CS5001 - Intro. to Deep Learning

Fall Semester 2019 Syllabus

Lecture:

Section A: Time: TR 2:00pm - 3:15pm Room: CS - 209	

Website:

http://web.mst.edu/~ricardom/cs5001/19.3

Instructor:

Dr. A. Ricardo Morales	Computer Science Building Rm 340 Phone: (573) 341-6353 Fax: (573) 341-4501 Email: ricardom@mst.edu URL: http://www.mst.edu/~ricardom

Office Hours:

TBA CS rm 212 (Computer Lab)

Course Objective and Topics:

This course introduces reinforcement learning and artificial neural networks as the foundations for deep learning and covers deep learning architectures, including deep neural networks, convolutional deep neural networks, deep belief networks and recurrent neural networks. Students will implement course concepts in intensive programming assignments.

Prerequisites:

A Grade of "C" or better in both COMP SCI 1575 and MATH 1215.

Textbook:

David L. Poole and Alan K. Mackworth,
"Artificial Intelligence: Foundations of Computational Agents", 2nd Edition.
Available FREE here [link]

Experimental Course:

This is an experimental course, and as such, the course material is continuously under development, and the course structure should be considered "under construction".

Evaluation Criteria:

There will be multiple programming assignments, 3 tests.

Tests / Exam:	50%
Homework:	50%

Grading Scale:

A : [90 - 100]%
B : [80 - 90)%
C : [70 - 80)%,
D : [60 - 70)%,
F : < 60%

Tests:

- You will have in-class tests after completion of each subject module, roughly once every **3 weeks**.
- Test days will be announced the previous class before the test.
- Your **lowest** test score will be dropped from your final grade.

Published experimental studies in the fields of research in cognitive psychology and education have shown that frequent (rather than sparse) testing, is both more effective for learning, retention, and synthesis, and also encourages frequent smaller bouts of studying, rather than cramming.

Programming Assignments:

There will be multiple programming assignments.
Late submissions of homework will be penalized:

- 10% penalty after the first 24 hours (1st day).
- 25% penalty after the next 24 hours (2nd day).
- 50% penalty after the next 24 hours (3rd day).
- No credit thereafter.

Makeups:

No makeup homework / tests will be given unless the student contacts the instructor before the exam and has an MS&T-acceptable documented reason (i.e. illness, death in the family, etc).

Contact:

I will do my best to address any concerns you have about the class. Please feel free to approach me. My immediate supervisor is Prof. Clayton Price. If there are any problems that I am unable to resolve for you relevant to this class, address your concerns to Prof. Price. His office is CS-325 and his e-mail is price@mst.edu.

LEAD Learning Assistance:

The Learning Enhancement Across Disciplines Program (LEAD) sponsors free learning assistance in a wide range of courses for students who wish to increase their understanding, improve their skills, and validate their mastery of concepts and content in order to achieve their full potential. The online schedule is at http://lead.mst.edu/assist . For more information, contact the LEAD office at 341-7276 or email lead@mst.edu .

The Student Success Center:

The Student Success Center is a centralized location designed for students to visit and feel comfortable about utilizing the campus resources available. The Student Success Center provides peer mentors, caring staff, and approachable faculty and administrators who are student centered

and supportive of student success. The SSC is at 198 Toomey Hall; 573-341-7596; success@mst.edu ; facebook: www.facebook.com/SandTssc ; web: http://studentsuccess.mst.edu/

S&T Connect Early Alert:

The purpose of the "S&T connect Early Alert System" is to improve the overall academic success of students by improving communication among students, instructors and advisors; reducing the time required for students to be informed of their academic status; and informing students of actions necessary by them in order to meet the academic requirements in their courses.

Academic Dishonesty:

Missouri S&T Student Council: the Honor Code can be found at this link: http://stuco.mst.edu/honor-code/ .
Page 30 of the Student Academic Regulations handbook describes the student standard of conduct relative to the System's Collected Rules and Regulations section 200.010, and offers descriptions of academic dishonesty including cheating, plagiarism or sabotage. Additional guidance for faculty, including the University's Academic Dishonesty Procedures, is available online at http://ugs.mst.edu. Other informational resources for students regarding ethics and integrity can be found online at http://academicsupport.mst.edu/academicintegrity/studentresources-ai .

Classroom Egress Maps:

http://designconstruction.mst.edu/floorplan/
Please familiarize yourselves with the classroom egress maps.

Disability Support Services:

It is the university's goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please contact Student Disability Services at (573) 341-6655, sdsmst@mst.edu, visit http://dss.mst.edu/ for information.

Title IX:

Missouri University of Science and Technology is committed to the safety and well-being of all members of its community. US Federal Law Title IX

states that no member of the university community shall, on the basis of sex, be excluded from participation in, or be denied benefits of, or be subjected to discrimination under any education program or activity. Furthermore, in accordance with Title IX guidelines from the US Office of Civil Rights, Missouri S&T requires that all faculty and staff members report, to the Missouri S&T Title IX Coordinator, any notice of sexual harassment, abuse, and/or violence (including personal relational abuse, relational/domestic violence, and stalking) disclosed through communication including but not limited to direct conversation, email, social media, classroom papers and homework exercises.

Missouri S&T's Title IX Coordinator is Chief Diversity Officer Neil Outar. Contact him (naoutar@mst.edu; (573) 341-6038; 203 Centennial Hall) to report Title IX violations. To learn more about Title IX resources and reporting options (confidential and non-confidential) available to Missouri S&T students, staff, and faculty, please visit http://titleix.mst.edu.