University of Waterloo   STAT 221 – W. H. Cherry

STATISTICS 221
Winter Term, 2006

This course is entitled *Introduction to Statistical Methods 2*; it requires Statistics 220 (or equivalent material) as a prerequisite, but the two courses are best considered as parts of a larger whole.

TEXT: Recommended – Moore, D.S. & McCabe, G.P. *Introduction to the Practice of Statistics.* W.H. Freeman & Co., Third edition, 1998. Nineteen copies of the text are on 3-day reserve in the DC Library. [Call no. UWD 1589]

TOPICS: The topics in the four Parts of STAT 221 are covered in the Text as follows:

Topic(s)	Text Reference(s)	Topic(s)	Text Reference(s)
Part 10	(Chapter 4, Section 5.1)	Part 12	(2.6, 2.7), Chapter 6, Chapter 7, Chapter 8
Part 11	Section 5.3	Part 13	(3.1, 3.2, 3.3, 3.4), pp. 246-249, 513-515

A substantial part of the remainder of the Text was covered in the nine Parts of Statistics 220.

To assist with the coverage of these topics, course materials will be made available at cost (around $30 for the term, including PST and GST). One page of Part 10 of the materials may be distributed at the first class and the remainder is available for purchase in MC 2018; these materials will be needed starting in the *second* class of the course. The Text is intended to *complement* the lectures and Course Materials by providing a different perspective on, and/or extending, some topics. Students are urged to read the relevant sections of the Course Materials and the Text as, or *before*, topics are discussed in class.

To provide an opportunity for additional background and for enrichment in Part 11, the following books have been placed on 3-day reserve in the Davis Centre Library:

Deming, W.E. *Out of the Crisis.* Center for Advanced Engineering Study, Massachusetts Institute of Technology, Cambridge, Mass., 1986. [2 copies]

Ishikawa, K. *Guide to Quality Control.* Asian Productivity Organization, Minato-hu, Tokyo 107, Japan, 1982. [3 copies]

Joiner, B.L. *Fourth Generation Management. The New Business Consciousness.* McGraw-Hill, Inc., New York, 1994. [2 copies]

Wheeler, D.J. *Understanding Variation. The Key to Managing Chaos.* SPC Press, Inc., Knoxville, Tennessee, 1993. [2 copies]

It is strongly recommended that one or more of these books (particularly that of Ishikawa) be consulted to obtain another perspective on Part 11 of the course.

INSTRUCTOR: Winston H. Cherry, Dept. of Statistics & Actuarial Science; office MC 6153, telephone 888-4567, ext. 5507.

OFFICE HOURS: Monday, Wednesday and Thursday, 2.00 to 3.00 pm; other times by appointment (if **really** necessary). Students are expected to make proper use of the scheduled tutorial time for assistance with assignment problems; it is essential to bring your earlier *written* attempts to solve problem(s) when you seek help.

MISSED CLASSES: If you are absent from a class, it is **your** responsibility to find out, without delay, from a friend in the course about any announcements or handouts, as well as about the course material you have missed; only **documented** medical or other serious personal reasons provide grounds for an excep- tion to this policy.

ASSIGNMENTS: There will be eight (8) assignments with the following due dates:

#1:	Friday of week 2 of term;	#5:	Monday of week 9 of term;
#2:	Friday of week 4 of term;	#6:	Friday of week 10 of term;
#3:	Friday of week 5 of term;	#7:	Monday of week 13 of term;
#4:	Friday of week 7 of term;	#8:	Wednesday of week 13 of term.

Submission time for assignments is no later than the end of class (11.20 a.m.) on the due day.

To simplify assessment of assignments, they will be given an *overall* grade on a 10-point scale (1, 2, ..., 10) with no half marks.

QUIZZES: Thursday, February 9 (week 6 of term) from 4.45 p.m. to 6.15 p.m. in room RCH 308; Thursday, March 16 (week 11 of term) from 4.45 p.m. to 6.15 p.m. in room RCH 306.
Students are asked to sit in **alternate** seats in the quiz room(s).

(continued overleaf)

QUIZZES: No formula sheet is permitted for the *first* quiz, which covers up to the end of Assignment 3; up to *one* side of
(continued) *handwritten* material on 8½ ×11 inch paper is allowed for the *second* quizz, which covers to the end of
Assignment 6. Aids that should *always* be brought to tests are a calculator and *loose* copies of statistical tables
(normal, *t*, χ^2 and *root-F* distributions).

ASSESSMENT: Three components determine your final grade in STAT 221; these components and their weighting, which is determined by your final examination mark, are shown at the right. It is normally necessary to pass the final examination to pass the course.

EXAM MARK (%)	WEIGHTING FACTOR (%) FOR:		
	Assignments	Quizzes	Final Exam
[0- 40]	0	15, 15	70
(40- 50)	5	15, 15	65
[50- 60)	10	15, 15	60
[60-100]	better of $\begin{cases} 20 \\ 10 \end{cases}$	15, 15 7½, 7½	50 75

EXAMINATION: The final examination is of 3 hours' duration and is held in the regular examination period (April 6 to
April 22); it covers *all* the course material. A *handwritten* formula sheet, comprising not more than
two sides of 8½ ×11 inch paper, is permitted. Other aids for the final examination are a calculator and
loose copies of tables of the normal, *t*, χ^2 and *F* distributions.

WEB SITE: The course is on Angel at: http://www.uwace.uwaterloo.ca

COMPUTER ACCOUNTS: You have access to Unix and Nexus (windows) accounts on the Mathematics Faculty Computing Facility. If you are unaware of your password or need other computing help, see the consultants in MC 3017; take you Watcard as photo ID.

If your Nexus account is new, you will need to do 'change password' on the Nexus station.

Terminals are located in MC 6080 and MC 3008 (Unix) and MC 3006 and MC 3009 (Nexus).

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