**Program Outcome # 1 - Broadening Innovation and Entrepreneurship Education**

**Description of Assessment Plan**

The Innovation Hub broadens student and faculty I&E through our own coursework, the support of other department's coursework, by hosting co-curricular activities such as workshops, seminars, design sprints, and hackathons, and by providing free and convenient access to emerging technologies along with the expertise to learn to use them. Our services are provided in our facility and labs, as well as online through our website. The number of people that access our facility via FSU Card swipe at the turnstiles is a reliable measure of the number of students, faculty, and staff that we impact. Whether guests are entering to study, participate in collaborative work, attend an I&E class or extracurricular activity, or to use our technologies, they are all impacted in some way to grow their I&E skills and knowledge. We will collect turnstile data each summer for the previous Fall and Spring semesters. Fall and Spring semester data will be analyzed to determine the number of students served.

**Numeric Target**

Prior to the COVID campus closure, we counted 4,827 total unique visitors through our turnstiles in the 2018-19 academic year (Fall+Spring). Our goal for the 2021-22 academic year, as our campus re-opens and our community slowly begins to return to face-to-face gatherings, will be 5,000 total unique visitors for Fall and Spring.

**PO #1 2021-22 RESULTS ==========**

**2021-22 Results Statement**

The impact of the services provided by the Innovation Hub to the campus community was measured by the number of unique visitors entering through our turnstiles. While we had hoped to get higher than pre-covid numbers with 5,000 anticipated guests, we counted 3,353 Unique Visitors in the 2021-22 academic year.

**2021-22 Analysis of Results**

While we expected life to get "back to normal" this past year after the pandemic, we failed to anticipate the "new normal." We noticed that students are now less inclined to attend after-hour campus events, and that the student organizations that used to hold their evening workshops and activities in our space, moved to virtual venues leaving our space quiet in the evenings. In talking with other department and organization heads on campus, we've learned that was true for most everyone across campus.

We did, however, host numerous social events, and successfully implemented a major marketing strategy that assisted in getting the word out about our space and services:
- the biweekly "Seminole Innovator Lunch Hour" drew 20 - 30 students to each offering over a 12 week period providing student innovator testimonials and networking opportunities,
- three game day events were equally successful providing students with opportunities to connect with others through VR and computer games,
- three Innovation Hub Open Houses drew 50 - 60 students and student families (on parents weekend).

Each event was marketed using professional graphics and flyers (see posts on https://www.facebook.com/fsuinnovationhub as an example) distributed across campus, our growing mailing list, and over several social media channels. Our team also tabled at Market Wednesdays and on Landis Green.

**Improvement Actions for 22-23**
Description of New and/or Different Improvement Action(s) To Be Implemented This Year: In the 22-23 academic year, we will promote our online resources and include students that are using our services remotely (online 3D printing, workshops, etc.) in our count of unique "visitors." This will give us a more realistic count of the students we impact in the new normal after the pandemic. Online resources will include video tutorials and training, online course materials for ENT3607, and remote 3D printing. We will measure our impact online by utilizing standard website analytics tools for generic visitor counts, and our 3D Print server analytics to count the number of unique students using our remote 3D printing service.

**PO #1 2022-23 Results**

**2023 Results Statement**
We counted 3,669 unique visitors through our turnstiles in the 2022-23 academic year. We estimate that another 300 attended Innovation Hub open houses and special events where we open our gates and do not require card-swipe access. Additionally, we fielded 8,969 3D printing orders submitted by 1012 unique students and faculty online in which students pick up their print job at the front desk without swiping into our facility. We estimate that 20 percent of those are from students who never have swiped in. This adds up to **a total of at least 4,169 unique individuals** from the FSU community impacted by the Innovation Hub. Bringing our totals back up to near precovid numbers.

We also impact individuals outside our Campus community by offering tours to local visitors, industry reps,  and VIP guests of the university. Our summer camps for middle school and high

school students help FSU recruit students in STEM, and underserved populations through CARE. We estimate that we entertained **300 visiting guests** in this past academic year.

**How Did Last Year's Improvement Action(s) Impact These Results?**

Our plan to broaden our count to include online services did contribute to our numbers in terms of remote 3D printing clients. However, losing our Assistant Director of Academics reduced our amount of publishing of online educational content and so we made no gains in that area.

**Analysis of Results**

We feel very positive about the number of students we impacted in the previous year. Our biweekly Seminole Innovator Lunch Hour has assisted in ramping up student engagement, and led to a new RSO named the Seminole Innovators. This effort has had a big impact on the number of students visiting the Hub. Also, it was wise for us to look at the students we impact that may not be represented by our turnstile count. We will expand this strategy for next year's count. Finally, we feel as though in the Spring 2023 semester, students finally got back to full engagement with on campus activities as they did pre-covid.

**Improvement Actions for 23-24**

For the academic year 2023-24 we will make an effort to improve our accounting of students impacted by the Hub by including the following:

- A count of unique visitors through turnstile data
- A count of students engaged in activities in the hub (lunch hours, open houses, design sprints) without card swipe
- A count of students engaged with educational content on our website
- A count of students utilizing remote 3D printing
- A count of students in classes where our staff provides guest lectures on innovative technologies and methods
- A count of visitors that for whom we provide tours and camps

It may no longer be possible to gauge "unique students" we serve across all of these activities. In this case we may begin counting total contact points rather than unique students, where a contact point is any encounter or transaction with a student. A unique student count may be estimated from the total contact points.

Our goal for the next academic year is to maintain our numbers, influencing roughly 5,000 students while increasing the quality and value of our programs and activities.

**Program Outcome # 2 - Nurturing Seminole Innovators.**

**Description of Assessment Plan**

The Seminole Innovators program provides undergraduate students from all majors with a pathway to experiential learning related to innovation and technology through coursework and extracurricular activities. Seminole Innovators earn professional badges by exploring tools and methods for innovation, engaging in interdisciplinary collaborations, and designing creative solutions to real-world problems. Students that successfully complete the program are recognized as “Seminole Innovators” at a special awards ceremony at the close of the academic year. We will count the number of FSU students recruited into the Seminole Innovator program through our Future Innovators Engage 100 class, along with those that sign up for the program through our Qualtrics application over the course of the Fall and Spring semesters.

**Numeric Target**

Our goal is to have 20 students enter the Seminole Innovator program in the 21-22 academic year (Fall and Spring semesters). We hope to double the number of students enrolled in the program every year for the next four years: 20 by June 2022, 40 by June 2023, 80 by June 2024, 160 by June 2025.

**PO #2 2021-22 RESULTS ==========**

**2021-22 Results Statement for 21-22 academic year**

We anticipated 20 students participating in the Seminole Innovator program over the 2021-22 academic year. We exceeded this goal -- there were 15 students registered in the Future Innovators class and 12 students who signed up for the program through Qualtrics. Furthermore, although not directly related to our numeric target, we attracted 115 students who participated in our biweekly Seminole Innovator Lunch Hour events as counted on our event sign-in sheets.

**2021-22 Analysis of Results**

Our major learning through this effort was that framing the "Seminole Innovators" program as a four year long effort is daunting to students and difficult for them to commit to. We describe our plan to address this problem in the Improvement Actions below.

We were challenged in attracting students to our Future Innovators Engage 100 course, with only 15 registered across the academic year. Our Fall 2022 section is full, but we are finding students are taking it to fulfill a requirement and not because they are interested in gaining innovative skills.

We discovered that students enjoy our six biweekly Seminole Innovator Lunch Hours where we feature student innovators and offer interactive activities to build community. This served as an excellent method of attracting students to the program.

**New Improvement Actions to be Taken in 22-23**
Improvement Action(s) Date: 08/22/2022
Description of New and/or Different Improvement Action(s) To Be Implemented This Year: We are pivoting to positioning Seminole Innovators as an annual program that begins in September and ends in April with a showcase event. We believe that we will have more success engaging students in innovative activities this way.

We will continue our "Seminole Innovator Lunch Hour" events that feature a student innovator and a pitch competition. We are also going to offer Innovation workshops that are educational and fun where students use Design Thinking to develop solutions to real-world problems. Students that participate in lunches and workshops over the course of the academic year will be encouraged to formally sign up for the year-long Seminole Innovators program.

We are discussing a reframe of the Future Innovators course to target first-gen students in CARE.

We will continue measuring participation in Seminole Innovators through the enrollment in Future Innovators course and through Qualtrics sign-up sheet for Seminole Innovators.

**PO #2 2022-23 RESULTS ==========**

**2022-23 Results Statement**
In the 2022-23 academic year the Innovation Hub hosted 29 Seminole Innovator events attracting an estimated 1196 students. These include Seminole Innovator lunch hour presentations, design sprints, workshops, and RSO meetings.

**How Did Last Year's Improvement Action(s) Impact These Results?**
The transition from Seminole Innovators as a four year program, to an annual, achievable, program made a world of difference in student engagement. We awarded 36 Seminole Innovator medallions to students at the end of the 2022-23 academic year. Additionally, the Seminole Innovator RSO was established that will manage many of our activities and recruitment into the program.

**Analysis of Results**

The Seminole Innovator program has become an attractive opportunity to many students across disciplines with a variety of levels of experience in innovation. The program is known for its accessibility to nontraditional and first generation students. The success of this program over the last year is greatly due to the efforts of our Assistant Director of Student Engagement, Wes Dorce and the student president of the Seminole Innovator RSO, Jacob Javor who we will be employing in an OPS position in the coming academic year. We are very proud and pleased of our results this past year.

**Improvement Actions for 22-23**

We will build on the success of our last year by increasing the amount of activities we offer. In addition to biweekly Seminole Innovator Lunch Hours, workshops, and guest speakers we have already planned several Design Sprints and Hackathons in partnership with FSU Colleges, partners, and businesses, that range from 1 to 2 days in length each.

Additionally, we will be rolling out a new program for New and Immersive Media Design which will offer new workshops and courses over the next year.

There are several new metrics we can employ to more accurately count the number of students that engage in innovation activities and grow their Seminole Innovative talents.

- The number of students that join the Seminole Innovators RSO
- The number of students completing a minor in Innovation
- The number of students enrolled in Design Thinking and Systems Thinking classes
- The number of students enrolled in Emerging Technology classes
- Attendees at all of our activities, workshops, Design Sprints and Hackathons

Our goal for the 2022-23 Academic Year will be to offer 35 Seminole Innovator events (roughly one each week + five weekend events) attracting an estimated 1400 students. Add to this 200 students enrolled in Design Thinking and 50 in Emerging Technologies for a total of 1650 students participating in activities which might calculate to 800 unique students impacted.

**Program Outcome # 3 - Promoting Innovative Interdisciplinary Research**.

Outcome Statement: The FSU Innovation Hub will support and expand interdisciplinary research around emerging technologies.

**Description of Assessment Plan**

The Innovation Hub will serve as a catalyst for interdisciplinary research around innovative technologies. Special Interest Groups (SIGs) are being established around emerging technologies that can be applied to challenges across disciplines to connect researchers from a variety of disciplines. Examples include Immersive Media (VR, AR, XR, 360), Smart Technologies, Digital Fabrication, Blockchain, etc. Innovation Hub staff will facilitate meetings of these SIG's while also supporting independent research projects. **We will count the number of research projects that we support and facilitate each academic year (Fall & Spring) for faculty and students.** We will include (1) student research such as that conducted by iGEM, Seminole Innovators, Engineering Senior Projects, UROP, and IDEA Grants, ACC InVenture Prize, and ACCelerate Fest, (2) faculty research such as the Immersive Media Design SIG, The Forge (Motion Picture Arts), and (3) numerous individual projects in our Fablab. Data will be gathered from room reservations, from our Fablab manager, and from our Assistant Director of Academics because these resources track research at The Hub.

**PO #3 2021-22 RESULTS ==========**

**2021-22 Results Statement**

We anticipated at least 30 research projects supported through the Innovation Hub. We counted 40 substantial research projects that we supported. There were likely many more that we are unaware of. Data at https://docs.google.com/document/d/1zEQsk68ybpCwXNM9uLE3xs8qa8_0zqiHHec1PjHqwKg/edit?usp=sharing

These research projects include:
- 34 scholarly research projects of faculty and graduate students (13 in Fall 2021 and 21 in Spring 22) (detailed information is available upon request);
- 6 major research projects from undergraduate students and organizations (iGem, UROP, Honors) (there were probably a lot more than 6 but these are the ones that are documented);
- a variety of university projects, such as 3d printed brail for Student Housing department.

We believe that this Program Outcome was achieved due to us successfully getting the word out to FSU researchers about the services we provide. Our staff has created connections with a

dozen departments and many of FSU researchers, mostly through word of mouth recommendations and Google searches. We have become "the place on campus" for work in digital fabrication, XR tech, and design thinking. These projects required the expertise of our Fablab staff, with Fablab manager Eric Adams in the highest demand serving as an advisor on materials and design of 3D printed materials required for the research.

**Improvement Actions to be taken in 2022-23**

Description of New and/or Different Improvement Action(s) To Be Implemented This Year: We anticipate that the demand for Innovation Hub supported research will continue to grow. We have not marketed the Hub as a service to researchers and yet still have managed to support dozens of research projects. These kinds of HR investments are time-consuming and demanding. Our staff at supervisor levels are maxed out in the number of projects they can support while also managing staff and day-to-day operations within the Hub. We have urgent need for an additional Fablab operations manager that would free up our current manager to support more research projects while also teaching classes in digital fabrication. We have requested this position in our annual budget request. With an additional hire, Eric can devote more time to research support, and we could start advertising the support that we can provide in order to grow our portfolio of research projects.

**PO #3 T2022-23 RESULTS ==========**

**Results Statement 2022-23**

We anticipated that we would maintain the level of  40 research projects supported through the Innovation Hub. We counted 42 substantial research projects that we supported. There were likely many more that we are unaware of. Data is provided at https://docs.google.com/spreadsheets/d/1_wvvNQUBL9RDD5i9ctuAAM2t3hHPHfVzlNZeWarkFlE/edit?usp=sharing

These research projects include:
- 31 scholarly research projects of faculty and graduate students (detailed information is available upon request);
- 11 major research projects from undergraduate students and organizations (iGem, UROP, Honors) (there were probably a lot more than 6 but these are the ones that are documented);
- a variety of projects that support university services and departments

**How Did Last Year's Improvement Action(s) Impact These Results?**

We have been unsuccessful at gaining funding to increase staff in our Fablab and so have made little forward movement.

**Analysis of Results**

Our Fablab remains the most busy and impactful resource in the Innovation Hub serving thousands of students and faculty. It is running at full capacity and will be unable to expand its services without further investment.

**Improvement Actions to be taken in 2022-23**

Our Assistant Director of Digital Fabrication, Eric Adams, was successful in securing grants to purchase high-end 3D Printing machines and building a new Advanced Manufacturing Lab. This new lab will open in the 2022-23 academic year and offer new high end services for research and engineering. We hope to secure additional support from the College of Engineering in the form of grad students to help run and maintain this lab.

Additionally, we are opening the Gail Rubini New Media Design Lab and lobbying to acquire two faculty lines in support of this lab. The Lab includes 12 high-end VR Development workstations and headsets. We will be rolling out workshops and courses over the next two years while building a special interest group of faculty working in the area of New and Immersive Media Design. This new addition to the Innovation Hub is sure to increase our impact across all three of our Program Outcomes.

Our goal for the 2023-24 academic year will be to maintain our support of research in the Fablab supporting up to 50 research projects, while beginning to support research in our Advanced Manufacturing Lab and New Media Design Lab partnering with at least 6 faculty in each.