SLO2: Students will acquire and demonstrate skills, including ethical decision-making, related to conducting scholarship in their discipline (Trevecca institutional goals #8 and #9; QEP topics: student research, critical thinking)

SLO3: Students will be able to articulate their research findings or scholarship through written and/or oral presentations. (Trevecca institutional goal #5; QEP topics: communication; student research)

SLO4: Students will engage in self-reflection of their own work, facilitated by their faculty mentor and feedback from oral and/or written presentations of their work. (Trevecca institutional goal #6; QEP topics: critical thinking, academic rigor)

SLO5: Students will become familiar with the creative and research processes in other disciplines (Trevecca institutional goal #6 and #8; QEP topics: critical thinking; student research).

Significance and Urgency:

An undergraduate research initiative also addresses four of Trevecca's institutional educational goals: (#6) strengthening students' "critical thinking skills and commitment to learning which foster a lifetime of intellectual growth," (#5) improving writing, speaking, and use of appropriate technologies in order to learn and communicate at a level consistent with an academic community," (#9) becoming competent "in at least one academic discipline commensurate with the professional and degree standards," and (#8) developing "essential skills through practicums, internships, and other educational experiences in the larger community, which will enable him/her to become a productive influence in society" ("Trevecca," 2011-2012, p. 16).

Description and Scope:

Undergraduate students majoring in programs within the School of Arts and Sciences will have the opportunity to either (a) conduct their own original scholarship under the guidance of a faculty mentor (student as primary researcher/scholar) and/or (b) partner with a faculty member to assist in the faculty member's scholarship (student as research/scholarship assistant). In the fall of 2011, the School of Arts and Sciences [SAS] consisted of 538 majors and 40 full-time faculty members. The research initiative begins in the SAS for three reasons: (a) several of the programs in those six academic departments (Communication Studies, English, Exercise & Sport Sciences, Music, Science & Mathematics, and Social & Behavioral Sciences) already have "islands of undergraduate research" (i.e., ongoing research that is frequently unrecognized by the University as a whole), (b) many of the participants in the annual Trevecca Undergraduate Symposium are from programs in the SAS, and (c) in most cases, the programs in the SAS have room within their curricular requirements for interested students to conduct research.

Students' first exposure to research/scholarship at Trevecca will occur in one of two ways: (a) Either students will take an interdisciplinary course called RES 1XXX Modes of Creative Inquiry (1-2 credits) or (b) academic programs will provide their own introduction to scholarship within their specific discipline (perhaps something similar to SCI 1050 Science Philosophy and Practice (1) – an existing course in the Department of Science and Mathematics).

In order for students to receive academic credit for additional undergraduate scholarship, departments will develop two individual study courses. Each course will be worth 1-3 academic credits (the specific number of credits earned will be negotiated by the faculty mentor, the student, and either the director of undergraduate research or the Office of Academic Records). One course should be 3000-level in which students assist a faculty member (the primary or lead researcher) on a scholarship project, and the other should be a 4000-level course in which the student is the primary researcher, under the guidance of a faculty mentor. Each course should be graded on a pass/fail basis. Students may either work individually or as a group with a faculty mentor. Students may take one or both courses, and students may take either course more than once with the permission of the department chair and the Office of Academic Records. A contract (similar to a directed study) will be developed when a student enrolls in either course. The research courses will be considered elective credit (in addition to graduation requirements) and will not required by a specific major or minor.

Participation in the undergraduate research initiative will be voluntary for both students and faculty. When a student is interested in undergraduate research, he or she will contact a faculty member regarding research/scholarship opportunities. Students who wish to participate in the undergraduate research initiative will either be a major or minor in the academic program and will meet any additional academic requirements determined by the specific department or program.

A faculty member will earn one hour of release time per undergraduate research/scholarly project, up to a maximum of three projects per semester. A faculty member can either be the primary researcher with a group of student assistants or be the faculty-mentor on a student research project. During the first year of implementation (2013-2014), the initiative will provide release time for up to three projects per department in a semester (fall and spring). As Trevecca transitions into a community of undergraduate scholars, additional funding for release time will be needed, and the number of research/scholarship projects given per department will increase up to 9 projects per semester (fall and spring). Importantly, in order for faculty members to receive release time for their own primary research, they must demonstrate that undergraduate students are actively assisting in the research project, not just performing menial labor for the professor.

The following table shows the range of potential student involvement for each year:

Year	Number of projects per department per semester	If all students work individually:	If all students work in 3-person groups:
First year 2013-2014	Up to 3 projects x 6 depts. x 2 semesters = 36 projects	36 students	108 students

Potential Student Involvement (continued):

Year	Number of projects per department per semester	If all students work individually:	If all students work in 3-person groups:
Second year 2014-2015	Up to 6 projects x 6 depts. x 2 semesters = 72 projects	72 students	226 students
Third year 2015-2016	Up to 9 projects x 6 depts. x 2 semesters = 108 projects	108 students	384 students

Importantly, some of the smaller programs in the SAS may not have sufficient numbers of majors to generate 6 or 9 projects a semester, but making the opportunity for research available to students minoring in those programs should increase the number of projects.

Initially, students who participate in undergraduate research will earn academic credit, will be recognized with a special designation on academic transcripts (something like "Trevecca Scholar"), and will be recognized with a special honors status at graduation. As the program grows and grant money or corporate sponsorship becomes available, students should receive scholarship money and/or income (work study or pay) for their work. Trevecca should also provide small stipends for minor research-associated expenses, as well as provide funding to cover student travel expenses to conferences (when the student is presenting their scholarship).

A number of higher education institutions accredited by SACS have implemented undergraduate research and scholarly activities initiatives as their QEP. The following short table identifies several of those institutions, along with the name of their QEP:

Institution	Title	QEP Website or QEP Executive Summary
Baylor University (TX)	Engaging Undergraduate Learners (undergraduate research is one of two major components)	http://www.baylor.edu/qep/index.php?id=45315
Georgia Institute of Technology	Strengthening the Global Competence and Research Experiences of Undergraduate Students	http://www.accreditation.gatech.edu/sacs/georgia-techs-accreditation/quality-enhancement-plan
George Mason University (VA)	Students as Scholars: Fostering a Culture of Student Scholarship	http://qep.gmu.edu
Marymount University (VA)	DISCOVER: Inquiry, Scholarship, Creativity, Research	http://archive.marymount.edu/sacs/qep.html
Samford University (AL)	The Scholars Initiative	http://www4.samford.edu/groups/sacs/qep/QEP%20wo%20Appendices.pdf

QEPs on Undergraduate Research (continued)

Institution	Title	QEP Website or QEP Executive Summary
University of Houston (TX)	Discovery-Based Learning: Transforming the Undergraduate Experience through Research	http://www.uh.edu/discovery/QEP_Report.html
University of North Carolina at Chapel Hill	Making Critical Connection (undergraduate research is one of three components)	http://www.unc.edu/inst_res/SACS/files/pdf/QEP_Publication.pdf
University of South Florida	INSPIRE: Infusing and Nurturing the Skills and Practice of Inquiry and Research In Education	http://www.ie.usf.edu/QEP/QEP.pdf
Valdosta State University (GA)	FUSE: Faculty & Undergraduate Student Engagement	http://www.valdosta.edu/sacs/qep
Western Carolina University	Synthesis: A Pathway to Intentional Learning (includes strong undergraduate research component)	http://www.wcu.edu/12284.asp

These institutions and other institutions with thriving undergraduate research initiatives offer many valuable resources such as undergraduate research manuals, suggestions for funding, guidelines for best practices in undergraduate research, and methods of assessment. In other words, Trevecca will not have to "reinvent the wheel" of undergraduate research. We can select components from other programs (and put together some of our own!) to create a uniquely Trevecca research experience.

Assessment:
In their reviews of assessment methods for undergraduate research, Crowe and Brakke (2008) and Ruckert (2008) offer several insights into both direct and indirect measures of student learning in undergraduate research. Rueckert's work is particularly valuable in that she identifies multiple measures for assessing written research reports, critical thinking, statistical reasoning, oral presentations, and poster presentations.

The following table illustrates some possible ways of assessing the five SLOs associated with an undergraduate research initiative. Departments may develop their own methods of assessing the SLOs that are relevant to specific projects.

Possible Assessment of Student Learning Outcomes:

	Possible Assessment Method	**Implementation**
SLO1: Students will demonstrate awareness of scholarship topics in their discipline and will be able to articulate those topics at the level of undergraduate preparation.	Review of literature or previous scholarship Oral presentation of project	Evaluated with rubric Evaluated with rubric
SLO2: Students will acquire and demonstrate skills, including ethical decision-making, related to conducting scholarship in their discipline	Periodic reviews throughout semester of student work Alumni of student research initiative (included in alumni survey or collected by Office of Undergraduate Research	Feedback from faculty mentor on student's progress; possibly assessed with rubric "Acceptable levels" will depend on specific instrument and will be determined by department/program, in consultation with director of undergraduate research
SLO3: Students will be able to articulate their research findings or scholarship through written and/or oral presentations.	Submission of scholarly project to a journal for publication or conference for presentation; Submission of creative artifact to juried show or journal Development of poster for conference Presentation of scholarship at Trevecca Scholars Week	Acceptance of work at journal, conference, or juried show Acceptable presentation of scholarship (as evaluated by faculty reviewers); departments or programs will determine what is considered "acceptable" standard (decided in consultation with director of undergraduate research)

Possible Assessment of Student Learning Outcomes (continued):

	Possible Assessment Method	**Implementation**
SLO4: Students will engage in self-reflection of their own work, facilitated by their faculty mentor and feedback from oral and/or written presentations of their work	Written or oral reflection on student's undergraduate research experience Undergraduate Research Student Self-Assessment (URSSA) or similar instrument	Departments or programs will determine what is considered "acceptable" standard (decided in consultation with director of undergraduate research). Trevecca results can be compared to other URSSA data.
SLO5: Students will become familiar with the creative and research processes in other disciplines	RES 1XXX Modes of Inquiry Students' attendance & participation at Trevecca Scholars Week events	Passing grade or specific assignment in course Students submit short summary of other presentations (outside of their own discipline). Graded with locally-developed rubric.

At least three standardized surveys provide indirect measures of student learning in undergraduate research experiences, although all three of them are designed to assess research in the natural sciences (Crowe & Brakke, 2008). URSSA is a self-assessment instrument, whereas SURE III (Summer Undergraduate Research Experiences, developed by Lopatto in 2004), is suited to summer research experiences. CURE (Classroom Undergraduate Research Experiences) is designed to be used as a pre-test/post-test assessment of student experiences in "research-like" classroom settings. Although these instruments may not be appropriate for all programs, they might provide ideas on how to generate our own assessment instruments.

Schedule:
See Appendix A for a tentative schedule on how the undergraduate research initiative might be implemented.

Risk Assessment:
Pacheco (2003) identified several possible obstacles facing predominantly undergraduate institutions who seek to develop a thriving undergraduate research initiatives: insufficient budgeting, research-inactive faculty, inadequate facilities, and not enough emphasis on the undergraduate program within a small department. She maintains that "college administrative offices must support the research program both rhetorically and financially. This support may include . . . additional support staff, laboratory renovations, and undergraduate research program coordination" (p. 2). Trevecca should consider developing an internal grants system to support faculty and students in new research, as well as offering incentives and training in grant-writing to faculty. Trevecca must also decide how to acknowledge faculty members' work with

undergraduate researchers through faculty release time. Pacheco (2003) recommends that faculty not have more than 12 contact hours per week if they are expected to maintain an active research program, but that nine hours per week is a more appropriate load if the faculty member is expected to write grant proposals, conduct research, and publish research results in addition to the normal expectations of teaching and service to the institution" (p. 2).

Although Trevecca has historically been more of a "teaching institution" than a "research institution," there are several faculty members in the SAS who are already actively working with undergraduate students on research projects (two who quickly come to mind are Randy Carden and Fred Cawthorne). Other faculty members have expressed interest in working with undergraduates through their involvement with senior projects and research-oriented courses. At Trevecca, faculty members typically welcome the opportunity to work with motivated, talented students who share an interest in their discipline.

Facilities have greatly improved in the natural sciences and in communication studies, following the renovations to Greathouse Science Building and the addition of a media lab in the Arts Annex. Other programs, however, may struggle for lab access, specialized software, and other equipment. As part of the budgeting of the initiative, Trevecca should set aside a modest amount of money on an annual basis for these kinds of expenses, so that departments can submit expense requests as part of the "special request" budgeting process.

Finally, although only one or two faculty members in each academic department will be directly involved with undergraduate research initially, <u>all</u> members of each academic department must demonstrate support for the research initiatives in the form of possible curriculum revisions and modifying course schedules to provide faculty members blocks of time for research. Some faculty members will need to rethink course assignments to emphasize undergraduate scholarship opportunities.

Commitment to and Support of the Topic:

With proper marketing, an undergraduate research initiative can be beneficial to not only students, but also faculty members and the institution as a whole. Zydney, Bennett, Shahid, and Bauer (2002) concluded that, "the primary motivator for faculty participation in undergraduate research was the desire to influence the careers of talented young students" (p. 296). In the School of Arts & Sciences at Trevecca, a major factor in the hiring of faculty members is a willingness to work with undergraduates, and, given that several faculty members are already working with undergraduates without any compensation and very little recognition, I believe we will have at least one faculty volunteer from all six of the departments in Arts and Sciences to participate in the first year of the initiative. As the program becomes more established, I believe additional faculty will express interest.

The Office of Undergraduate Education at Michigan State University (n.d.) reported the following conclusions about faculty members' involvement in undergraduate research: "MSU faculty members who have previously served as mentors [in undergraduate research] have noted the following outcomes of their involvement in undergraduate research.

They were more productive in their scholarship

Students' independent projects often served as pilots for future research

> Undergraduate student participation contributed to increasing the quality and quantity of their publication record
>
> It was gratifying to witness the growth in confidence in students as they became more knowledgeable and gained a sense of belonging in the research effort
>
> Students are smart, talented, and fun to work with in scholarly settings
>
> Students contributed to helping research teams make significant strides" (¶ 4).

Trevecca faculty will reach the same conclusions about participation in undergraduate research, particularly if they are given the release time to do so.

Implementation Resource Requirements:
Appendix B contains a tentative budget from the first, second, and third years of implementation of the undergraduate research initiative.

The budget for years 4 and 5 will look very similar to year 3's budget, unless the University decided to expand the research initiative to other Schools (Business, Education, and Religion), or decided to expand the initiative into a summer program.

Plan Development Process
Other than time for reviewing and synthesizing the published resources on undergraduate research, no resources are *required* to conduct the necessary background research to develop a full QEP document. Resources that would be beneficial (though not necessary) include institutional membership in the Council on Undergraduate Research (CUR). The cost is $825, and CUR does provide many resources that are available only to members, and also sponsors several conferences and workshops that might be useful for the development of an undergraduate research initiative. As mentioned earlier, a number of colleges have implemented undergraduate research initiatives and much of that information is available online for free.

Available TNU Expertise
My own interest in undergraduate research derives from involvement teaching an upper-level research methods course and also working with students on senior projects (individualized research). Over the years, I have seen how students get "bitten by the research bug," and really seem to enjoy and benefit from undergraduate research. I do not, however, have an extensive publication record, nor have I conducted any previous research on this topic.

Several faculty members in the School of Arts and Sciences have worked with students in undergraduate research over the years (as evidenced by their role as faculty sponsor in the Undergraduate Research Symposium): Randy Carden, Brett Armstrong, and Leroy Pepper in Social & Behavioral Sciences, Fred Cawthorne, Matthew Huddleston, Alisha Russell, and Sam Stueckle in Science & Mathematics, David Diehl and Matthew Murdock in Music, Michael Karounos and Jooly Philip in English, and Doug Lepter and Lena Welch in Communication Studies.

Bibliographic Expertise

This section contains the references used in this full white paper, as well as several useful resources for preparation of a research-based plan.

References

Bauer, K. W. (2001, June). The effect of participation in undergraduate research on critical thinking and reflective judgment. Paper presented at the Annual meeting of the Association for Institutional Research, Long Beach, CA. Accessed from ERIC.

Bauer, K. W., & Bennett, J. S. (2003). Alumni perceptions used to assess undergraduate research experience. *Journal of Higher Education, 74*(2), 210-230.

Council on Undergraduate Research. (n.d.). *About CUR*. Retrieved October 7, 2011, from http://www.cur.org/about.html

Grobman, L. (2010). Researching the conflicts: Undergraduate research and the introductory literature curriculum. *Teaching English in the Two-Year College, 37*(4), 372-383.

Hu, S., Scheuch, K., Schwartz, R., Gayles, J. G., & Li, S. (2008). *Reinventing undergraduate education: Engaging college students in research and creative activities.* Hoboken, NJ: Wiley.

Ishiyama, J. (2002). Does early participation in undergraduate research benefit social science and humanities students? *College Student Journal, 36*, 380-386.

Kuh, G. D. (2008). *High-impact educational practices: What they are, who has access to them, and why they matter.* Washington, DC: Association of American Colleges and Universities.

Levenson, C. W. (2010). Enhancing undergraduate research in the arts and the humanities. *Peer Review, 12*(2), 13-15.

Lopatto, D. (2004). Survey of undergraduate research experiences (SURE): First findings. *Cell Biology Education, 3*(4), 270-277.

Lopatto, D. (2010). Undergraduate research as a high-impact student experience. *Peer Review, 12*(2), 27-30.

Michigan State University Undergraduate Education. (n.d.). *Faculty Influence on Undergraduate Researchers.* Accessed on January 2, 2012, from http://urca.msu.edu/files/userfiles/FacultyDataSheet.pdf

Pacheco, K. (2003). *Initiating and Sustaining Viable Undergraduate Research Programs at Predominantly Undergraduate Institutions.* Accessed on January 2, 2012, from http://www.bates.edu/chemistry/faculty/thomas-wenzel/undergraduate-research-summit/white-papers/

Rueckert, L. (2008). *Tools for the Assessment of Undergraduate Research Outcomes*. Accessed on January 2, 2012, from http://teachpsych.org/ebooks/ur2008/7-4%20Rueckert.pdf

Seymour, E., Hunter, A. B., Laursen, S. L., & Deantoni, T. (2004). Establishing the benefits of research experiences for undergraduates in the sciences: First findings from a three-year study. *Science Education, 88*(4), 493-534.

Trevecca Nazarene University catalog. (2011-2012). Nashville, TN: Trevecca Nazarene University.

Western Carolina University. (2012).*Undergraduate Research Employment Program* Accessed on January 2, 2012, from http://www.wcu.edu/28634.asp

Wolf-Wendel, L. E. (2008). Foreward. In *Reinventing undergraduate education: Engaging college students in research and creative activities.* Hoboken, NJ: Wiley.

Zydney, A. L., Bennett, J.S., Shahid, A. & Bauer, K. W. (2002). Faculty perspectives regarding the undergraduate research experience in science and engineering. *Journal of Engineering Education, 91*(3), 291-297.

Other Useful Resources for the Preparation of a Research-Based Plan

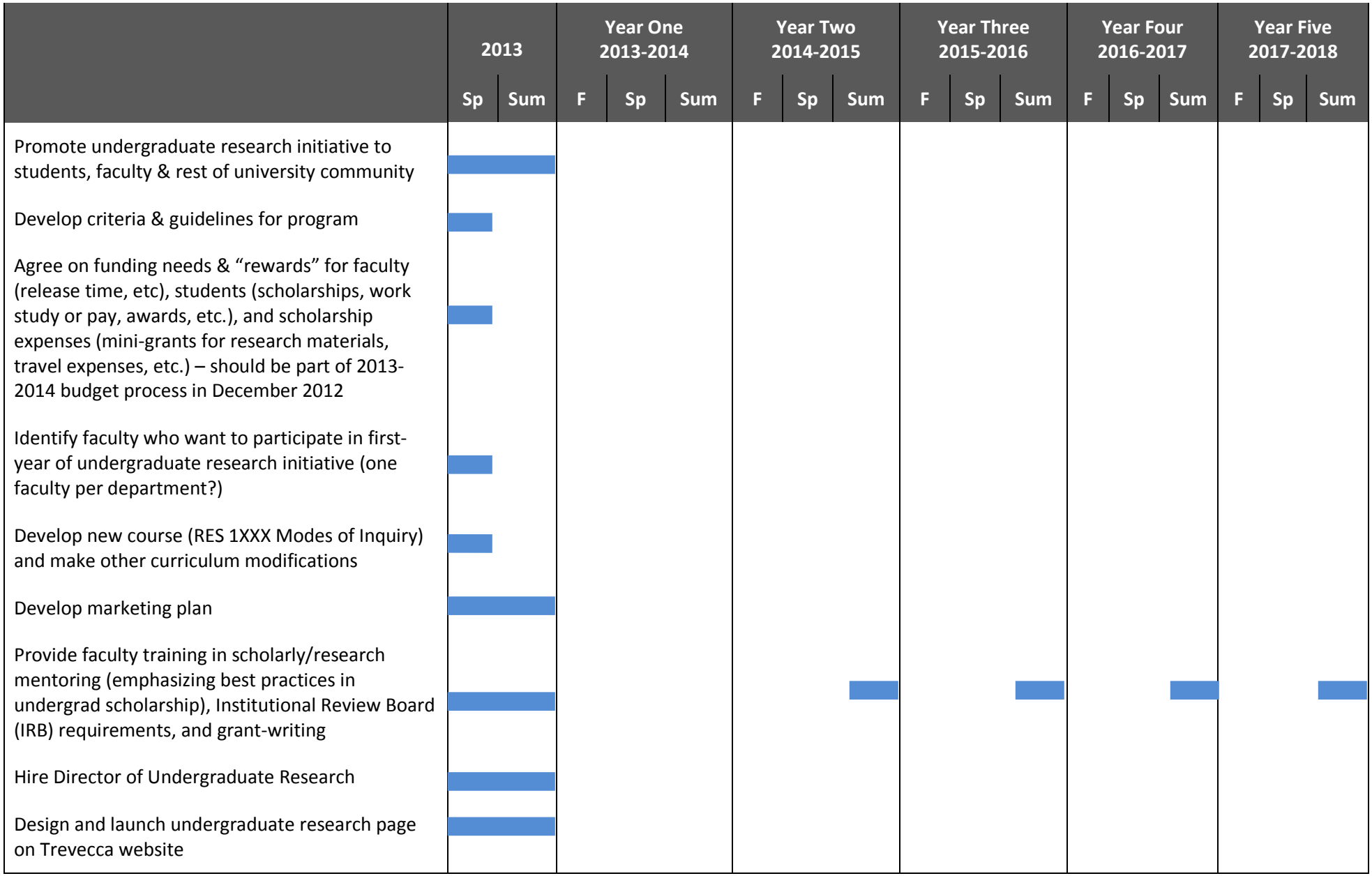
General Information on Undergraduate Research:
Council on Undergraduate Research. (n.d.). http://www.cur.org

"Best Practices" in Undergraduate Research:
Karukstis, K. K., & Elgren, T. E. (Eds.). (2007). *Developing & sustaining a research-suupportive curriculum: A compendium of successful practices.* Washington, DC: Council on Undergraduate Research.

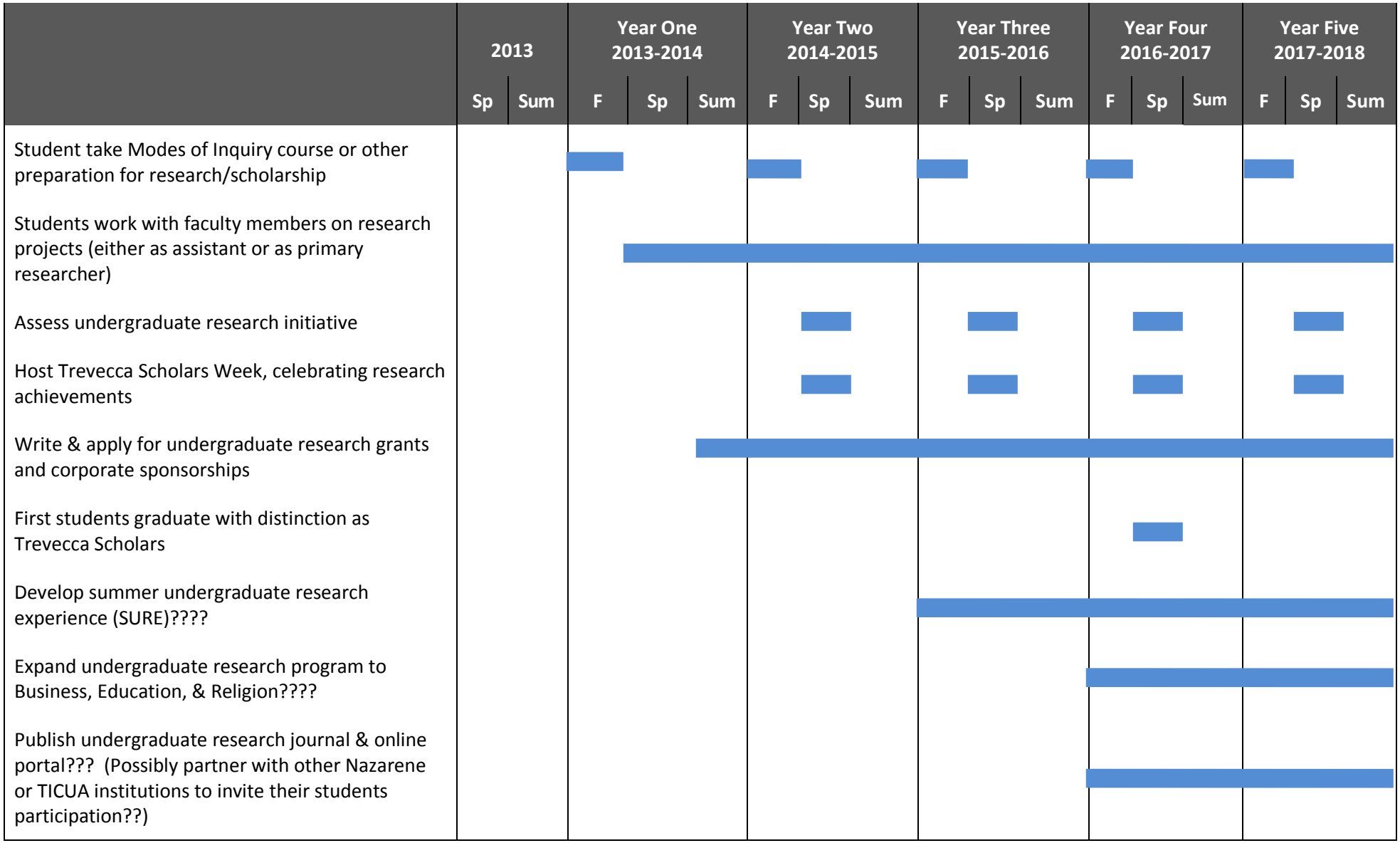
Karukstis, K. K., & Hensel, N. (2010). Transformative research at predominantly undergraduate instiutions. Washington, DC: Council on Undergraduate Research.

Assessment of Undergraduate Research Experiences:
Rueckert, L., & Morgan, K. (2008). *Measuring the Unmeasurable: Recent Advances in the Assessment of Research Outcomes.* Presented at the biennial meeting of the Council on Undergraduate Research at St. Joseph, MN. Accessed on January 1, 2012, from http://www.neiu.edu/~lruecker/curassess08.htm

Appendix A: Tentative Schedule for Implementation of Undergraduate Research Initiative



Appendix A: Tentative Schedule for Implementation of Undergraduate Research Initiative



Appendix B
Implementation Resource Requirements (Tentative Budget)

Expense (2013-2014 – Year 1)	Amount	Notes
Direct of Office of Undergraduate Research (responsible for grant-writing efforts, grant-compliance,	$50,000 approx.	Responsible for grant-writing efforts, ensuring grant-compliance, preparing budget & allocating student funding & research infrastructure monies; monitoring
Faculty release time or overload	Up to $28,800 per year;	6 departments, up to 3 projects per semester per department = 36 hours @ $800 per credit hour
Student funding (travel for presentations; incidental expenses associated with scholarship)	$12,000	$2000 per department
Research infrastructure (software, lab equipment, other materials for scholarship)	$10,000	To be distributed as needed
Student recognition & awards	$5,000 approx.	One award to student(s) from each department for outstanding research (decided by each department; $250 each). One overall award to student and faculty-mentor for outstanding undergraduate research in the SAS ($1000 each for student & faculty). Honor cords for students designated as "Trevecca Scholars" (cost unknown)
	Total: $105,800 (annual cost)	

Appendix B: Implementation resource requirements (tentative budget) continued

Expense (2014-2015- Year 2)	Amount	Notes
Direct of Office of Undergraduate Research (responsible for grant-writing efforts, grant-compliance,	$50,000 approx.	Responsible for grant-writing efforts, ensuring grant-compliance, preparing budget & allocating student funding & research infrastructure monies; monitoring
Faculty release time or overload	Up to $57,600 per year;	6 departments, up to 6 projects per semester per department = 72 hours @ $800 per credit hour
Student funding (travel for presentations; incidental expenses associated with scholarship)	$24,000	$4000 per department
Research infrastructure (software, lab equipment, other materials for scholarship)	$10,000	
Student recognition & awards	$5,000 approx.	One award to student(s) from each department for outstanding research (decided by each department; $250 each). One overall award to student and faculty-mentor for outstanding undergraduate research in the SAS ($1000 each for student & faculty). Honor cords for students designated as “Trevecca Scholars” (cost unknown)
	$146,600 (annual cost) *	

* By this time, the director of undergraduate research should be working with faculty members to secure grant money and/or corporate sponsorships for research projects.

Appendix B: Implementation resource requirements (tentative budget) continued

Expense (2015-2016 – Year 3)	Amount	Notes
Direct of Office of Undergraduate Research (responsible for grant-writing efforts, grant-compliance,	$50,000 approx.	Responsible for grant-writing efforts, ensuring grant-compliance, preparing budget & allocating student funding & research infrastructure monies; monitoring
Faculty release time or overload	Up to $86,400 per year;	6 departments, up to 9 projects per semester per department = 108 hours @ $800 per credit hour
Student funding (travel for presentations; incidental expenses associated with scholarship)	$36,000	$6000 per department
Research infrastructure (software, lab equipment, other materials for scholarship)	$10,000	
Student recognition & awards	$5,000 approx.	One award to student(s) from each department for outstanding research (decided by each department; $250 each). One overall award to student and faculty-mentor for outstanding undergraduate research in the SAS ($1000 each for student & faculty). Honor cords for students designated as "Trevecca Scholars" (cost unknown)
	$187,400 (annual cost) **	

** By this time, the director of undergraduate research should be working with faculty members to secure grant money and/or corporate sponsorships for research projects.