

2021-2023 Biennium Internal Budget Proposal Narrative

Division: Department of Art & Art History

Evaluation Criteria: Proposals will be evaluated on every aspect of this template. It is highly recommended that the narrative portion touch on each area. Proposals forwarded to UPRC by unit leaders will be discussed at UPRC and authors are encouraged to attend so that they may answer questions and provide clarification.

ART ANNEX STEAM CENTER TO SUPPORT ACCESS AND INCLUSION FOR TRANSFORMATIONAL EDUCATION

- This is a revised version of a previously submitted budget proposal.
If box is checked please briefly outline any significant changes and/or indicate why it is being resubmitted.

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Statement of Purpose: (*What is the challenge or opportunity being addressed? How does the proposal address this challenge or opportunity? Limit response to 1 page – please link to any existing reports, data, supplemental materials, etc.)*

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A STEAM Center (STEAM = Science, Technology, Engineering, Art and Mathematics), housed in the centrally located Art Annex, adjacent to Miller Hall, Red Square, and Western Library, will provide access to transformational learning experiences with new technology and real-world applications, encouraging collaboration and innovation in an inclusive interdisciplinary environment.

Located in AA152,153 and 154, the STEAM Center will offer supervised access to existing and new digital fabrication equipment such as laser cutter-engravers, a CNC machine and 3D printers. Through a collaboration with the Western Library and the Student Technology Center, the Art Annex will be open to all students 20 hours per week. STC staff will be trained and scheduled to support the integration of non-Art majors during time periods that do not interfere with Art classes and open studio schedules.

To support the STEAM Center, an STF grant application for equipment was submitted by stakeholders in 2021 and is currently under review. This Internal Budget Request augments new equipment with critical infrastructure and staff support, including electrical upgrades, storage, a sheltered outdoor work area, and an instructional technician position to maintain classroom equipment, safety and support academic activities. Upgrades include 3 new drop-down electrical outlets in AA152 for power tools and to enhance safety; the installation of a secure tool cage to house digital fabrication equipment on carts; a sink

upgrade; and a permanent awning over the Sculpture courtyard to extend the workspace for year-round activity.

Anticipated Outcome(s):

With the establishment of a STEAM Center that is open to all students we expect an immediate increase in the number of students using Art Annex facilities and equipment. Wider access will result in greater usage of these technologies and the development of related skills. We also expect an increase in collaboration across disciplines and departments given the inclusive nature of the STEAM Center. Within the Department an increase in interdisciplinary research is also expected, as digital fabrication techniques are integrated into Sculpture, Textiles, Printmaking and Foundations curriculum. We anticipate that direct access to technology, tools and technical instruction will facilitate curricular innovation and changes in student learning outcomes. Finally, the addition of an Instructional Technician will increase workload equity and improve working conditions for student workers, staff and faculty.

Metrics: (*How will outcomes be measured? Please include current data points and goals. If this proposal will have any impact on the [Overall Metrics](#) included in the university's strategic plan, please indicate which specific ones here.*)

The STEAM Center will adopt the scheduling system currently used by the Student Technology Center to track user data and frequency. This tracking will help us observe when and how facilities are being used and assess the overall performance of the Center. For majors, we will be able to assess the effective integration of STEAM Center technology into curriculum with SLOs that specify digital fabrication proficiency.

How does this proposal align with your departmental/divisional strategic priorities? (*Please reference specific items from the recently completed departmental/divisional strategic plan and attach a copy.*)

The STEAM Center will directly and dynamically support our department's mission as it will serve as an inclusive platform for "...transformational education that encourages curiosity and facilitates critical inquiry, collaboration, creative problem solving and community engagement." [1]

From Leonardo da Vinci's scientific renderings, to Cai Guo-Qiang's engineered explosive installations, Natalie Jeremijenko's environmental health clinics, and Trevor Plagen's satellite sculptures, the visual arts have always been a site for synthesis across the disciplines of science, engineering, and math. What Art adds to STEM education and why a STEAM Center in the Art Annex should be supported is this: Art fosters that which cannot be easily replicated with an algorithm; curiosity, empathy, passion, and play, habits our graduates must have opportunity to exercise if they are to remain resilient and relevant in an age of technological accelerations [2].

Supporting the STEAM Center in the Art Annex will “ensure they foster the knowledge, skills, and habits of mind required in a dynamic world.”

[1] Department of Art and Art History: Revised Departmental and Area Mission Statements and SLOs per the new WWU Strategic Plan, 2018-2025

[2] <https://www.nytimes.com/2017/01/04/opinion/from-hands-to-heads-to-hearts.html> Thomas Friedman, NYT, 2017. See also: Robots 'to replace up to 20 million factory jobs' by 2030, <https://www.bbc.com/news/business-48760799>

How does this proposal support the University Mission and Strategic Objectives? (Please refer to the [2018-2025 Strategic Plan](#) and indicate which core theme(s) this proposal will help achieve.)

The STEAM Center will embody the mission of the University as outlined in Goal #1 of the Strategic Plan, providing “a transformational education, grounded in the liberal arts and sciences, based on innovative scholarship and creative activity.” It will “expand student access” by opening up Art and Art History facilities and state-of-the-art equipment to students across departments and colleges. This access will allow students to “...follow their intellectual curiosity, ... work across disciplines, ... develop the skills, knowledge, and habits of mind that will enable them to effectively contribute to evolving societal needs.” Further, the establishment of the STEAM Center in the Arts Annex directly satisfies that Western’s mission is to “provide technological and other academic infrastructure to support curricular innovation, research, scholarship, and creative activity.”

Goal #3 in the University’s Strategic Plan states: “Western will foster a caring and supportive environment where all members are respected and treated fairly.”

Supporting the STEAM Center, we are requesting one new Instructional Technician position. This addition would help to address the severe understaffing for technical support in the Department of Art and Art History. The Studio Art program includes Painting, Drawing, Printmaking and Digital Media, Art Education, Textiles, Time-Based Art, Photography, Ceramics and Sculpture. Each of these Areas operates at least one laboratory with specific tools, materials, and processes. Printmaking and Digital Media, Ceramics and Sculpture operate across several labs to support multiple processes involving a broad range of materials and equipment including gas and electric kilns, laser cutter, plasma cutters, oxy acetylene, MIG welders, a foundry, and a full wood shop. There is one full-time Instructional Technician to support all these areas and one half-time technician in Photography. The department that is most closely related to our level of activity and material production is Engineering and Design, where the ratio of student to Instructional staff is 55:1. In Art the ratio is 165:1. While the departments are similar in terms of majors, we have fewer faculty and dramatically fewer support staff: 3.5 in Art, 12 in Engineering and Design. To “improve climate and working conditions for student employees, staff, and faculty,” inequities this great should be corrected.

The STEAM Center also responds Western's Goal #4 to "increase affordability of and access to high quality undergraduate and graduate education at all Western's locations." By teaming up with the Student Technology Center, the STEAM Center will reduce redundancy and offer affordable access to equipment, instruction, and tools regardless of a student's course of study or academic plans. It will expand opportunities to engage with new technologies in a collaborative and inclusive environment. Finally, opening the Art Annex to all students, the new STEAM Center will support Goal #4 of the Strategic Plan further by "(fostering) a positive and collaborative campus climate, including the physical environment, that welcomes and affirms the diversity of individuals, groups, cultures, and ideas."

What are the consequences of not funding this proposal?

Without the support outlined in this proposal, our campus community will face continued inequity in terms of student access to technology, inequity in staff workload, and fewer opportunities for innovation and collaboration. One thing we have learned through the time of Covid-19 is that -- from remote teaching to the vaccine roll out -- technological inequity has real and devastating consequences. Without the access to the tools, classroom improvements and instructional staff requested in this proposal, students will continue to experience inequity in their education at Western, as some will graduate less prepared, with fewer skills and career choices.

What alternatives were explored?

In May 2020, Assistant Professor Sasha Petrenko began working as an advisor to students from the Student Technology Center who were interested in establishing a STEAM Center somewhere on campus. After several meetings it was established that the Art Annex, specifically AA154, 153 and 154 were appropriate spaces for the proposed makerspace given that these classrooms regularly support a wide range of fabrication techniques and processes. Issues of staffing, equipment storage were raised, as well as the need for electrical and classroom upgrades. The STC agreed to contribute the staff needed to supervise and train students as they do in the Library to alleviate some of the additional workload of A/Hi support staff.

Students conducted surveys to identify what equipment would be most useful to potential users. Professor Petrenko advised about the most suitable equipment for the Art Annex facility. The final list includes over \$50,000 in new digital and analog fabrication equipment to be made accessible to all students in a safe and productive, well-ventilated, supervised creative laboratory environment. A new CNC machine, a spray booth, an industrial sewing machine, a serger sewing machine, two 3D printers and an additional laser-cutter engraver were included in the final STF proposal. According to the grant's authors these items are in high demand and are currently not readily available to students. The student authors also explained how the

equipment is vital to students who need to develop portfolios for application to graduate school in the departments of Design, Industrial Design and Engineering, among others.

Which units (departments, colleges, etc.) will be involved?

Student Technology Center, Department of Art & Art History

Equipment needed:

Steel equipment storage locker - \$1,000 for cage

Stainless steel sink replacements - \$1,000 for sinks

Permanent clear awning (20'x40') over AA courtyard - \$15,000 for materials

For major (>\$25k) purchases, please provide the following information.

Item:

Click here to enter text

Purpose:

Click here to enter text

Cost:

Click here to enter text

Anticipated Useful Life:

Click here to enter text

Replacement Cost if any:

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Human Resources (Complete the table below adding additional rows if necessary):

<i>Position Title</i>	<i>Total Headcount</i>	<i>Total FTE</i>	<i>Salary and Benefits per FTE</i>	<i>Total Cost</i>
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<i>Instructional Classroom Support Technician 3</i>	1	1.00	\$72,612	\$72,612

Table above should match data on budget spreadsheets submitted with this proposal. Complete the spreadsheet to get salary, benefit, and total cost amounts. Contact your division budget officer with questions.

Operating & Maintenance Costs (include service contracts, installation costs, etc.):

Steel equipment storage locker - \$2,000 for installation

Stainless steel sink replacements - \$2,000 for installation

Permanent clear awning (20'x40') over AA courtyard - \$15,000 for installation

Annual operating costs - \$2,000 per year

Space Requirements:

What type of space is needed for this proposal? (e.g., private office, lab space, group work/study space, etc.)

No additional space required.

What features must this space have? (e.g., fume hoods, plumbing, 3-phase power, etc.)

Require 3 new electrical drops from ceiling in AA-152. Estimated cost of \$3,000.

What needs can be accommodated within your existing space?

No additional space required.

How much new space will be required?

No additional space required.