STATISTICS 332

Spring Term, 1998

Statistics 332 is a course about the practical and theoretical aspects of survey sampling. Many of the *ideas* are not particularly difficult, but the *amount* of material entails an appreciable student time commitment to the course.

TEXT: The instructor knows of no book that is suitable as a *required* text for this course from the perspective of content, cost and availability; however, the following books, which deal with the course topics, have been put on 3-day reserve in the Davis Centre Library.

Copies	Title(s)
6	Barnett, V. *Survey Sampling Principles and Methods.* Edward Arnold, London, 1991. [QA276.6.B37x 1991],
5	Thompson, S.K. *Sampling.* John Wiley & Sons, New York, 1992. [QA276.6T58 1992]
3	Cochran, W.G. *Sampling Techniques.* John Wiley & Sons, 3rd Edition, 1977. [QA276.5.C6 1977]
2	Thompson, M.E. *Theory of Sample Surveys.* Monographs on Statistics and Applied Probability 74, Chapman & Hall, London, 1997. [UWD 1616]
3	Deming, W.E. *Sample Design in Business Research.* John Wiley & Sons, New York, 1960. [HA31.2.D45x 1960]
2	Lessler, J.L. and W.D. Kalsbeek. *Nonsampling Error in Surveys.* John Wiley & Sons, New York, 1992. [QA275.L44 1992]
1	Kish, L. *Survey Sampling.* John Wiley & Sons, New York, 1965. [HN29.K5 1965]

It is strongly recommended that one or more of these books be consulted at intervals throughout the term to obtain another perspective on the course topics.

TOPICS: An overview of the course content in four parts, and its approximate timing, is given on the facing page #0.2. To assist with coverage of these topics in rhe absence of individual copies of a text, Course Materials are available in MC5182 for purchase at around $20, including GST; these Materials wiill be needed starting in the *second* class of the course.

The course builds on ideas from previous probability and statistics courses; students are expected to do, on their own, an appreciable amount of reading and study of the Course Materials and, as needed, the books listed above. The instructor will provide guidance on this matter.

INSTRUCTOR: Winston H. Cherry, Department of Statistics & Actuarial Science; office MC 6153, telephone 888-4567, extension 5507, email: wcherry@jeeves.uwaterloo.ca.

OFFICE HOURS: Monday 4.30 to 5.20, Tuesday 2.30 to 4.20, Wednesday 11.30 to 12.20 and Thursday 2.00 to 3.00 p.m.; other times by appointment if *really* necessary.

Students are expected to make proper use of their scheduled class times for assistance with the course; 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 topic(s) you have missed; only *documented* medical or other serious personal reasons provide grounds for an exception to this policy.

ASSIGNMENTS: There are ten assignments in the course; student solutions are *not* collected for grading, but it is *essential* to do the assignment questions on a regular basis to make progress in the course.

The theory and practice of survey sampling are the main emphasis of classes and the Course Materials; a major theme is mathematical modelling of the real world for practical purposes, and some interesting mathematics is involved. Examples are also discussed in class. The principal challenge of the course is for students to practise and extend the ideas in the assignments which contain, on average, about 7 questions each. Because the assignment questions are the basis of assessment via quizzes and the final examination, detailed solutions to assignment questions will not *necessarily* be provided.

QUIZZES: There will be *three* Monday quizzes, held during the second class hour (3.30 to 4.20 p.m.) in the Village Examination Room (REV 207) on June 8 (week 6), June 29 (week 9) and July 20 (week 12).

No formula sheet is permitted for the *first* quiz (which covers up to the end of Assignment 3); the formula sheet on page #0.10 in the Course Materials will be supplied with the *second* quiz (which covers up to the end of Assignment 5) and the formula sheet on page #0.11 will be supplied with the *third* quiz (which covers up to the end of Assignment 7).

(*continued overleaf*)

QUIZZES: (cont.) Aids that should *always* be brought to quizzes *and to the final examination* in this course are a calculator and *loose* copies of statistical tables (normal and *t*),

Later quizzes concentrate more on the topics covered since the previous quiz but, because the course ideas tend to be cumulative, each quiz may require knowledge of *any* earlier course topic.

ASSESSMENT: Each student's grade in the course will normally be taken as:

Tutorials	10%
Quizzes (10% each)	30
Final examination	60
Total	**100%**

It is normally necessary to pass the final examination to pass the course; *i.e.*, a failing mark on the final examination will normally become the grade in the course, *regardless of the term mark*.

EXAMINATION: The final examination will be of 3 hours' duration, and will be held in the regular examination period (August 4 to 15); it covers *all* the course material. The permitted aids are a calculator and statistical tables (normal, *t*, equiprobable digits) and the formula sheet on page #0.12 in the Course Materials; *only* this formula sheet will be provided with the examination – bring your *own* copies of statistical tables from the Course Materials.

TEACHING ASSISTANTS: To assist the instructor with varous aspects of the course, teaching assistants will be available; they are graduate students in the Department of Statistics and Actuarial Science. Information (*e.g.*, names, room numbers, office hours) that will enable you to contact the teachung assistants will be provided when graduate course times are finalized, probably in the second week of term.

COMPUTER ACCOUNTS: Although all mathemeatics undergraduates have access to Mathematics Faculty Computing Facility accounts, the nature of the topics and questions in this course are such that no computing resources hae been requested specifically for it,

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ADDENDUM: The schedule of office hours for assistance with the STAT 332 material is:

Day	Person	Hours available
Monday	KK	1.30 - 2.20
	WHC	4.30 - 5.20
Tuesday	JJ	12.00 - 2.00
	WHC	2.30 - 4.20
Wednesday	WHC	11.30 - 12.20
	WW	1.30 - 2.20
Thursday	KK	11.00 - 12.00
	WHC	2.00 - 3.00
Friday	WW	1.30 - 2.20

WHC	Winston Cherry	MC 6153
JJ	Jacinte Jean	MC 6204
KK	Karen Kopciuk	MC 6113
WW	Wei Wei	MC 6129

Students should go to their *own* instructor if they make use of an instructor's office hours.