

QEP Proposal

*Coordinating and Enhancing Undergraduate Research,  
Scholarship and Creative Activities Across Campus*

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**GOALS:** The primary objective of this QEP is to improve student learning by increasing and enhancing faculty-mentored undergraduate research, scholarship, and creative activities (hereafter referred to as *undergraduate research*) across departments and colleges. The College of Arts and Sciences (CAS) Undergraduate Research Advisory Committee (URC) recently defined undergraduate research in its *Undergraduate Research as a Deep Learning Experience* statement<sup>1</sup> as “student research, scholarship, and/or creative activities where students and faculty mentors collaborate in the design and implementation of projects and the dissemination of results.” This is in the spirit of the broad definition adopted by the Council on Undergraduate Research (CUR)<sup>2,3</sup>: “an inquiry or investigation conducted by an undergraduate student that makes an original, intellectual, or creative contribution to the discipline,” which is applicable to all disciplines, may be specific to a discipline, and requires a high standard identified by each discipline. For example, a student in Visual and Performing Arts may design a jewelry line, a student in the College of Education might investigate an instructional technique, and a student in the CAS might conduct a laboratory experiment, study a social phenomenon, or analyze a work of literature. This QEP considers undergraduate research to be a discipline-specific activity beyond the normal classroom setting and assignments and an activity that is appropriate for enhancing learning for students in any of Winthrop’s colleges and departments.

Winthrop recognizes undergraduate research as one of the “transformational opportunities” that enrich the lives of its undergraduates; thus, it is crucial to the institution’s stated mission. The institutionalization of undergraduate research was affirmed as a strategic initiative in the 2006-2007 and 2007-2008 Vision of Distinction statements “To support and advance Winthrop University academic life as one infused with deep, sustained and highly transferable learning, Winthrop will ...Develop a plan to institutionalize undergraduate research

across the curriculum.” Winthrop already has shown a firm commitment toward institutionalizing undergraduate research through infrastructure investments and faculty development as well as by adopting policies that support faculty-mentored student research. If met, the goals of this QEP will further support Winthrop’s mission statement by creating a campus culture that involves more faculty and students across disciplines in undergraduate research, improves the quality of undergraduate research being conducted, and reinforces those efforts at an institutional level.

The four **goals** are to 1) expand and coordinate institutional support for undergraduate research, 2) create more opportunities for mentored student research, 3) provide developmental activities to train and support students and faculty engaged in collaborative work and 4) promote greater dissemination and recognition of the research accomplishments of the students and their faculty mentors. Successful implementation of this undergraduate research initiative is expected to result in the following student learning outcomes (SLO).

SLO1 Students will have a better understanding of their disciplines, especially in terms of discipline-specific scholarship (promoted through Goals 1 - 4)

SLO2: Students will acquire and demonstrate skills, including ethical decision-making, related to conducting scholarship in their discipline (promoted through Goals 1 - 4)

SLO3: Students will improve their written, oral communication, and/or presentation skills (promoted through Goals 2, 3 and 4)

SLO4: Students will engage in self-reflection upon their own work facilitated by mentor feedback (promoted through Goals 2, 3 and 4)

SLO5: Students will acquire an appreciation for the creative and research processes in other disciplines, as well as in their own (Goals 2, 3 and 4).

In addition, these goals directly address four of the five themes identified by the QEP committee: critical thinking, information literacy, lifelong skills, and written and oral communication.

**SUMMARY:** The purpose of this QEP is to improve student learning by executing Winthrop's stated mission of institutionalizing undergraduate research across the curriculum. The plan targets undergraduate students and their faculty mentors through support for, development of, and recognition of their discipline-specific scholarship. This plan is feasible because there is an existing foundation of support for undergraduate research in the CAS on which to build. In 2003, the CAS began the Winthrop University Undergraduate Research Initiative (WUURI) whose purpose as defined in the mission statement is *to support a student-centered learning environment that fosters student research, scholarship, and creative activities. The Initiative encourages students and faculty mentors to collaborate in the design and implementation of projects and the dissemination of results.* The four goals of this QEP will be met by using the WUURI as a framework that can be modeled, improved, and expanded.

*GOAL 1 - expand and coordinate the institutional support for undergraduate research:*

The current URC consists of faculty in the CAS who are committed to the establishment, maintenance, and improvement of undergraduate research. Goal 1 of this proposal would be met by broadening the scope of this committee to include faculty representation from more disciplines, especially those previously underrepresented in undergraduate research, and from all academic colleges. Goal 1 also requires adequate infrastructure to provide both advocacy and support for research. An Office of Undergraduate Research would be responsible for creating developmental activities to support the student learning objectives (e.g., workshops, symposia, on-campus conferences) and coordinating efforts and resources among existing campus

programs (e.g., the Honors Program, the McNair Scholars Program, the Office of Nationally Competitive Awards, Sponsored Programs and Research).

GOAL 2 - create more opportunities for mentored student research: Goal 2 would be met by participation of students and faculty from different disciplines who are engaged in diverse types of scholarship. We anticipate that more faculty from across the campus will choose to become involved in mentoring undergraduate researchers with the establishment of a centralized office (Goal 1), greater training and support (Goal 3) and increased recognition (Goal 4). As faculty mentors increase, so will the number and range of opportunities for faculty-student partnerships (supporting SLO 1-5). Goal 2 also can include an expansion of the information dissemination efforts already in place. For example the URC maintains a research-focused website <sup>4</sup> and advertises undergraduate opportunities at faculty meetings. Perhaps the most important initiative related to this goal would be a funding line devoted to research for which undergraduates could apply (supporting SLO 1-3). Funded activities may include competitive student grants, conference travel, summer stipends, or achievement awards. The central office would work with the URC (Goal 1) to develop policies for distributing the funding.

GOAL 3 - provide developmental activities to train and support students and faculty engaged in collaborative work: Goal 3 is a focused initiative to equip and support students and faculty engaged in collaborative work, in a manner that benefits both groups. This goal could be accomplished by offering developmental activities through existing channels as well as exploring new and creative avenues to meet researchers' needs. Developmental opportunities targeted toward students could include the creation of cross-disciplinary courses on scholarship, refinement of established methods courses, and integration of "inquiry-based" pedagogy into the curriculum (with techniques provided during faculty training sessions; supporting SLO 1- 5).

Our undergraduates also would benefit from increased participation in undergraduate research grants, on and off-campus research symposia, summer research experiences, and campus-based professional conferences (supporting SLO 1-5). A centralized office (Goal 1) would be able to better identify and advertise existing opportunities, as well as organize and fund a range of activities on Winthrop's campus. Finally, our students may benefit from encouraging our Career Services colleagues to request and understand information about research experience in order to incorporate it into our students' resumes and graduate applications (supporting SLO 1- 4).

Professional development sessions targeted toward faculty might include TLC programs (e.g., successfully incorporating research into an undergraduate course; becoming an honors thesis mentor), a session during the new faculty orientation (e.g., importance of and resources available for undergraduate research), grant writing workshops, and teaching squares participation. Faculty also may benefit from a separate line of funding (that does not compromise faculty mentors' funding for travel based on their own scholarship) to support travel to conferences or summer stipends related to their undergraduate mentorship.

*GOAL 4 - promote greater dissemination and recognition of the research accomplishments of the students and their faculty mentors:* Undergraduate research is a time-consuming but valuable pursuit and worthy of recognition. Visible institutional recognition of such efforts is likely to encourage increased participation across the campus (Goal 2). In addition, students' exposure to the variety of their peers' scholarship may enhance their critical thinking, consumer sophistication, cross-disciplinary appreciation, social awareness, cultural sensitivity, and self-reflections about their own research (supporting SLO 1, 2, 4, and 5). The URC again provides a foundation upon which to build. The annual abstract book *Undergraduate Scholarship in the College of Arts and Sciences* highlights research in the college by publishing

abstracts from student publications, honors theses, and presentations at professional meetings. This publication could be easily modified to include university-wide accomplishments (supporting SLO 1, 4, and 5). The URC also advertises departmental research symposium and organizes a formal celebration of undergraduate research at the end of every academic year, efforts that could be continued at an institutional level. For example, a centralized office could establish a week-long symposium for campus-wide undergraduate research. A publicized and well-attended showcase would afford students the chance to practice, hone, and reflect upon their presentation skills (supporting SLO 1-5). Another example to emulate is URC's hosting of the South Carolina Academy of Science meeting in 2005. With centralized office support, Winthrop would be better prepared to sponsor professional conferences focused on undergraduate research, such as the Big South Undergraduate Research Symposium (BigSURS), the National Conference on Undergraduate Research (NCUR) and the CUR Meeting (supporting SLO 1, 2, 3 and 5).

The QEP submitters also argue that there may be untapped, creative ways to recognize students and faculty researchers. Students could have their work recognized on their transcripts (i.e., following the biomedical research track model), through 'scholars cords' at graduation, by invitation to a Presidential reception, by acknowledgement in their hometown newspaper, or through highlighted projects on the institutional website. Winthrop also may want to consider the creation of university-level awards for exceptional faculty and student partnerships.

Faculty recognition for undergraduate research has long been a part of the university's conversation about roles and rewards; previous suggestions include smaller-sized methods classes, course reductions/credit for faculty mentors, departmental recognition linked to merit raises, and summer pay for faculty mentors. Clarifying and expanding the credit given for mentoring undergraduate research in promotion/tenure decisions across campus will also

contribute to improved faculty participation.

**BENEFITS:** Undergraduate research provides valuable learning experiences to students (see SLO 1-5) and is one of the high-impact educational practices that increase the rates of student retention and engagement.<sup>5</sup> The American Association of American Universities found that undergraduate research experience “helps [students] develop critical thinking skills, the ability to work with ambiguity of open-ended questions, an ability to apply skepticism to the daily flow of information and an appreciation of what it takes to create new knowledge”<sup>6</sup> (supporting SLO 2 and 3). Moreover, surveys show students engaged in undergraduate research report they are better able to think analytically and logically<sup>7-9</sup> and are able to make better use of the primary literature, formulate research hypotheses, interpret data, and communicate the results of research<sup>10</sup> (supporting SLO 1, 2, and 3). Another survey revealed alumni perceive increased skills development resulting from their research experiences, including acquiring information and speaking effectively<sup>11</sup> (supporting SLO 1 - 4). Student researchers often disseminate their work at professional meetings or submit the scholarship for publication in academic journals. These experiences expose the students to the rigors of the peer-review process, which help to ensure the validity and originality of scholarship<sup>12</sup> (supporting SLO 1-5). As a result, students have a greater understanding of the value of reviewed work and perhaps learn to look more critically at their own work (supporting SLO 4 and 5). Thus, focusing the QEP on undergraduate research would allow us to apply a proven method to improving and enhancing the quality of learning at Winthrop and is a prime example of the “highly personalized, engaging and progressively developmental academic and co-curricular programs predicated on national standards of excellence”<sup>13</sup> that make our campus distinctive.

A university-wide Undergraduate Research Office would be a strong and consistent voice for undergraduate research (Goal 1). Such offices serve as centralized locations for questions about student research and are the primary entities for collecting and disseminating pertinent information, establishing consistent standards, providing training, and assessing the progress and pedagogical benefits of undergraduate research initiatives. They develop means to link students with potential faculty mentors as well as help define expectations for the mentors and students. They help to build bridges among many other campus organizations (e.g. career center, alumni association, development office, honors program), advocate to the central administration, and encourage faculty to think about research at a campus-wide level. They also coordinate delegations of students to undergraduate research-oriented meetings such as NCUR, manage the logistical and financial needs of various undergraduate research activities on campus and organize campus-wide celebrations of student research.

Campus-wide research celebrations benefit the campus community in two ways. First, recognized students are likely to have positive feelings toward their university, translating to heightened engagement, increased retention, enhanced recruitment, satisfied alumni and potential donors. Second, it directly addresses an ongoing issue, discussed at recent Leadership Conferences, related to faculty roles and rewards. Faculty have expressed a desire for recognition of their undergraduate mentorship, and this QEP provides tangible suggestions to do so.

**STUDENT LEARNING OUTCOMES:** The academic community has increasingly recognized the impact of undergraduate research on student learning, and as discussed above, the effects of this experiential learning can be demonstrated through measurable outcomes. The student-faculty mentor relationship compels students to engage in the practice of a discipline that “triggers a four-step learning process: 1) the identification of and acquisition of a disciplinary or

interdisciplinary methodology; 2) the setting out of a concrete investigative problem; 3) the carrying out of the actual project; 4) finally, the dispersing/sharing a new scholar's discoveries with his or her peers”<sup>14</sup>. While learning about scholarship within their discipline, students will improve their understanding of their field (SLO 1) and acquire research-based skills, including ethical decision-making (SLO 2). Students will increase their written and oral communication skills (SLO 3) as they collaborate and discuss their projects. These conversations with other students and faculty mentors will promote self-reflection (SLO4) and when conducted at a campus-wide event, will encourage cross-disciplinary appreciation (SLO 5). These student-learning outcomes can be measured in several ways. In the classroom, student learning can be assessed through faculty assessment of students’ work (e.g., oral presentations, exam performance), faculty observations (e.g., students’ decision-making and participation), peer feedback (e.g., peer graded assignments), and student feedback surveys (e.g., faculty evaluations). Outside of the classroom student learning can be assessed through dissemination of work (e.g., symposia, art exhibitions, conference presentations), audience feedback (e.g., peer review, achievement awards), and student feedback on existing university surveys (e.g., National Survey on Student Engagement).

**INSTITUTIONAL RESOURCES:** This QEP plan can be accomplished through a modest increase in institutional resources, since it builds on the existing efforts and entities on campus (e.g., TLC, URC). Winthrop would need to devote faculty time for curriculum development, peer training, service on the URC and mentoring students. Financial resources would be needed to establish and support a university-wide Undergraduate Research Office (URO) staffed by a faculty Director and a full-time office manager. Additional resources specified by this QEP include funding for student research grants and faculty travel, and for on-

campus research symposia or professional conferences. We envision implementation of this plan would occur over a three to four year period, with the formation of the URO, development of the general policies and assessment instruments, a review of student research skills development in the curriculum, and establishment of a campus-wide symposium occurring during the first two years. In subsequent years, Winthrop would execute the curricular improvements and assess the how the initiative impacts student learning, faculty participation, and the campus culture.

**ASSESSMENT:** Winthrop could assess the effectiveness of the QEP by measuring outcomes aligned with the goals and SLOs using existing or modified survey and skills assessment instruments<sup>7-10</sup>. For instance changes in students' perceptions about their abilities to think analytically and logically, or the effects on their abilities to communicate the results of their research projects through oral and written formats as a result of their undergraduate research experiences could be measured. For curriculum development, Winthrop should use existing assessment tools to determine the levels and effectiveness of the discipline-specific research skills training in the curriculum<sup>15, 16</sup>. The URC recently defined three types of undergraduate research experiences that occur in the college in their statement *Undergraduate Research Across the Curriculum*<sup>17</sup> as well as skill-level training elements in courses throughout the college's various disciplines. These models are general enough that they could be used as a starting point for reviewing undergraduate research throughout the university's curriculum.

In addition, the levels of participation by students and faculty mentors will be documented annually and used to assess the effectiveness of the recruitment methods developed for the QEP. This would include the numbers of students and faculty mentors involved in undergraduate collaborations, the number of student research grants awarded, and the number of students presenting at on and off-site symposia.

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