

**DEPARTMENT OF MATHEMATICAL AND COMPUTATIONAL SCIENCES  
UNIVERSITY OF TORONTO MISSISSAUGA**

**CSC321H5S LEC0101**

**Introduction to Neural Networks and Machine Learning  
Course Outline - Winter 2014**

<b>Class Location &amp; Time</b>	Fri, 11:00 AM - 01:00 PM CC 2130
<b>Instructor</b>	Anthony Bonner
<b>Office Location</b>	CC 3079
<b>Office Hours</b>	F2-3
<b>Telephone</b>	905-828-3813
<b>E-mail Address</b>	bonner@cs.toronto.edu
<b>Course Web Site</b>	<a href="http://www.cs.toronto.edu/~bonner/courses/2014s/csc321/webpages">http://www.cs.toronto.edu/~bonner/courses/2014s/csc321/webpages</a>
<b>Teaching Assistant</b>	Yue Li
<b>E-mail Address</b>	yueli@cs.toronto.edu

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### Course Description

The first half of the course is about supervised learning for regression and classification problems and will include the perceptron learning procedure, backpropagation, and methods for ensuring good generalisation to new data. The second half of the course is about unsupervised learning methods that discover hidden causes and will include Kmeans, the EM algorithm, Boltzmann machines, and deep belief nets. [24L, 12T]

*Prerequisite:* CSC148H5, 290H5; MAT134Y5/135Y5/137Y5, 223H5; STA256H5 (SCI)

*Distribution Requirement:* SCI

Students who lack a pre/co-requisite can be removed at any time unless received explicit waiver from department.

### Textbooks and Other Materials

No text. Weekly readings will be available on the course web page.

### Assessment and Deadlines

Type	Description	Due Date	Weight
Assignment	Assignment 1	2014-02-04	10%
Assignment	Assignment 2	2014-02-25	10%
Assignment	Assignment 3	2014-03-18	10%
Assignment	Assignment 4	2014-04-04	10%
Term Test	Midterm test	2014-03-07	20%
Final Exam		TBA	40%
<b>Total</b>			<b>100%</b>

## More Details for Assessment and Deadlines

No late assignments will be accepted.

## Penalties for Lateness

100%

## Procedures and Rules

### Missed Term Work

Requests for accomodation for a missed test or assignment must be submitted as soon as possible and ideally within 72 hours of the due date of the work in question. The initial request should be sent by email, and a follow-up meeting with the instructor will be scheduled once the request is received. Appropriate documentation (like a U of T medical certificate) will be required. The instructor will specify the type of documentation needed once the initial request is received. The grade for a missed piece of term work will be estimated from other term work and/or the final exam.

### Missed Final Exam

Students who cannot write a final examination due to illness or other serious causes must file an [online petition](#) **within 72 hours of the missed examination**. Original supporting documentation must also be submitted to the Office of the Registrar **within 72 hours of the missed exam**. Late petitions will **NOT** be considered. If illness is cited as the reason for a deferred exam request, a U of T Medical Certificate must show that you were **examined and diagnosed at the time of illness and on the date of the exam, or by the day after at the latest**. Students must also record their absence on ROSI on the day of the missed exam or by the day after at the latest. Upon approval of a deferred exam request, a non-refundable fee of \$70 is required for each examination approved.

### Academic Integrity

Honesty and fairness are fundamental to the University of Toronto's mission. Plagiarism is a form of academic fraud and is treated very seriously. The work that you submit must be your own and cannot contain anyone else's work or ideas without proper attribution. You are expected to read the handout How not to plagiarize (<http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>) and to be familiar with the Code of behaviour on academic matters, which is linked from the UTM calendar under the link Codes and policies.

## Final Exam Information

Duration: 2 hours

Aids Permitted: 1 page(s) of double-sided Letter (8-1/2 x 11) sheet

## Additional Information

Exam "cheat sheets" must be written in 12-point font or larger.

Last Date to drop course from Academic Record and GPA is March 9, 2014.