



## Request for Proposals Uplands Digital Fabrication Lab Initiative

### **Purpose:**

The Indiana Uplands is a region of makers. As evidenced by thriving industry sectors and job growth in STEM fields that exceeds the rates of growth across the United States, opportunities for Indiana Uplands students are abundant. In order for students to be prepared to achieve, advance, and excel in careers, schools must reimagine learning that ensures all students are future ready. Digital fabrication empowers students to be adaptive problem solvers with technical skills as well as employability skills such as collaboration, critical thinking, creativity, and communication. With access to rapid prototyping equipment, students create functional solutions to authentic problems tied to academic content.

The Uplands Digital Fabrication Lab Initiative is a model that supports schools in launching digital fabrication, combining a design thinking approach with access to a lab. This model supports schools in developing STEM habits of mind that will compliment and extend STEM coursework and integrate across content areas.

Regional Opportunity Initiatives (ROI) is currently accepting proposals from schools serving middle and high school grades to design, develop, and maintain high tech digital fabrication laboratories branded as “UpLabs” from schools within the 11-county Indiana Uplands region. If selected, schools will work with ROI to design and launch a lab in Fall 2023. Continued professional development and coaching from ROI and other partners throughout the 2023-24 school year are also part of the program.

### **Background and Rationale:**

In 2020 and 2021 ROI launched nine digital fabrication labs in six school districts across the region as part of the Uplands Digital Fabrication Lab Pilot. To continue the success of Indiana Uplands schools as emerging leaders in digital fabrication education, UpLabs will prepare students for new technologies of today and tomorrow.

ROI’s Occupational Needs Assessment (ONA) emphasizes the importance of having STEM-literate students to meet current and future workforce needs within our region. The region’s key sector employers will add thousands of new jobs in the coming years. The majority of these jobs will require some form of post-secondary degree or credential.

A key finding from the ONA is the transferability of STEM-related skills and competencies across our key sectors. A STEM-literate and competent student is able to succeed in a variety of fields. ROI’s UpLabs will contribute to the development of these skills and work to mitigate,

and ultimately, eliminate the well documented gender, racial, and socio-economic gaps in STEM fields. Exposing students to hands-on, technology-enhanced learning promises to bridge the opportunity gap and help students identify their interests and aptitude in STEM fields.

**Timeline:**

A Request for Proposals for the Uplands Digital Fabrication Lab initiative will be available on April 21, 2023, and proposals will be due by June 2, 2023. Schools will be supported for one school year as they work through the design, development, and launch of the UpLab. Schools will be supported in subsequent years through continued engagement with the Uplands Fab Lab Network.

Kick-Off Meeting, Identify & Prepare Lab Location	Professional Development (5 days)	Equipment Selection & Procurement	UpLab Assembly & Launch	Implementation & Network Engagement
July - Aug	September	Sept - Dec	Jan - March	2024 & beyond
2023-2024 School Year				

**Digital Fabrication Lab Description:**

ROI’s UpLabs will include emergent prototyping technologies including laser cutting, CNC routing, vinyl cutting, 3D printing, microcomputers, and robotics. Additionally, schools receiving UpLabs will maximize access to the equipment by staffing the spaces with a team of highly trained teachers with specialized skills in facilitating learning in the advanced labs. As students engage in design thinking, UpLabs will amplify their ability to demonstrate authentic problem-solving skills by providing opportunities to quickly and efficiently develop functional prototypes.

**Digital Fabrication Lab Specialist and Innovation Team:**

Ideal proposals will identify one lead faculty member to serve as the Digital Fabrication Lab Specialist (lead) and three to four additional faculty members to serve as contributing, championing members of the school’s UpLab Innovation Team. The Innovation Team members will continue their current professional responsibilities while also being involved in sustaining the mission of the lab and supporting the UpLab Specialist.

**Support & Resources:**

Awardees will be responsible for cooperatively planning (with guidance and coaching from ROI) and opening the UpLab, as well as developing appropriate curricular materials. Additionally, awardees will be expected to provide a sustainability plan to ensure ongoing, long-term support and usage of a Fab Lab.

ROI will coordinate promising practice visits and collaborative opportunities with the region's network of digital fabrication labs.

### **Funding:**

Funding for this initiative includes a total of \$83,500 per school (direct and indirect) that will be allocated as follows:

- \$57,500 for lab equipment, identified and procured in collaboration with ROI
- Lab set-up, equipment training, and professional development for the Innovation Team (coordinated by ROI, equaling \$26,000)

### **Proposal Application Components**

**Schools must apply using ROI's grant portal:** <https://roigrants.communityforce.com/>

1. SCHOOL PRINCIPALS will commit to the following criteria: (this is a required field)
  - Identify the members of the school's UpLab Innovation Team, which will include three to four faculty members in addition to the Lab Specialist described herein.
  - Participate in summer professional development in a leadership track.
  - Participate in ongoing professional development for leadership during the academic year.
  - Provide a faculty member who will serve as the Lab Specialist as a full-time position.
  - Make scheduling and staffing choices that optimize the opportunities for students in the lab.
  - Assist in identifying and preparing a location to house the lab on campus.
  - Hold lab Innovation Team members accountable for participation in all professional development and cohort gatherings throughout the academic year.
  - Release the Lab Specialist to participate in ongoing professional development during the academic year. These may include Uplands regional network days, time to observe other labs in the region, and any school-wide PD days over time that will help in the adoption of the program as a whole school initiative.
  - Identify strategies to ensure the lab is sustainable, particularly with regards to funding and replenishing consumable products, servicing lab equipment, and staffing.
  - Include the community in authentic ways in the work of the lab, including intentional efforts to build strong employer partnerships.
  - Support sustainability by dedicating \$3,000 to \$5,000 per year for maintenance, upgrades, and restocking consumable supplies.
  - Support sustainability of the program over multiple years.

\_\_\_\_\_ (initial) As the Principal, I commit to the above criteria.

**Applicant Information (all fields are required)**

2. School Name
3. District Name
4. Principal Name
5. Principal Phone
6. Principal Email Address
7. Grade levels served
8. Enrollment
9. Any other data that would be helpful for ROI when considering this application

### **Digital Fabrication Lab Specialist and Innovation Team**

Proposals will identify one faculty member to serve as the Lab Specialist and three to four additional faculty members to serve as contributing members of the Lab Innovation Team. The Innovation Team members will continue their current professional responsibilities while also being involved in sustaining the mission of the lab and supporting the Lab Specialist. If you will need to hire a Specialist, put "TBD" for Lab Specialist Name and Email. However, please describe the ideal Specialist's attributes and identify the additional members of the Innovation team.

10. Lab Specialist Name
11. Lab Specialist Email
12. Describe the attributes (e.g. academic learning, technical skills, work experience, etc.) this individual exhibits that uniquely qualifies him/her to thrive as the Lab Specialist.
13. Describe how staffing and scheduling choices will be made to optimize student access to the lab.
14. Please list the 3-4 members of your Innovation Team and their anticipated roles for the 2023-24 school year.

## **Proposal Description**

15. Describe your school's vision for the implementation of a digital fabrication lab.
16. Provide a concrete example of an innovative, learning initiative your team has implemented at your school.
17. If awarded, how will your school use the lab to enhance the integration of project-based learning and/or design thinking to improve student learning experiences across tested and non-tested subjects and across grade levels? Please provide specific example(s).
18. Explain how you might incorporate a lab into the master/course schedule.
19. How many students could receive regular exposure and use of the UpLab? Explain in detail.
20. Detail your school's capacity to design, develop, and maintain a lab. Specifically, describe why your proposed space/location is ideal. What will be required to transform the proposed space to appropriately accommodate an UpLab?
21. Describe other school and/or district initiatives that would complement the addition of a lab.
22. Describe your sustainability plan for overall lab implementation, including how you will provide for equipment maintenance and consumable materials.

## **Site Visits**

A site visit in June will be a part of the proposal evaluation process. Site visits will include a question-and-answer session with the principal and any potential members of the Innovation Team. Site visits will also include a tour of the proposed lab location. If your school is selected as a finalist, ROI will contact you to schedule a site visit.

Link to apply:

<https://roigrants.communityforce.com/>

Virtual Information Session:

Thursday, May 4th, 9:00am EST

<https://us02web.zoom.us/j/88693961958?pwd=eUFhY3RtbHJFOXJZVHBrdGdSTFpCUT09>

Questions? Contact:

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DIGITAL FABRICATION NETWORK

**A REGIONAL OPPORTUNITY INITIATIVES PROGRAM**