

New Program Proposal

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Viewing: **: Introductory Machine Learning Certificate**

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Changes proposed by: McKay Sullivan (D00002846)

Proposal Action

Effective Catalog

2024-2025

Author/Contact

Name	Email	Phone
McKay Sullivan	mckay.sullivan@utahtech.edu	435-652-7647

Type of Program

Undergraduate Certificate

Program Credit hours defined by USHE:

Institutional Certificate < 16 Credits

Major

Computer Science

Emphasis

Department

Computing

College

College of Science, Engineering & Technology

CIP Code

110102 - Artificial Intelligence.

Catalog Program Title

Introductory Machine Learning Certificate

Banner Program Title

CERT - Intro Machine Learning

Banner Program Code

Program Rationale

The Machine Learning Foundations Certificate will offer an accessible introduction to Machine Learning (ML) for early university students and high schoolers engaged in concurrent enrollment. This program will be ideal for those with initial programming knowledge, aiming to broaden their academic experience with fundamental ML concepts and practical skills. It will be particularly valuable for students across various STEM fields, equipping them to apply ML principles and computational techniques in their future disciplines. This will enhance their adaptability and problem-solving abilities in a rapidly evolving technological world, preparing them for a diverse range of scientific and technical challenges.

Method of Instruction

Traditional

Will this Program have external review or accreditation?

No

Program Learning Outcomes

Introductory Machine Learning Certificate Program Learning Outcomes

At the successful conclusion of this program, students will be able to:

1. Learn mathematical concepts essential for understanding and applying machine learning algorithms.
2. Acquire a foundational understanding of the principles and algorithms of machine learning, setting the stage for further study and practical application of machine learning within the student's chosen field.
3. Use open-source tools for machine learning, enhancing their skills in practical implementation and collaboration within the ML community.
4. Gain hands-on experience in applying machine learning techniques to real-world problems, enhancing their problem-solving and analytical skills.

The Degree Requirements field must include: Program course requirements, program description, admissions requirements, and graduation requirements for proper integration with the catalog.

Degree Requirements

Introductory Machine Learning Certificate Requirements

13 credits

Code	Course List Title	Hours
Required Courses		
CS 1400	Fundamentals of Programming	3
MATH 1050	College Algebra / Pre-Calculus (MA)	3-4
or MATH 1060	Trigonometry (MA)	
or MATH 1080	Pre-Calculus with Trigonometry (MA)	
or MATH 1100	Business Calculus (MA)	
or MATH 1210	Calculus I (MA)	
CS 2320	Introduction to Machine Learning	3
Total Hours		9-10

Completion Requirements

1. Complete 9-10 hours of specified coursework that includes:

1. 3-4 credit hours of mathematics,
2. 6 credit hours of computing.
2. Complete all coursework with a C or higher.
3. Cumulative GPA of 2.0 or higher.

Graduation Plan (Degree Map)

n/a

Explain fit within University Mission, Core Themes, and Values

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Program Fees

No