# (XR) EXTENDED REALITY

## Courses

**XR 100. XR Practicum I. 1 Hour.**
This level one practicum is designed for XR majors to introduce students to the workings of the extended reality facility, projects, and related operations. Students perform hands-on extended reality (XR) support under the mentorship of faculty and upper level XR students. Tasks may include assisting active XR projects, organizing, repairing, and researching XR equipment, and studying principles and support functions for projects and labs.

**XR 101. XR Practicum II. 1 Hour.**
This level two practicum is designed for XR majors to continue to introduce students to the workings of the extended reality facility, projects, and related operations. Students perform hands-on extended reality (XR) support under the mentorship of faculty and upper level XR students. Tasks may include assisting active XR projects, organizing, repairing, and researching XR equipment, and studying principles and support functions for projects and labs.

**XR 108. 2D-3D Drafting Design. 3 Hours.**
This course is an introduction to 2D and 3D computer aided drafting (CAD) techniques. Scale drafting is fundamental and powerful to the design-build workflow. This course explores scale drafting to create real-world objects by the development of drawings and models. It introduces the creation of 2D and 3D drawings, which have the potential to be applied to diverse areas including 2D printed plans, 3D printing and extended reality applications.

**XR 177. Extended Reality I. 3 Hours.**
Students are introduced to the foundational principles of extended reality (XR) including the key technological and physiological elements of XR. Focus is given to consumer XR and the key concepts which differentiate XR from other media technologies. Students explore XR through hands-on experimentation with important virtual and augmented reality technology. A portion of the class is dedicated to applying XR technology to a real-world project and presenting the results.

**XR 200. XR Practicum III. 1 Hour.**
This level three practicum is designed for XR majors to assist in leadership responsibilities in XR projects, while continuing to develop the student's knowledge of the workings of the extended reality facility, projects, and related operations. Students perform hands-on extended reality (XR) support under the mentorship of faculty and upper level XR students. Tasks may include assisting active XR projects, organizing, repairing, and researching XR equipment, and studying principles and support functions for projects and labs. Prerequisite(s): XR 100.

**XR 201. XR Practicum IV. 1 Hour.**
This level four practicum is designed for XR majors to assist in leadership responsibilities in XR projects, while continuing to develop the student's knowledge of the workings of the extended reality facility, projects, and related operations. Students perform hands-on extended reality (XR) support under the mentorship of faculty and upper level XR students. Tasks may include assisting active XR projects, organizing, repairing, and researching XR equipment, and studying principles and support functions for projects and labs. Prerequisite(s): XR 200.

**XR 277. Extended Reality II. 3 Hours.**
Students review the foundational principles of extended reality (XR) and explore intermediate applications in a variety of fields that rely on XR technology and techniques. Focus is given to wearable XR technology for enterprise and the fundamental differences between technology solutions. Students will explore XR through hands-on experimentation with intermediate level virtual and augmented reality technology. A portion of the class is dedicated to applying XR technology to a real-world project and presenting the results. Prerequisite(s): XR 177 and GV 292.

**XR 292. Game Engines I. 3 Hours.**
Current game engines such as Unreal Engine and Unity provide a powerful platform for rapid development of interactive experiences including video games, real-time graphics and special effects for entertainment and augmented and virtual reality environments. This course introduces fundamental game engine topics including level creation, material construction, visual scripting, lighting, collision detection, particle systems and landscape development.

**XR 300. XR Practicum V. 1 Hour.**
This level five practicum is designed for XR majors to assist in leadership responsibilities in XR projects, while continuing to develop the student's knowledge of the workings of the extended reality facility, projects, and related operations. Students perform hands-on extended reality (XR) support under the mentorship of faculty and upper level XR students. Tasks may include assisting active XR projects, organizing, repairing, and researching XR equipment, and studying principles and support functions for projects and labs.

**XR 301. XR Practicum VI. 1 Hour.**
This level six practicum is designed for XR majors to assist in leadership responsibilities in XR projects, while continuing to develop the student's knowledge of the workings of the extended reality facility, projects, and related operations. Students perform hands-on extended reality (XR) support under the mentorship of faculty and upper level XR students. Tasks may include assisting active XR projects, organizing, repairing, and researching XR equipment, and studying principles and support functions for projects and labs. Prerequisite(s): XR 300.

**XR 351. XR Internship. 3 Hours.**
This internship experience allows students to practically apply classroom theory at for-profit or non-profit organizations in a supervised, workplace environment. One hundred twenty hours of active participation in actual projects for the internship site is required. Community service activities are welcome. Working in conjunction with the internship coordinator, each student is able to select an internship site based on their preference and interests after an interview with management and final approval by the coordinator. Prerequisite(s): College Level=Junior or College Level=Senior.

**XR 377. Extended Reality III. 3 Hours.**
Students review the foundational and intermediate principles of extended reality (XR) and explore intermediate applications in a variety of fields that rely on XR technology and techniques. Focus is given to non-wearable XR technology for entertainment and enterprise and exploration fundamental differences between technology solutions. Students explore XR through hands-on and virtual experimentation with advanced level XR technology. A portion of the class is dedicated to applying XR technology to a real-world project and presenting the results. Prerequisite(s): XR 100 and XR 277.

**XR 392. Game Engines II. 3 Hours.**
Game engines provide a powerful platform for rapid development of interactive experiences including video games, real-time graphics, special effects, and extended reality environments. This intermediate course further develops game engine topics such as working with digital assets, materials, particles, lighting and visual programming. Prerequisite(s): XR 292.

**XR 477. Extended Reality Capstone. 3 Hours.**
Students apply XR principles and technology to an advanced real-world project and present the results to colleges, Husson faculty and members outside of the University. Focus is given to implementation, simplicity and viability of the XR solution. Course is only open to XR majors at senior standing.