

# COURSE SYLLABUS

<b>Course Title:</b>	Intro to Machine Learning		<b>Date submitted:</b>	Spring 2020							
<b>Department:</b>	STEAM										
<b>Curriculum:</b>	Math/Computer Science										
<b>Course Descriptors:</b> Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.	<b>Course Code:</b> (eg. ACC 101)	DTS 220	<b>Prerequisites:</b>								
	<b>Course Type:</b>	L/D			C- or better in DTS 201						
	A: Clinical B: Lab D: Distance Learning I: Individual/Independent L: Lecture N: Internship M: Seminar P: Practicum U: Studio X: Combined Lecture/Lab Y: Combined Lecture/ Clinical/Lab Z: Combined Lecture/Studio	<b>Elective Type:</b>	G/M	<b>Corequisites:</b>							
	AH: Art History E: English FA: Fine Arts FL: Foreign Language G: General HI: History HU: Humanities LAS: Liberal Arts & Sciences M: Math S: Science SS: Social Science	<b>Credit Hours:</b>	3			None					
	<b>Developmental:</b> (yes/no)	No	<b>Other Requirements:</b>								
	<b>Contact Hours:</b>	Lecture:						3	None		
		Clinical:						0			
		Lab:						0			
		Studio:						0			
		Other:						0			
	<b>TOTAL:</b>	3						None			
<b>Class Maximum:</b>	30	<b>Other Requirements:</b>									
<b>Semesters Offered:</b>	F/S/Su										
<b>Catalog Course Description:</b>	This course focuses on machine learning as an integral tool for data science, including how to use data to automatically understand the world, make complex decisions, and even predict the future. R programming language will be used.										
<b>Topical Outline:</b> List course content in outline format.	<ol style="list-style-type: none"> <li>1. Intro to Machine Learning</li> <li>2. Supervised Methods for Regression</li> <li>3. Methods of Clustering</li> <li>4. Methods of Classification</li> <li>5. Linear Models</li> </ol>										

	<ol style="list-style-type: none"> <li>6. Trees</li> <li>7. Neural networks</li> <li>8. Ensemble Methods</li> <li>9. Instance-based Methods</li> </ol>
<p><b>Outcomes:</b> Describe measurable skills or knowledge that students should be able to demonstrate as evidence that they have mastered the course content.</p>	<p><b>Upon successful completion of this course, each student will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Explain machine learning and its various tools</li> <li>2. Describe theoretical foundations, algorithms, methodologies, and applications for machine learning</li> <li>3. Learn the fundamentals of predictive modeling</li> <li>4. Explore and use classification and clustering algorithms</li> </ol> <hr/> <p><b>PROGRAM:</b> <i>(Numbering reflects Program Outcomes as they appear in the college catalog)</i> None</p> <p><b>GENERAL EDUCATION:</b> <i>(Numbering reflects General Education Outcomes as they appear in the college catalog)</i></p> <p><b>Quantitative Reasoning</b> -Students will learn to recognize, understand, and use the quantitative elements they encounter in various aspects of their lives. Students will develop a habit of mind that uses quantitative skills to solve problems and make informed decisions.</p> <p><b>Demonstrates:</b> Interprets numerical information and applies sufficient laws of logic and mathematics to solve problems using numbers, symbols, graphs and/or descriptions.</p> <p><b>Does Not Demonstrate:</b> Misinterprets numerical information or insufficiently applies laws of logic and mathematics to solve problems using numbers, symbols, graphs and/or descriptions.</p>
<p><b>Evaluation:</b> List how the above outcomes will be assessed.</p>	<p><b>Assessment will be based on the following criteria:</b></p> <ol style="list-style-type: none"> <li>1. Tests</li> <li>2. Projects</li> </ol>
<p><b>Instructional Resources:</b> List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.</p>	<p><b>Required:</b> computer classrooms</p> <p><b>Desired:</b></p>
<p><b>Textbook(s)</b></p>	<p>Refer to current academic year printout</p>

