

1. **Title:** Equipment Replacements and Expanding Capacity of Popular Items
2. **Requester:** Emily Leinen **Department:** Innovation Wyrkshop, CEPS Dean's Office
3. **Total Amount Requested:** \$67,544
4. **Description of Request:** The Innovation Wyrkshop is requesting funding for several critical equipment upgrades to enhance our offerings and maintain operational efficiency. We propose replacing the Stratasys J750 PolyJet printer with a new Epilog Fusion Pro dual-source Fiber and CO2 laser, acquiring a new bandsaw to replace our broken one, and replacing our Prusa MK3S+ 3D printers with Bambu Labs X1E 3D printers.

The Epilog laser engraver has become extremely popular, with 1,934 bookings to date, due to its low cost, ease of use, and versatility. It requires approximately \$600 in maintenance every two years. In contrast, the Stratasys J750, which has only 69 bookings to date, incurs an annual maintenance cost of \$7,141. Given its low utilization in the makerspace and high operating costs, we propose reallocating the J750 to Levi Kirby's Manufacturing Processes lab and replacing it with another Epilog laser engraver in the Wyrkshop.

Additionally, the woodshop has seen significant demand, with approximately 2,019 reservations to date. Due to heavy use, our bandsaw's motor has failed, and we request funding for a new, professional grade free-standing bandsaw to support ongoing activities.

Finally, we seek funding to replace our aging Prusa 3D printers with four Bambu Labs X1E printers. The Prusa printers, with 1,953 reservations, are nearing the end of their lifespan, leading to increased maintenance and downtime. The Bambu Labs printers offer faster print speeds (reducing a 17-hour print to just 6-hours) and superior quality, ensuring more reliable service for our patrons. These 3D printers offer XY-axis vibration compensation ensuring a smoother print, have built in failure detection which will result in fewer failed 3D prints, and auto filament reloading and multi-material printing. Likewise, these new 3D printers will allow our users to print using a wider range of filaments including, PLA, PETG, TPU, PVA, BVOH, ABS, ASA, PC, PA, PET, Carbon/Glass fiber reinforced filaments, PPA-CF/GF, PPS, PPS-CF/GF.

Benefit to CEPS: Our mission is to foster an open, hands-on learning environment that sparks community-driven innovation, creativity, curiosity, and entrepreneurship. We achieve this through cutting-edge technology and collaborative, interdisciplinary experiences. The Wyrkshop currently partners with 27 makerspaces across the state, including 19 mobile units that reach rural and remote communities throughout Wyoming. Since our launch in 2019, we've welcomed 70,247 visitors. With around 1,272 users each month and 15,270 visitors in AY23 alone, the Wyrkshop is a vibrant hub for students, faculty, staff, and the wider public, offering engaging workshops and an extensive calendar of outreach events. Notably, 82.6% of our patrons are campus-based—students, faculty, and staff—making the Innovation Wyrkshop a core resource for academic and creative pursuits. Recent courses held in the space have included Manufacturing Processes, Entrepreneurial Mindset, and Parasitology, further cementing the Wyrkshop's role as a key interdisciplinary resource across campus.

Upgrading technology in the Innovation Wyrkshop is crucial due to the high frequency of daily usage and the increasing demand for cutting-edge tools. As newer generations of devices and software are released, older technology can quickly become obsolete, limiting productivity and innovation. Regularly replacing equipment based on advancements in performance, speed, and capabilities ensures that the Wyrkshop remains at the forefront of creativity and efficiency. Additionally, as popular demand shifts towards more powerful and specialized tools, staying ahead of technological trends allows us to better serve the needs of its users and maintain a competitive edge in an ever-evolving landscape. Prioritizing upgrades ensures that both the Wyrkshop's equipment and its users are equipped for success in an increasingly tech-driven world.

Tier 1 Objective:	Proposal Alignment
Excellence in Undergraduate Education	<ul style="list-style-type: none"> ● Opportunity for wider range of academic courses hosted in-house, in turn encouraging cross-collaboration between departments ● Access to equipment that would be otherwise inaccessible to those outside of the degree of study ● Ties to innovative design and thinking coursework through use of interdisciplinary tools and concepts
World-Class Research and Graduate Education	<ul style="list-style-type: none"> ● Providing equitable, low-barrier access to equipment and materials that are available in few other facilities across Wyoming ● Providing an open and accessible experiential learning environment that can act as a testing ground for research or as an additional resource for materials and equipment ● Promote collaboration between different fields and concepts to cultivate innovative solutions and high-quality research
Productive Economic Development through Partnerships	<ul style="list-style-type: none"> ● Low-barrier access to industry equipment used in manufacturing, industrial, and commercial applications ● Free resources and at-cost materials for small businesses, student start-ups, and freelancers ● Serve as a hiring stepping-stone toward entrepreneurs, apprenticeships, and studio work
K-14 STEM Education	<ul style="list-style-type: none"> ● Access to equipment not offered or available in most schools ● Ignite passion for STEAM early, often, and create clear ties between local K-14 and CEPS

Detailed Budget:

In order of priority:

Category	Equipment	Quantity	Price	Shipping	Total Cost
Woodshop	Bandsaw	1	\$2,295.00	\$249.00	\$2,544.00
Laser Cutting	Epilog Fusion Pro Dual Laser	1	\$53,000.00	\$0.00	\$53,000.00
3D Printing	Bambu Labs 3D Printers	4	\$3,000.00	\$0.00	\$12,000.00
				Total:	\$67,544.00