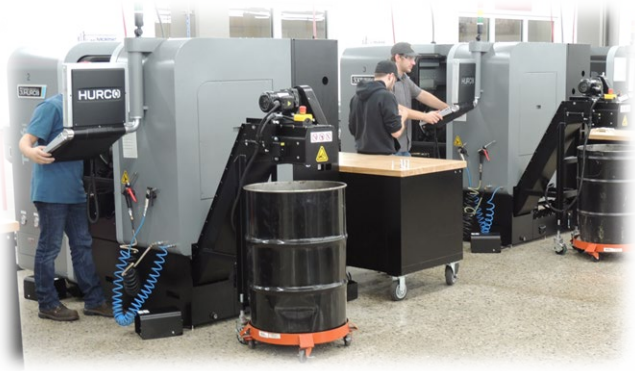
FERRIS STATE UNIVERSITY

Manufacturing Institute



Manufacturing Institute

The Manufacturing Institute at Ferris State University is pleased to announce our workshop courses for the summer 2023. These highly effective workshops have been developed for today's manufacturing processes.

Each course is delivered by highly qualified instructors from Ferris State's Manufacturing programs. As with all of our trainings, these courses are practical and emphasize hands-on applications. Certificates will be awarded to each course completed along with useful course reference binders.

Courses offerings for 2023

- Fusion 360: Design Intro
- Fusion 360: 3 – Axis Milling
- Fusion 360: 2 – Axis Turning
- Fusion 360: 4 & 5 – Axis Milling
- Basic Robotics
- Basic Machining

Registering for courses

To learn more about the Manufacturing Institute and online registration, see our website at www.ferris.edu/cpd and select "Manufacturing Institute". For questions, email Shanee Ramsey at cpd@ ferris.edu. We also welcome opportunities to host these or other custom trainings at your facility. For additional information on training and other services offered by Ferris – Corporate and Professional Development, please email to: cpd@ ferris.edu

Manufacturing Institute 2023 Schedule

Title/Facility	Dates	Times	Days	Fee
Fusion 360: Design Intro Training Location: FSU Swan Annex Building	5/8/2023 – 5/11/2023	8:00 AM 4:00 PM	Monday - Thursday	$1,400
Basic Robotics Training Location: FSU Swan Annex Building	5/15/2023 – 5/19/2023	8:00 AM 4:00 PM	Monday - Friday	$1,500
Fusion 360: 3 – Axis Milling Training Location: FSU Swan Annex Building	5/22/2023 – 5/26/2023	8:00 AM 4:00 PM	Monday - Friday	$1,650
Fusion 360: 2 – Axis Turning Training Location: FSU Swan Annex Building	6/12/2023 – 6/16/2023	8:00 AM 4:00 PM	Monday - Friday	$1,650
Basic Robotics Training Location: FSU Swan Annex Building	6/26/2023 – 6/30/2023	8:00 AM 4:00 PM	Monday - Friday	$1,500
Fusion 360: 4 & 5 – Axis Milling Training Location: FSU Swan Annex Building	7/17/2023 – 7/21/2023	8:00 AM 4:00 PM	Monday - Friday	$1,650
Basic Machining Training Location: FSU Swan Annex Building	TBD	8:00 AM 4:00 PM	Monday – Friday (2 weeks)	$3,500

* **Prerequisite** - Before taking Fusion 360:3-Axis Milling; 2-Axis Turning; 4 & 5 Axis Milling, you must take Fusion 360: Design Intro course first *OR* have prior knowledge in the following areas:

-Overview of User interface
-Sketch creation and constraints
-Extruded solid bodies
-Revolved solid bodies
-Hole tool
-Overview of Assembly structure
-Overview of Drawing files
-Import of neutral CAD files

FERRIS STATE UNIVERSITY
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2/15/2023

Ferris State University is an equal opportunity institution. For information on the University's Policy on Non-Discrimination, visit ferris.edu/non-discrimination. If you have a disability and require accommodation to participate in this event, contact (Shanee Ramsey, Project Coordinator) email at cpd@ferris.edu to request accommodations at least 72 hours in advance.

COURSE DESCRIPTIONS

Fusion 360: Design Intro Training - This course is an introduction to core Computer Aided Design (CAD) functionality of Fusion 360. It will allow participants to explore the creation of parametric models, assemblies, and drawings with a focus on design for manufacturing.

Topics that will be covered:
-Overview of User interface
-Sketch creation and constraints
-Extruded solid bodies
-Revolved solid bodies
-Hole tool
-Overview of Assembly structure
-Overview of Drawing files
-Import of neutral CAD files

Basic Robotics Training - This course is a comprehensive introduction to the basics of robots. Emphasis is placed on understanding robots in the overall context of manufacturing, society, and the world economy. Participants will actively participate in understanding fundamental principles of programming robots, comparing their use versus the use of human labor, and determining the possibilities and limitations of robotic applications.

Fusion 360: 3 – Axis Milling Training – Training on (6) Hurco VM10i machining center. For the basic 3-axis mill course, we will cover setting up the CAM environment, and setting up tooling library, selecting tool path strategy's, then applying those strategies strategy's to the geometry on the parts. We will cover pocketing, profiling, facing, drilling, tapping and chamfer/deburr in this course to begin with. This course will be focused on how to apply the software but will cover some best practices for tooling selection and feeds and speeds.

Fusion 360: 2 – Axis Turning Training – Training on (2) Hurco Tm6i lathes. The 2-axis turning course will be similar to the 3-axis milling course but focused on applying these setups/strategy's to turning applications on our lathes. We will cover roughing, finish profiling, facing, drilling, tapping, and parting cutoff, and grooving.

Fusion 360: 4 & 5 – Axis Milling Training - Training on Hurco VM10i with 4th axis and a Hurco 5-axis VM10ui. The advanced course will teach how to properly set up a rotary on a 4-axis mill and how to properly program 3+1 as well as full 4-axis toolpaths. This will cover when each of these should be used and how to apply them to a program. The 5-axis portion will teach setup of a 5-axis mill in CAM and how to use Fusion 360 to program 3+2 and full 5-axis toolpaths.

Basic Machining for Repair and Maintenance Training - This course is focused on developing core knowledge and basic skill in producing machined components and machining-related repair work. This course covers general shop safety, an overview of process planning, precision measurement, speeds and feeds, primary machining processes (i.e.: sawing, drilling, milling, turning, and grinding), and metalworking fluids.