



THE UNIVERSITY of
NEW ORLEANS

DEPARTMENT OF COMPUTER SCIENCE

Syllabus, Fall 2020

CSCI 4588/5588: Machine Learning II

Lecture: Monday, Wednesday: 5:00 PM to 6:15 PM.

Zoom Link and Passcode to attend the class –

Zoom ID: 91251321792

Passcode: 239606

Instructor: Md Tamjidul Hoque

Email: thoque@uno.edu

Phone: 504-509-4440

Office Hours: **Monday** 12 NOON to 1 PM and 6:15 PM to 7:15 PM.

Wednesday 12 NOON to 2 PM and 6:15 PM to 7:15 PM.

Friday 12 NOON to 1 PM.

Online Office Hours: <https://uno.zoom.us/join/91251321792?pwd=74Po0wY69eRXthumfKv>

Prerequisites: CSCI 2125 or consent of the department.

Textbooks:

[1] The Elements of Statistical Learning, 2nd edn, by Trevor Hastie, Robert Tibshirani, and Jerome Friedman. Springer, 2009, ISBN: 978-0387848570. The book is available online, <https://web.stanford.edu/~hastie/ElemStatLearn/>

[2] An Introduction to Statistical Learning: With Applications in R, by Gareth James, Daniela Witten, Trevor Hastie, and Robert Tibshirani. Springer, ISBN 978-1-4614-7138-7 (eBook). The book is available online for free: <http://faculty.marshall.usc.edu/gareth-james/ISL/>

[3] Géron, A., 2019. Hands-on Machine Learning with Scikit-Learn, Keras, and TensorFlow, 2nd ed. O'Reilly.

Course Content: Topics include machine learning models, such as:

- Regression/Classification
- Neural Networks,
- Support Vector Machines,
- Boosting,
- Genetic Algorithm,
- Decision Tree,
- Random Forest, and
- Deep/Belief Nets.

Learning Outcomes: A programmer with Machine Learning (ML) knowledge will be able to 'generate' solution-code for a complex problem, just by clicking a few buttons, after setting up some appropriate parameters. Whereas without ML knowledge, a programmer may have to spend years to have a stable version of the program code and for complex problems, the

developed solution may perform very poorly. Thus, the programmer with ML knowledge can have a significant advantage over a programmer without the ML knowledge, in terms of faster and better-performing program-code generation. In this course, the students will have opportunities to learn state-of-the-art machine learning algorithms, their implementations, and applications to solving real-world problems through programming projects and assignments. The target techniques are particularly useful in higher dimensional and complex data space, whereas the available deterministic approaches are often hard to apply. ML has a broad spectrum of applications, especially for complex domains, such as search engines, stock-market analysis, game playing, medical diagnosis, robotics, automation, and bioinformatics.

Online Materials: Essential course material, assignments, announcements, etc. will be posted to this course page on Moodle, <http://www.uno.edu/moodle>. Make sure to check your @uno.edu email frequently.

Attendance: Your attendance in class is needed and essential for you to meet course requirements. A 5% mark is allocated for your attendance.

Grading:

Assignments (Programming + Homework)	$(4) \times 11\% \rightarrow$	44%
Class Test	$(3) \times 11\% \rightarrow$	33%
Best 6 out of 7	$(6) \times 11\% \rightarrow$	66%
Final Examination	\rightarrow	29% [Must attend to pass]
Attendance:	\rightarrow	5%
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%5: [90-100%], 4%: [85-90), 3%: [80-85), 2%: [75-80), 1%: [70-75), 0%: <70.		

Grading scale: A: 90+%, B: 80-89%, C: 70-79%, D: 60-69%, F: < 60%.

Bonus: A student who will be able to produce any publishable work (approved based on superior results, recognized by the instructor during the course period) related to any given assignment(s) or the topics covered in the class, will be given 10% bonus marks.

Exams: Test 1, 2 and 3 are scheduled **tentatively** on Sep 21st, Oct 21st, and Nov 25th, respectively.

Last Class: Dec/09/2019 (Wednesday).

Final Exam: TBA.

Due Dates: You are responsible for handing in your assignment on time. Late submissions will be assessed at the following rates: 85% for 1-48 hours late, 65% for 49-96 hours late, 45% for 97-144 hours late, 25% for 145-168 hours late. Assignments that are over a week late will receive no credit. For online submission, use Moodle. However, if Moodle is not working for some technical reason, email me (thoque@uno.edu) the assignment. If you are unable to act according to the deadlines due to exceptional circumstances, you must inform long before the deadline or, you must provide evidence.

Conducts:

(1) **All submitted works must be your own.** Any academic dishonesty including cheating, plagiarism, and conspiracy, will result in zero marks and will be reported to the appropriate authority in the university (<http://www.studentaffairs.uno.edu/pdfs/StudentCodeofConduct.pdf>).

(2) Please be on time in the class. Late coming in the class is heavily discouraged.

(3) Please avoid disruptive and noisy activities in the class and be respectful to others.



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Syllabus Attachment Fall 2020

Fall Semester Important Dates*

Last day to adjust schedule w/out fee -	08/18
Semester Classes Begin -	08/19
Last day to adjust schedule w/fee, or withdraw with 100% refund -	08/28
Last day to apply for December Commencement -	10/01
Final day to drop a course or resign -	10/22
Mid-Term grades due -	10/14
Instruction moves online for remainder of semester	11/19
Last Day of Classes -	12/04
Final examinations -	12/05-12/10
Commencement -	12/11

Session "B" Important Dates*

Last day to apply for December Commencement -	10/01
Semester Classes Begin -	10/06
Last day to adjust schedule w/out fee -	10/12
Last day to adjust schedule w/fee, or withdraw with 100% refund -	10/12
Final day to drop a course or resign -	11/04
Instruction moves online for remainder of semester	11/19
Mid-Term grades due -	10/30
Last Day of Classes -	12/02
Final examinations -	12/03
Commencement -	12/11

*Note: check [Registrar's website](#) for items not listed here.

Fall Semester Holidays

Labor Day Holiday	09/07
Thanksgiving Break.....	11/25-11/27

Use of Mask or Face Covering

[The UNO Student Code of Conduct states](#), "Students will prioritize health and safety of the campus community. As a result of the COVID-19 pandemic (or other declared communicable disease outbreak or pandemics), when in shared, public spaces or where a minimum distance of six (6) feet (or a distance as recommended by latest safety guidelines) cannot be safely maintained, students are required to wear personal protective equipment in the form of a mask or face covering that covers their nose and mouth."

Withdrawal Policy – Undergraduate only

Students are responsible for initiating action to resign from the University (withdraw from all courses) or from a course on or before dates indicated in the current Important Dates calendar. Students who fail to resign by the published final date for such action will be retained on the class rolls even though they may be absent for the remainder of the semester and be graded as if they were in attendance. Failure to attend classes does not constitute a resignation. Check the dates and charges associated on the [Registrar's website](#).

Incomplete Policy – Undergraduate only

A grade of I is assigned when, due to extenuating circumstances beyond their control, students engaged in passing course work are unable to complete class assignments within the time frame of the course's session. Before agreeing to the use of an incomplete grade in any course, an Incomplete Grade Agreement Form must be completed. Details regarding deadlines for

completing the I grade, when the incomplete converts to a grade of F, and a link to the form may be found on the [Academic Affairs](#) website.

Repeat Policy

When a student is permitted to repeat a course for credit, the last grade earned shall be the one which determines course acceptability for degree credit. A student who has earned a C or better in a course may not repeat that course unless, (1) the catalog description indicates that the course may be repeated for credit, or (2) the student's Dean gives prior approval for documented extenuating circumstances.

Graduate Policies

Graduate policies often vary from undergraduate policies. To view the applicable policies for graduate students, see the [Graduate Student Handbook](#).

Academic Dishonesty Policy

Policies for academic conduct [are here](#).

Safety Awareness Facts and Education

Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you will find [Resources for Survivors here](#).

UNO Counseling Services and UNO Cares

UNO offers care and support for students in any type of distress. [Counseling Services](#) assist students in addressing mental health concerns through assessment, short-term counseling, and career testing and counseling. First-year students often have unique concerns, and UNO Cares is designed to address those students' needs. Contact [UNO Cares](#).

Emergency Procedures

Sign up for emergency notifications via text and/or email at [E2Campus Notification](#). All emergency and safety procedures are explained at the [Emergency Health and Safety Office](#).

Diversity at UNO

As the most diverse public university in the state, UNO maintains a Diversity Affairs division to support the university's efforts towards creating an environment of healthy respect, tolerance, and appreciation for all people, and the expression of intellectual point of view and personal lifestyle. The [Office of Diversity and Inclusion](#) promotes these values through a wide range of programming and activities.

Learning and Support Services

Help is within reach in the form of learning support services, including tutoring in writing and math and other supplemental instruction. Visit the [Learning Resource Center](#) in LIB 126.

Affirmative Action and Equal Opportunity

UNO is an equal opportunity employer. The Human Resource Management department has more information on UNO's compliance with federal and state regulations regarding EEOC in its [Policies and Resources website](#).