

ANNUAL PROGRAM ASSESSMENT FORM

Name of Program: Extended Reality

Report prepared by: Michael Knupp

1) Please list the degree offerings:

- a. BS Extended Reality

2) Progression /Graduation update (NECHE 8)

Retention – The Extended Reality program is new with the 1st cohort of students starting 2021. As such, there is currently limited retention data.

1st to 2nd Year Retention Average = 100 %

Graduation Rates - The Extended Reality program is new with the 1st cohort of students starting 2021. Members of this cohort will be graduating in spring 2025. As such, there is no data for graduation rates yet to report.

3) Program’s Mission Statement (NECHE standard 1):

The mission statement of the program is the mission statement for the School of Technology and Innovation (SoTI). The SoTI mission statement aligns to the mission statement of Husson University and the College of Business by emphasizing student engagement, experiential learning, excellence of teaching, and contribution to a greater community.

“The School of Technology and Innovation provides high quality, student centric, experiential education, delivered by engaged faculty in partnership with the community, to prepare students for professional careers and leadership positions while enhancing regional economic development.”

4) Faculty updates (NECHE Standard 6)

New Faculty

- While not faculty, Tony Gerow who was originally hired as the XR Technologist has been promoted to XR Technical Director. The promotion also included a revision to the original job description.
- Tharun Thiyagarajan was hired as full time instructor and started in the fall 2023. He fills the role as a lead XR Developer and covers the technical/programming courses with the XR program in addition to being the lead technical consultant on iEX Center projects.

Grants

- Team effort to secure a \$500K grant from the Alford Foundation. This is the 2nd grant secured from the Alford Foundation and serves the entire school and not the CIS program exclusively. A 3rd and final grant has been submitted for the upcoming academic year.
- Secured \$500K+ Congressional “ear-marked” funds for 2024 – 2025 academic year. These funds support the entire school and are not specifically dedicated to the CIS program.

5) **Program Goals / Strategic initiatives (NECHE Standard 2, 5):**

In prior reports, the programmatic goals and strategic initiatives included elements that were largely outside of the realm of SoTI control. Additionally, the goals did not easily lend themselves to a more granular program viewpoint. After consultation with the Office of Assessment, guidance was provided on how to better craft goals that the SoTI team can directly influence. The goals have a stronger tie to strategic initiatives, have more specific programmatic operational goals, and are positioned for easier assessment. The following is the result of that effort. The strategic goals offered are school level. Where appropriate, operational goals are more program focused.

Strategic Goal	Operational Goal	Assessment Plan	Notes
Build SoTI brand awareness in an effort to increase application submissions and overall enrollment into the SoTI programs.	Specifically through the Outreach Specialist, deepen existing relationships and visitation with regional highschools while expanding the outreach into technical schools, community colleges, and high schools outside of the state of Maine.	Continue with the outreach campaign as led by Ashlie Page and evaluate the effort in spring 2024 as documented by the number of events and number of student contacts. Compare application submissions and tuition deposits of current year against prior years.	Per data from the Outreach Specialist... 90 different individual outreach seminars at 34 unique locations reaching 1306 students.
	Participate in external technology fairs and competitions.	Itemize the number of events participated in with a target of at least 1.	Brave Williams and Tharun Thiagarajan served as judges at two XR related competitions at SkillsUSA 2024.
	Serve as host facility for technology related events.	Itemize the number of events participated in with a target of at least 1.	Host site for Husson Alive 2024, Maine Media Camp 2024, and Girls Who Code Camp 2024.
	Enhance and leverage the SoTI website and social media.	Compare the current website against the website from last year and itemize updates/enhancements. Review the activity on social media platforms and evaluate engagement.	Limited to no changes with the various website pages. Perhaps attention will be refocused to the website in 2024-2025. Social media posts continued, but intermittently. Need to better coordinate with Husson Marketing Department.
Mature facilities and curriculum to ensure relevancy, foster student engagement, and promote high academic rigor.	Design and deliver IT 265 - iOS Application Development.	Evaluate status of course build and delivery at the end of the current academic year.	Tharun successfully ran IT 265 in fall 2023. He is working on redesign elements over summer 2024. The course is being offered again in fall 2024.

Strategic Goal	Operational Goal	Assessment Plan	Notes
	Design and deliver IT 366 - Programming Principles for Augmented Reality.	Evaluate status of course build and delivery at the end of the current academic year.	Tharun successfully ran IT 366 in spring 2024. He is working on redesign elements over summer/fall 2024. The course is being offered again in spring 2025.
	Design and deliver XR 377 - Extended Reality III.	Evaluate status of course build and delivery at the end of the current academic year.	Brave successfully ran XR 377 in spring 2024. Redesign elements will likely include more work with the VPS system.
	Design and deliver appropriate practicum courses of XR 100 and XR 200.	Evaluate status of course build and delivery at the end of the current academic year.	This was a major redesign to strengthen the XR practicums. This represents a huge step forward in the experiential learning model with the XR program. Future work with the practicums will push accountability for the students and also how XR projects are managed by individual instructors.
	Finalize XR programmatic outcomes and course mapping.	Review mapping document for completeness and accuracy. Ensure XR course syllabi include proper outcomes and course objective mapping.	The XR programmatic outcomes are consistent with the other two programs within SOTI. All XR courses have been mapped to the outcomes. Future work will need to ensure the individual XR classes have proper alignment to the outcomes. It is possible that small modifications will be needed.
	Process revised BS - XR degree changes.	Review CourseLeaf to ensure all required changes have been processed with a projected release of a new curriculum for the fall of 2024.	The revised XR curriculum has been approved and will officially be put into action in fall 2024. The new curriculum represents a big step forward in the overall maturation of the program, alignment with the other SOTI programs, and advances in experiential learning opportunities for students.

Curricular mapping / Outcome assessment (NECHE Standard 4, 8)

- Please review and update the current curricular mapping and ensure syllabi reflect the mapping found at the official Husson Mapping Site ([HERE](#))
- Please update the progress made on specific learning outcomes below. If specific external tools are used (i.e. Praxis, Peregrine, etc.) be sure to include them.

Student Learning Outcome	Courses mapped to SLO	Summary for the given academic year	Action
1. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify and apply solutions	XR 100 XR 101 XR 177 XR 200 XR 201 XR 277 XR 292 XR 377 XR 392 XR 477	Courses not offered during the current academic year: XR 101, XR 201, XR 477.	<p>The XR practicum classes (XR 100, 101, 200, 201, 300, 301) will continue to evolve and mature in the coming semesters. A significant redesign was put into place in spring 2024 with positive early results.</p> <p>Tharun will continue to mature and advance the Game Engine classes; XR 292, XR 392.</p> <p>XR 477 will be offered for the 1st time next year.</p>
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline	XR 177 XR 277 XR 292 XR 300 XR 301 XR 377 XR 392 XR 477	Courses not offered during current academic year: XR 300, XR 301.	<p>No action needed on XR 177 and XR 277.</p> <p>Tharun will continue to mature and advance the Game Engine classes; XR 292, XR 392.</p> <p>XR 477 will be offered for the 1st time next year.</p>
3. Communicate effectively in a variety of professional contexts	XR 177 XR 200 XR 201 XR 277 XR 351 XR 377 XR 477	Courses not offered during current academic year: XR 201, XR 351.	Students in the old XR curriculum have to complete a senior capstone project, but there was not a formal XR internship requirement. Going forward there is a formal XR internship - XR 351.

Student Learning Outcome	Courses mapped to SLO	Summary for the given academic year	Action
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles	XR 300 XR 301 XR 477	Courses not offered during current academic year: XR 300, XR 301.	No action needed at this time.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline	XR 100 XR 101 XR 300 XR 301 XR 351 XR 477	Courses not offered during current academic year: XR 101, XR 300, XR 301, XR 351.	No action needed at this time.

Unlike students in the CIS and SD programs, students in the XR program do not currently take the Peregrine exit exam. This will be evaluated to determine where appropriate to include XR students in this experience.

6) Executive Summary:

- Please provide a summary of the major findings of the annual report.
- Be sure to address all that are applicable:
 - Significant achievements
 - identified opportunities
 - Identified threats or challenges
 - Adequacy of resources
 - Budgetary considerations

The Extended Reality (XR) program is coming into the 4th official year of existence. The first cohort of students will be graduating in the spring 2025. The Extended Reality program is maturing into a strong program.

The XR program offers 1 degree; BS. The curriculum has been revised with the revisions submitted through CourseLeaf during the 2023-2024 academic year. The revised BS degree is formally available for fall 2024. The revised degree offers a stable practicum offering, a project management course, a formal XR internship, and other small changes. The revised degree continues to be marketed as Extended Reality.

The program has been strengthened by the work of Tony Gerow and the official addition of Tharun Thiyagarajan. Tony continues to be a highly valuable team member. In his modified role as the XR Technical Director, has taken full ownership of the XR lab and all the XR equipment with a specific area of interest in the VPS. Tharun started in fall 2023 as our XR Developer. He covers the XR programming classes as well as being the lead developer on iEX Center projects. He has been instrumental in advancing the technical features of XR projects being run through the iEX Center.

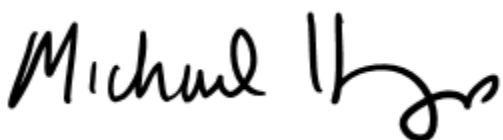
The XR lab continues to mature. Funding provided through an Alford grant has helped to secure additional equipment needed to advance the XR curriculum and student experiences. Additional advancements in technology will be realized through the \$600K in Congressional STEM funding.

Enrollment was steady for fall 2023. We were ideally looking to have more students enrolling in the program for the fall. We have 5 students and we were targeting 8 to 10. There are currently 9 new students enrolled for the fall 2024. Retention is very high in that once students start the program, they tend to stay.

Budget support remains strong for the program. We will need to continue to maintain a yearly capital budget for the program. Additional monies from previous Alford grants and hopefully a future grant, will also help to ensure students are working with the best equipment. The Congressional STEM funding will also play a major role in the capital budget for the XR program and the iEX Center.

Looking forward into the next academic year, we will focus on stabilizing and working with the new curriculum. The XR practicums are a vital part of the degree. We will also be watching our first set of graduates and monitoring their progress as they leave Husson. Future efforts with regards to recruitment will continue to ensure the program has a viable student base. Enhancing our marketing through outreach and our online presence will play a key role.

All in all, the program is strong and is on track to continue to gain strength and advance. There are some data visualizations that follow this summary that help to tell the story of positive growth in program interest and enrollment. Thanks,

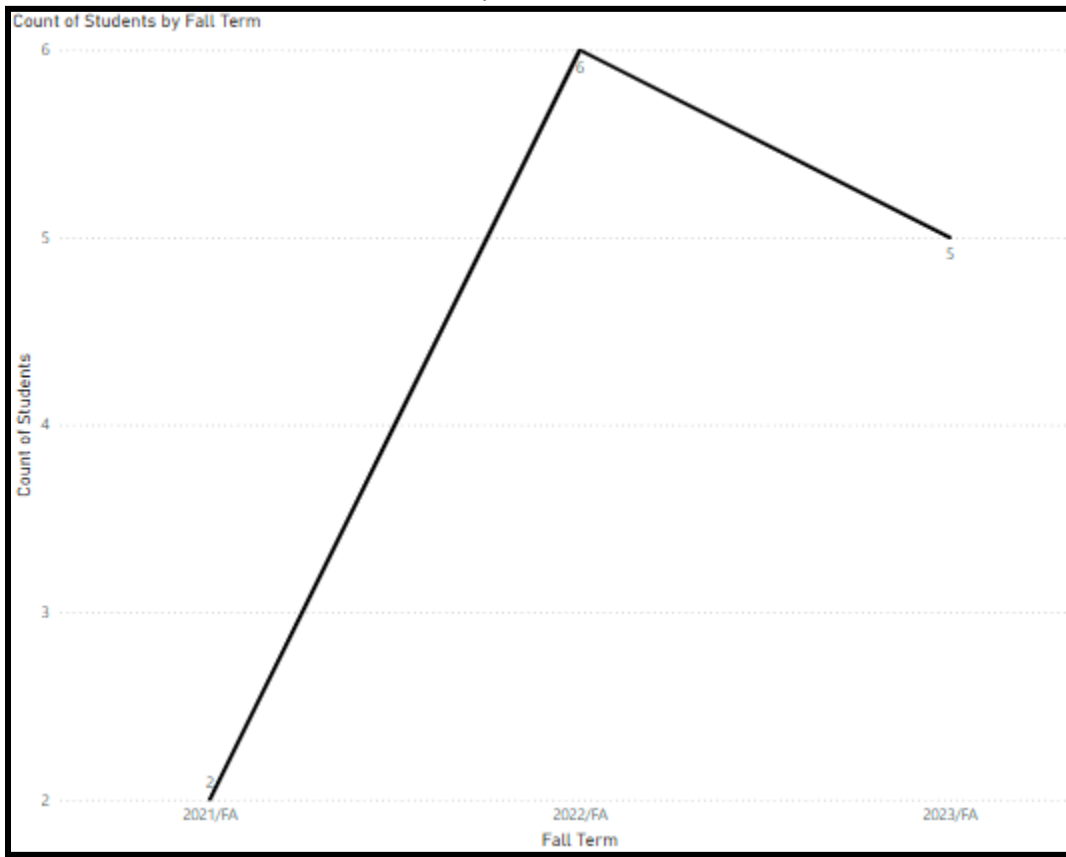


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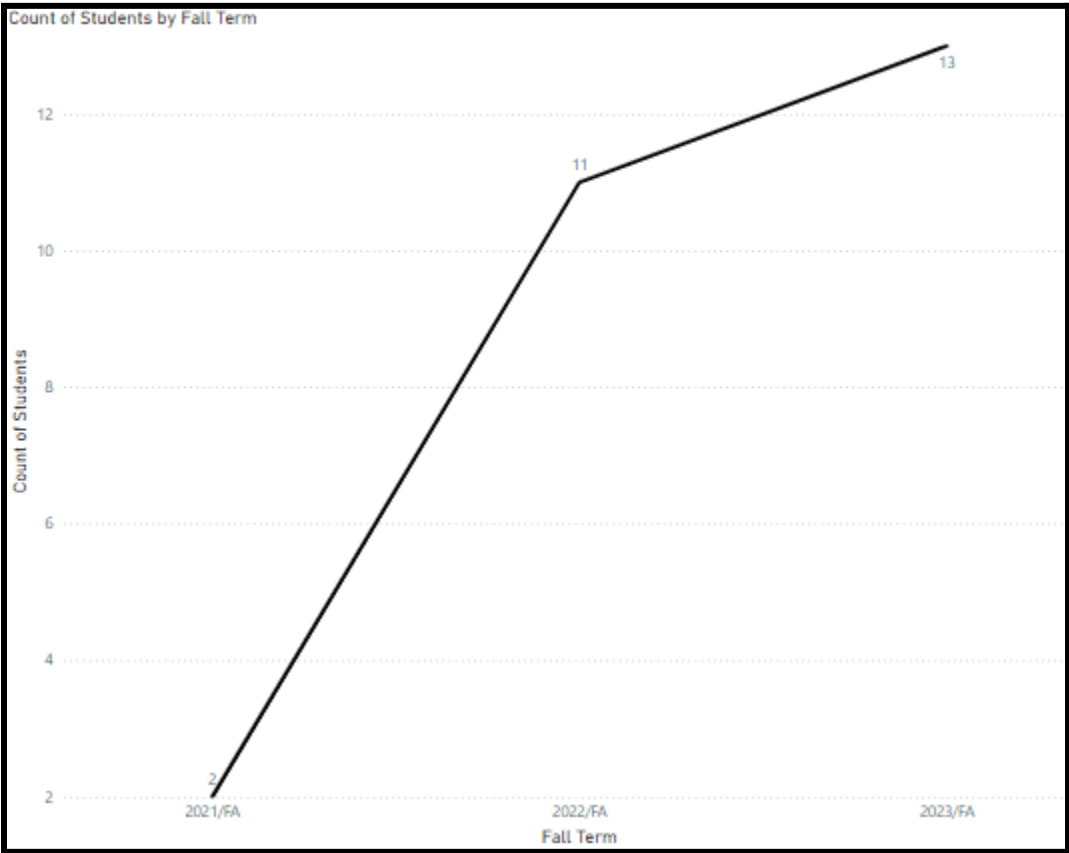
Overall Program Health Data

Enrollment trends - monitoring enrollment is a vital part of assessing the overall health of a program. SoTI is in a building phase and the Extended Reality program is showing slow, but steady growth. The graphs below provide visual support of the upward enrollment trends.

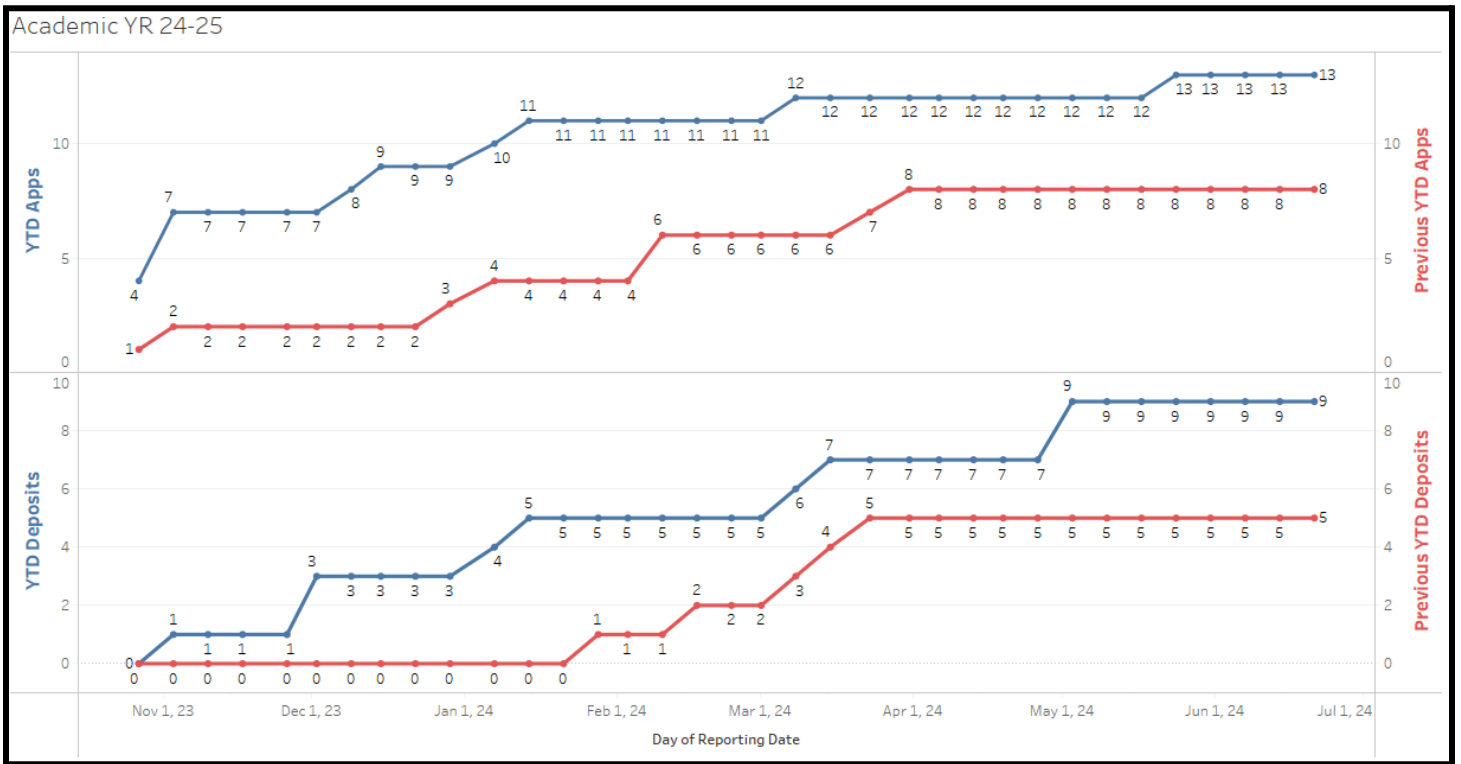
Enrollment trends for Entry First Year and Transfer SD students



Enrollment trends for All XR students



The following chart shows consistent application counts and tuition deposits for the current academic year as compared to the previous. The blue trend lines reflect the upcoming 2024-2025 academic year and the red trend lines reflect the previous year of 2023-2024. As can be seen, there is a small positive trend.



Appendix I

Ten targeted IT questions included on 2021 Peregrine Exit Survey: (NOTE - not applicable to XR students.)

1. I am able to integrate the core areas of business to inform my decision making.
2. I am able to apply legal and ethical principles in business to organizational decision making.
3. I am able to apply business-related quantitative and qualitative methods and tools to formulate management decision alternatives.
4. I am able to demonstrate leadership skills.
5. I am able to demonstrate professional business communication.
6. I have the ability to work with diverse colleagues in team situations.
7. I am able to demonstrate knowledge of computer hardware and software infrastructure.
8. I am able to construct appropriate database solutions using computer software.
9. I am able to apply project management practices and principles.
10. I am able to utilize computer technology solutions to address business policies and practices.

Appendix II

Programmatic outcomes were formalized in 2018 – 2019 academic year and amended slightly in 2020 – 2021 to draw focus and attention to the five key nouns that each programmatic outcome aligns to.

Program Outcome #1: **[Problem Solvers]** Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions

Program Outcome #2: **[Creators]** Design, Implement and Evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline

Program Outcome #3: **[Communicators]** Communicate effectively in a variety of professional contexts

Program Outcome #4: **[Professionals]** Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles

Program Outcome #5: **[Collaborators]** Function effectively as a member or leader of a team that is engaged in activities appropriate to the program's discipline