Math 4030FDE/FDF Probability and Statistics (2020 Fall)

(Online using D2L, Zoom, and WebWork)

Instructor: Dr. Wendy Huang

Zoom Lectures for 4030FDE:
MW: 8:30 – 10:00 PM (ET)

Zoom Lectures for 4030FDF:
TTh: 2:30 – 4:00 PM (ET)

Note: access zoom classrooms through D2L mycourselink.

Contact your instructor:

- E-Mail: whuang1@lakeheadu.ca. Any time. When sending emails regarding the course, include course number, your name, and keywords in the subject line. For example, "Subject: Math 4030, Jen Smith, formula for standard deviation". (Otherwise, your message will not be opened.)
- Participate D2L discussions.
- Make appointments for zoom meetings.

Textbook (optional): R. Johnson, Miller & Freund's Probability and Statistics for Engineers, 9th Edition.

Performance Evaluation:

	Weight
Assignments	15%
Midterm Exam	30%
Final Exam	55%

Note: Check your MyInfo accounts for your on-going assignment/test marks.

WebWork Assignments:

- There will be 12 weekly assignments, of which 11 are to be submitted according to the due date. The highest 10 marks will be used toward the final grade of the course. The problem sets will be posted on WebWork and can be accessed through D2L course site.
- Solutions of the assignments will be released immediately following the due dates, automatically by the WebWork. For this reason, no late assignments will be accepted, and no request for assignment extension will be granted, under **ANY** circumstance.
- Students are expected to do their assignments **independently**. Plagiarism will be disciplined according to university regulations.

Midterm and Final Exams:

- The 80-min midterm exam (on WebWork) is scheduled during the lecture hours on **Tuesday Oct. 27 (For FDF) and Wednesday, Oct. 28 (For FDE)**.
- The 3-hour final exam is scheduled at the end of the term. Format to be determined.

Tentative Schedule (Subject to Change):

Lecture	FDF	FDE	Content	Assignments
1a	Tue. Sept. 8 (2:30 PM)	Wed. Sept. 9 (8:30 AM)	Introduction of the course Basic statistics concepts	Assignment 1 (Due: Sept. 18)
1b	Thur. Sept. 10 (2:30 PM)	Mon. Sept. 14 (8:30 AM)	Tables and Charts	
2a	Tue. Sept. 15 (2:30 PM)	Wed. Sept. 16 (8:30 AM)	Descriptive Measures	Assignment 2 (Due: Sept. 25)
2b	Thur. Sept. 17 (2:30 PM)	Mon. Sept. 21 (8:30 AM)	Sample space and Events	
3a	Tue. Sept. 22 (2:30 PM)	Wed. Sept. 23 (8:30 AM)	Definition of Probability, Axioms and Properties	Assignment 3 (Due: Oct. 2)
3b	Thur. Sept. 24 (2:30 PM)	Mon. Sept. 28 (8:30 AM)	Conditional Probability and Bayes' Theorem	
4a	Tue. Sept. 29 (2:30 PM)	Wed. Sept. 30 (8:30 AM)	Random Variables and distribution (discrete)	Assignment 4 (Due: Oct. 9)
4b	Thur. Oct. 1 (2:30 PM)	Mon. Oct. 5 (8:30 AM)	Discrete Distribution: Binomial and Hypergeometric	
5a	Tue. Oct. 6 (2:30 PM)	Wed. Oct. 7 (8:30 AM)	Discrete Distribution: Poisson, Geometric, and Negative Binomial	Assignment 5 (Due: Oct. 23)
5b	Thur. Oct. 8 (2:30 PM)	Mon. Oct. 19 (8:30 AM)	Continuous RV: pdf, CDF, and Uniform	
6a	Tue. Oct. 20 (2:30 PM)	Wed. Oct. 21 (8:30 AM)	Normal distribution	Assignment 6 (Due: Oct. 30)
6b	Thur. Oct. 22 (2:30 PM)	Mon. Oct. 26 (8:30 AM)	Continuous Distributions: Lognormal, Gamma, Beta, and Weibull	
	Tue. Oct. 27 (2:30 PM)	Wed. Oct. 28 (8:30 AM)	**Midterm Exam** (up to Normal distribution covered in 6a)	
7b	Thur. Oct. 29 (2:30 PM)	Mon. Nov. 2 (8:30 AM)	Joint Distributions (Disc and Continuous)	Assignment 7 (Due: Nov. 8)
8a	Tue. Nov. 3 (2:30 PM)	Wed. Nov. 4 (8:30 AM)	Distribution of Sample Means	
8b	Thur. Nov. 5 (2:30 PM)	Mon. Nov. 9 (8:30 AM)	Estimation of Population Mean	Assignment 8 (Due: Nov. 15)
9a	Tue. Nov. 10 (2:30 PM)	Wed. Nov. 11 (8:30 AM)	Hypothesis Testing regarding Mean	
9b	Thur. Nov. 12 (2:30 PM)	Mon. Nov. 16 (8:30 AM)	Hypothesis Testing elements	Assignment 9 (Due: Nov. 22)
10a	Tue. Nov. 17 (2:30 PM)	Wed. Nov. 18 (8:30 AM)	Comparing Two Population Means	
10b	Thur. Nov. 19 (2:30 PM)	Mon. Nov. 23 (8:30 AM)	Inferences concerning variance	Assignment 10 (Due: Nov. 29)
11a	Tue. Nov. 24 (2:30 PM)	Wed. Nov. 25 (8:30 AM)	Inferences concerning proportions	
11b	Thur. Nov. 26 (2:30 PM)	Mon. Nov. 30 (8:30 AM)	Simple Linear Regression	Assignment 11 (Due: Dec. 6) Optional
12a	Tue. Dec. 1 (2:30 PM)	Wed. Dec. 2 (8:30 AM)	Inferences Regarding estimators:	
12b	Thur. Dec. 3 (2:30 PM)	Mon. Dec. 7 (8:30 AM)	Correlations	Assignment 12 (Just for practice)