



Open Pathway

Quality Initiative Institutional Proposal Template

The enclosed Quality Initiative proposal represents the work that the institution will undertake to fulfill the Improvement Process of the Open Pathway.

Cheryl B. Schrader

5/23/14

Signature of Institution's President or Chancellor

Date

Cheryl B. Schrader

Printed/Typed Name and Title

Missouri University of Science and Technology

Name of Institution

Rolla, Missouri

City and State

The institution completes the Quality Initiative proposal by responding to the questions in each category of the template. The institution may choose to include a brief implementation plan that addresses many of the questions below and replaces portions of the outline. Proposals should be no more than 4,500 words.

Overview of the Quality Initiative

1. Provide a title and brief description of the Quality Initiative. Explain whether the initiative will begin and be completed during the Quality Initiative period or if it is part of work already in progress or will achieve a key milestone in the work of a longer initiative.

Title: All Undergraduate Students Will Successfully Complete a Significant Experiential Learning Activity Prior to Graduation

Brief Description: Theme 1 of the recently completed Missouri S & T Strategic Plan is to "Develop and inspire creative thinkers and leaders and life-long success". The first lever (or goal) of that theme is to require all undergraduate students to participate in a significant experiential learning activity before graduation. In August of 2013 the initiative began with the effort to define "significant experiential learning", to develop a comprehensive list of activities that are supported by research as "significant experiential learning activities", and to build consensus on campus as to mechanisms for incorporating experiential learning into the core curriculum in all undergraduate degree programs. After over 8 months of discussion, brainstorming, research, and development of drafts; the Missouri S&T Faculty Senate approved a definition, implementation, and tracking plan at its April, 2014 meeting (see attachment -- Appendix 1). The work now begins for each degree granting unit on campus to detail ways for their students to

complete the requirement in a manner approved by each unit's curriculum committee and department chair. The responsibility for monitoring and maintaining the reporting of experiential learning activities will lie with the office of the Vice Provost for Undergraduate Studies. A few undergraduate degree programs already require a significant experiential learning activity prior to graduation (e.g., Biological Sciences requires a service learning component in their senior capstone course, and History requires a senior thesis); however, most of the degree programs will need to develop their own specific mechanisms and approval processes to satisfy this initiative. The goal is to have every undergraduate degree program at Missouri S&T requiring a significant experiential learning activity by the year 2020. Toward this end, the Faculty Senate at Missouri S&T has approved the adoption of the experiential learning standard and corresponding Undergraduate Catalog entry effective Fall semester 2015 (Appendix 1).

Sufficiency of the Initiative's Scope and Significance

2. Explain why the proposed initiative is relevant and significant for the institution.

The proposed Quality Initiative is relevant and significant because it addresses a recognized need for incorporating the so-called "high impact" practices for student success, high level learning, and student retention into the undergraduate experience. According to the National Survey of Student Engagement (NSSE) the most important high impact activities include: learning communities, service-learning, research with a faculty member, study abroad, internships and culminating senior experiences. Most or all of these activities (and other similar activities) can be categorized as "experiential learning". Our first strategic theme at Missouri S&T is to develop and inspire creative thinkers and leaders and life-long success so it is critical to inculcate a spirit of significant experiential learning into our undergraduate curriculum because such activities are related to deep approaches to learning, gains in general education and personal and social development of our students.

3. Explain the intended impact of the initiative on the institution and its academic quality.

The impact of this initiative will be profound: each undergraduate student will be required to complete a significant experiential learning activity in order to graduate. Although we do not have perfectly accurate numbers, we believe that about 55 to 65 percent of our undergraduates already participate at some level in experiential learning activities. Some examples: Our Student Design and Experiential Learning Center has over 20 design teams on which nearly 800 students participate at any given time, we have a very active Opportunities for Undergraduate Research Program which encourages over 100 undergraduates to participate in research each year, we have a large and active Engineers Without Borders student group which travels to Central and South America on service learning projects each year, we have a growing Study Abroad program, and many of our students participate in a summer internship or Co-Op. However, we know that 40 percent or so of our undergraduates do not participate in a significant experiential learning activity at all, and many who do participate are engaged along a spectrum from "just slightly" to "all in". Often the experiences do not include an evaluation of the depth of the experience or the learning that occurs. A significant experiential learning activity will also typically include a student reflection piece or written final report. Our goal at Missouri S&T is to provide a curricula requirement that ALL undergraduates must complete a significant experiential learning activity and that the activity will be reviewed and approved by the degree program faculty and will include some reflection piece or final report.

Clarity of the Initiative's Purpose

4. Describe the purposes and goals for the initiative.

The goal is to require all undergraduate students to complete a significant experiential learning activity prior to graduation. The purpose is to insure that each of our undergraduates will be exposed to at least one high impact activity which has been shown to provide positive effects on student learning and retention. High impact activities such as those under the general category of "experiential learning" have been shown to be moderately related to deep approaches to learning and perceived gains in general education and personal and social development.

5. Describe how the institution will evaluate progress, make adjustments, and determine what has been accomplished.

As part of its Strategic Plan, Missouri S&T has committed to requiring all degree programs to incorporate experiential learning into their core curriculum. Progress will be monitored by the Lever (Goal) Leader for that particular part of the plan who is the Vice Provost for Undergraduate Studies. Additionally, Missouri S&T has created the position of Strategic Planning Progress Coordinator and that individual will work with the VP of UGS to evaluate progress, continually update and report to the campus on progress made, and to work with the individual degree program units to meet the goal of having all degree programs requiring a significant experiential learning activity by the year 2020. The Faculty Senate at Missouri S&T has approved the adoption of the experiential learning standard and corresponding Undergraduate Catalog entry effective Fall semester 2015 (Appendix 1).

Evidence of Commitment to and Capacity for Accomplishing the Initiative

6. Describe the level of support for the initiative by internal or external stakeholders.

This Quality Initiative is focused on implementing Lever (goal) 1.1 in the campus strategic plan: require all undergraduate students to complete a significant experiential learning activity prior to graduation. The strategic plan itself, as Chancellor Schrader wrote in her cover letter to the plan, is "... the fruit of an unusual process – one in which we flipped our perspective and viewed Missouri S&T from our customers' point of view. Thousands of participants addressed how to provide a top return on investment for six key customer groups". Those customer groups are: undergraduate students, research-based graduate students, distance and online students, research investors, employers, and donors. The Strategic Plan was developed based on work by a Leadership (Steering) Committee, a Strategy Statement Committee for each of the customer groups, and then through large-scale "Ideation Sessions" where interested members of each customer group gathered to brainstorm and debate the goals and objectives and vision. Each Academic Department participated in ideation sessions that worked on the themes and levers (goals and objectives). The Chancellor's Cabinet, Provost's Cabinet, and Department Chairs Council were all involved in developing the definition and implementation plan for the experiential learning lever (see attached). The Corporate Development Council was also invited to provide input. Finally, the Missouri S&T Faculty Senate was asked to review and approve the document (attached) and also expressed their approval of using this as the HLC Quality Initiative.

7. Identify the groups and individuals that will lead or be directly involved in implementing the initiative.

Leadership for implementing this Quality Initiative will be centered in the Office of Undergraduate Studies under the direct supervision of the Vice Provost for Undergraduate Studies. Additionally, the Strategic Plan Progress Coordinator (who reports directly to the Chancellor) will monitor progress on this initiative which is directly tied to Lever 1.1 of the campus Strategic Plan. Finally, the Experiential Learning Committee is a standing committee facilitated by the Office of Undergraduate Studies and those committee members will be involved in monitoring and promoting the implementation of this initiative.

8. List the human, financial, technological and other resources that the institution has committed to this initiative.

Missouri S&T has a long tradition of encouraging students to become engaged in experiential learning through resources devoted to the Student Design and Experiential Learning Center, the Opportunities for Undergraduate Research Experience program, the Study Abroad Program, and summer intern and Co-Op activities. The University

recently hired a Project/Program Support specialist in the Office of Undergraduate studies who is focused on promoting and expanding experiential learning opportunities on campus.

Appropriateness of the Timeline for the Initiative (The institution may include a brief implementation or action plan.)

9. Describe the primary activities of the initiative and timeline for implementing them.

Work on this initiative began in 2013 when the campus strategic plan was developed. Lever 1.1 of that plan is specifically focused on requiring all undergraduate degree programs to require a significant experiential learning activity and to incorporate that requirement into their curriculum by 2020. Beginning in August 2013 the campus leadership and faculty groups began drafting a definition for “significant experiential learning activity” and moved forward with building consensus around guidelines for implementation. In April of 2014 the Faculty Senate approved the final draft and the campus now has a consensus-driven document that defines a “significant experiential learning activity”, that provides guidelines for implementation and a list of example activities that might be considered significant experiential learning, and that provides a roadmap for the campus and each degree program to incorporate the requirement and track the requirement with the assistance of the Office of Undergraduate Studies. The Catalog Entry referring to this requirement will be inserted and become effective for the 2015-16 year and all degree programs will work to fully implement the requirement by 2020. The next full Higher Learning Commission review and visit will occur in 2018. Missouri S&T would expect to have a significant portion of the degree programs in compliance with this requirement by the time of the visit.

Institutional Contact for Quality Initiative Proposal

Include the name(s) of the primary contact(s) for the Quality Initiative.

Jeffrey D. Cawfield, Vice Provost for Undergraduate Studies

Name and Title

573 341 4390

Phone

jdc@mst.edu

Email

Missouri University of Science and Technology

Institution



APPENDIX

Academic Freedom & Standards

Missouri S&T Undergraduate Experiential Learning Standard & Operating Procedure

Standard

All undergraduate students graduating from Missouri S&T are required to have an experiential learning activity as part of their degree requirement. There is a long tradition of experiential learning. One of the early proponents was John Dewey, the Progressive era education reformer. Dewey argued that educators should move from teaching abstractions to instruction based upon problem solving and learning by doing. In other words, educators should encourage students to apply what they are learning. As he wrote in 1938, “There is an intimate and necessary relation between the process of actual experience and education.”

Key Elements of Experiential Learning

- Student centered rather than teacher centered
- Active learning rather than passive learning
- Application of learned principles to form realistic solutions to problems, issues and challenges
- Reflection upon the learning experience.

General Definition

Experiential learning at Missouri S&T refers to learning stimulated by a variety of structured activities that differ significantly from the traditional lecture format. Experiential learning activities are designed to require students to go beyond mastering basic skills and knowledge in the application of that material to problem solving challenges. These activities involve collaboration and reflective learning and allow students to learn in environments that align with their aptitudes.

Implementation Guidelines for Missouri S&T

To qualify:

1. The activity must be University sponsored or affiliated and the student must receive written approval of the activity from a faculty member or academic advisor in the student’s degree program. Approval of the initial activity does not automatically imply

- approval of the overall experience. Degree programs may develop lists of pre-approved activities that will count as significant experiential learning activities if completed.
2. The faculty member or academic advisor will ensure that the activity is of significant duration, intensity and rigor to demonstrate successful application of learned principles appropriate to the expectations of the degree program faculty (it may be that more than one activity could be combined to create a suite of experiential learning activities for a single student that may be approved in satisfaction of this requirement).
 3. The focus must be on “learning by doing” in a creative and innovative activity that generally falls outside the realm of the traditional lecture classroom experience and contributes significantly to professional and personal development.
 4. Finally, a significant experiential learning activity will include a written summary reflection piece that will document the experience from the student’s perspective; this written reflection piece should be of a quality suitable for inclusion as an attachment to a co-curricular transcript or in an e-portfolio that might be submitted by the student to potential employers or to graduate school admissions committees.
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Examples of activities that might qualify:

- Undergraduate research (OURE projects, NSF Research Experience for Undergraduates, Honors Academy senior research project, etc.)
- Co-Op, summer internship, and externships in industry or at a research center
- Significant participation on a student design team
- Study abroad
- S&T sponsored service learning (e.g., EWB, Bio Sci and Psychology capstone service learning or internship projects, Miner Challenge)
- Significant involvement in national/international competitions such as Chem-E Car, IEEE Robotics, etc.
- Field camp/ field trip experiences of significant duration and intensity
- Practicum or formalized student teaching
- Mentor/coach/tutor over a sustained period in an S&T sponsored mentoring program (Student Success Coaches, Peer Learning Assistant, On-Track Mentor, Opening Week Mentor - which continues through the academic year with programming such as ReConnect1 and 2)
- Paraprofessional, mentoring, peer teaching positions (Resident Assistants, Programming Resident Assistants, Chancellors Leadership Academy Advisors, Peer Involvement Advisors, Miner Mentors, Joe’s P.E.E.R.S., Health Related Careers Mentoring Program, Admissions Ambassadors, PRO Leaders)
- Leadership positions within student governing boards (Student Council, Student Union Board, Inter-fraternity Council, PanHellenic Council, Greek Chapter Executive board, Residence Hall

Association, National Residence Hall Honorary, Residence Hall Executive Board, Cultural Activities Planning Committees, Student Judicial Boards, Student Athlete Advisory Committee)

- Year-long leadership involvement experiences (Global Leaders Institute, Chancellor's Leadership Academy, Student Leadership Conference Chair, Intercollegiate Athletics Team)
- Leadership workshops and retreats (NRHA Leadership Trip, Greek Chapter retreats, Backpack to Briefcase, Student Leadership Conference, Sue Shear Leadership Academy)
- Activities provided in campus residences that are judged as an effective conduit for Missouri S&T to connect students' in-class experiences to their life within the campus community. A variety of activities are provided to support academic success and enhance professionalism, time management, leadership, project management, and interpersonal, and communication skills.

This list is not meant to be all-inclusive or restrictive. The faculty in each degree program must come to consensus on activities they will accept within the structure and expectations of their degree programs; however, activities must embody the spirit and intent of the Missouri S&T definition and implementation guidelines delineated above.

Operating Procedure

Per CRR 300.030.4.1.3, each department is delegated jurisdiction over the curricula of the department. Accordingly, each department shall have authority over what activities it will accept to meet the campus-wide experiential learning requirement for all undergraduate students. When an undergraduate student has satisfied the departmental requirement for experiential learning for a specific degree program, the department will notify the Office of Undergraduate Studies who will keep the records and also notify the Registrar's Office which shall update the student's Degree Audit for that particular degree program, marking a completion check box similar to senior assessment. Note that it is up to departments to decide for a particular degree program whether to accept another degree program's experiential learning requirement, so students taking multiple majors or transferring from one degree program to another may need to satisfy multiple, possibly non-overlapping, experiential learning requirements.

Undergraduate Catalog Entry

All students at Missouri S&T are required to participate in appropriate experiential learning activities. Experiential learning refers to learning stimulated by a variety of structured activities that differ significantly from the traditional lecture format. Experiential learning activities are designed to require students to go beyond mastering basic skills and knowledge in the application of that material to problem solving challenges. These activities involve collaboration and reflective learning and allow students to learn in environments that align with their aptitudes.