

## Class Syllabus Template

[Bracketed information is designed to assist in writing the syllabus. When the syllabus is finalized all brackets be deleted.]

(1) Course Number: CS453

(2) Course Title: Machine Learning

(3) Catalog Description: An overview of many concepts, techniques, and algorithms related to machine learning.

(4) Prerequisites: CS300 or CS500 with a minimum grade of C

(5) Co-requisites:

(6) Credit Hours: 3.0

(7) Semester: Fall 2019

(8) Class Meeting Time(s), location and format: Face-to-Face. MWF 10:00 a.m. – 10:50 a.m. DH005

(9) Instructor: Dr. Ziping Liu

(10) Instructor Contact Information: zliu@semo.edu; 573-986-7392; DH021G; Office Hours: T 8:00 a.m. – 9:00 a.m. and R 8:00 a.m. – 9:00 a.m. and 10:00 a.m. – 11:00 a.m.

(11) Concerns: Questions, comments or request regarding this course should be taken to the instructor. Unanswered questions or unresolved issues about this class can be directed to Dr. Sumanth Yenduri.

(12) Course Learning Outcomes:

1. Students will be able to demonstrate understanding of the basic theory and method in machine learning.
2. Students will be able to demonstrate understanding of the major algorithms used in machine learning.
3. Students will be able to demonstrate how to use machine learning methods/algorithms to solve practical problems with moderate complexity.

(13) Course-specific Required Materials:

The instructor will compile course material and distribute to the students either on the course website or as paper handout.

(14) Course Content (Detailed class contents and assignments can be found at course Moodle page):

Introduction	2 hours
Basic methods and algorithms in machine learning	5 hours
Perception convergence and generalization	4 hours
Classification	5 hours
Active Learning	3 hours
Model Selection	4 hours
Density Estimations	5 hours
Optimization	4 hours
Online Learning and Boosting	2 hours
Linear Models	5 hours

Current development and future trends in machine learning	3 hours
Exams	3 hours
Total	45 hours

(15) Grading Scale and Policies:

Homework Assignments: 15%  
 Programming Labs and Projects: 35%  
 Class Participation and Quizzes: 10%  
 Exams and Final Exam: 40%

The letter grades will be assigned according to the following scale:

A: 90% - 100% B: 80% - 89% C: 70% - 79% D: 60% - 69% F: 0% - 59%

Policies: Each assignment will have a due date. Full credit will be given to correct, well documented assignments turned in by the due date. Assignments turned in late will lose 50% of the possible points for each calendar day they are late. Assignments will be graded in one week.

Quizzes may not be made up, but may be excused if the instructor is notified in advance of valid reasons for missing class. Makeup exams will be given provided a valid reason exists for missing the exam. Please notify, if possible, in advance, or as soon as possible, if an exam is missed.

(16) Final Exam Schedule: December 9, 2019; 10:00 a.m. – 11:50 a.m.; DH005

(17) Optional Additional Course Information:

(18) **Academic Honesty** – Southeast Missouri State University expects all students, faculty and staff to operate in an honest and ethical manner. Academic dishonesty is a very serious offense because it undermines the value of your education and the education of others. Students who engage in academic dishonesty face significant penalties. Forms of academic dishonesty include, but are not limited to, plagiarism, cheating, contract cheating, misrepresentation, and other actions you take. Some of these are defined below:

- Plagiarism means passing off someone else’s work as your own, whether it is intentional or unintentional.
- Cheating includes copying from another person or source of information to meet the requirements of a task.
- Contract cheating is paying someone else or a company to do your work.
- Misrepresentation means you are posing as someone else or someone else is posing as you to complete a task.
- Collusion means working with one or more people to cheat. If you help someone cheat or plagiarize you will face the same penalties.

For more information, visit the Responsible Redhawks Code of Conduct

<http://www.semo.edu/responsible/redhawks/code-of-conduct.html> or the Faculty Handbook Section (D) on Academic Honesty <http://www.semo.edu/facultysenate/handbook/5d.html>

(19) **Accessibility** – Southeast Missouri State University and Disability Services are committed to making every reasonable educational accommodation for students who identify as people with disabilities. Many services and accommodations which aid a student’s educational experience are available for students with various disabilities. Students are responsible for contacting Disability Services to register

and access accommodations. Accommodations are implemented on a case by case basis. For more information, visit <http://www.semo.edu/ds/> or contact Disability Services at 573-651-5927.

(20) **Civility** – Your university experience is purposely designed to introduce you to new ideas, help you think effectively, develop good communication skills, evaluate information successfully, distinguish among values and make sound judgements. Doing this well requires respectful and courteous discussion among and between students and the instructor. Together, we must create a space where we acknowledge and respect others have different experiences, perspectives and points of view. Disagreements are likely. Mutual respect for one another and a willingness to listen are important. Remember, you are responsible for your behavior and actions. There is a no tolerance policy on bullying or harassment of any kind. Additional information on student conduct may be found at:

<http://www.semo.edu/pdf/stuconduct-code-conduct.pdf?ver=1.0> and

[http://www.semo.edu/pdf/Conduct\\_Faculty\\_Resource\\_Guide.pdf](http://www.semo.edu/pdf/Conduct_Faculty_Resource_Guide.pdf)

(21) **Mandatory Reporting** – I will keep information you share with me confidential to the best of my ability, but as a professor I am legally required to share information about sexual misconduct and crimes I learn about to make our campus and community safe for everyone.

(22) **Student Success** – This course uses SupportNET, Southeast’s student success network, to improve communication between students, faculty and staff on campus. You’ll get emails through SupportNET with information about resources or concerns. Please read these emails—they are sent to help you succeed! You can access SupportNET through your portal, Moodle or directly at [supportnet.semo.edu](http://supportnet.semo.edu) to see any academic alerts, ask for help and to access resources to support your success at Southeast.

\*Definition of ‘blended’ to be added.