

QM213 – Statistics for Business & Economics I

NORWICH UNIVERSITY – SPRING 2012

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Phone < 802-479-7937 > at *any time day or night* (cannot disturb)

Office Hours posted at < http://www.mekabay.com/current_schedule.pdf >

WALK IN IF THE OFFICE DOOR IS OPEN! ALWAYS WELCOME.

1 Course Description

A course emphasizing the development and presentation of statistical data for business and economic decision-making. Topics will include survey methods, statistical description measures, sampling distributions, statistical inference procedures, simple regression and time series analysis, and construction and use of index numbers. Prerequisite or concurrent enrollment in: MA212. 3 lecture hours

2 Goals and Outcomes

The goal of the course is to provide a foundation for practical work and further study in applied statistics. By the end of the course, students should be able intelligently and usefully to discuss these topics at a management level:

- Research methods as used in management
- Descriptive and inferential statistics
- Application of probability theory to administrative decisions
- Hypothesis formation and testing
- Data requirements and the quality of data in statistical procedures
- The role of information technology in quantitative research and statistical analysis
- Ethical considerations and constraints of statistical analysis

By the end of the course, students will be able to

- Determine when quantitative approaches are necessary and appropriate
- Use descriptive statistics to report findings appropriately
- Apply several inferential statistical tests to practical data
- Analyze and use tools provided by information technology in research
- Use sampling and data collection techniques in conducting research projects
- Present research findings in written and graphic or oral formats
- Define ethical and legal constraints on research
- Interpret and evaluate quantitative research presented in textbooks, journals, magazine and newspaper articles, and on the Web

3 Mechanics

3.1 **Time:** Class will meet on Mondays, Wednesday and Fridays from 09:00:03 to 09:49:57 (SECTION B) and 10:00:03 to 10:49:47 (SECTION A) in Dewey Computer Lab. Attendance is mandatory; a record of attendance will be kept. More than three unexcused absences will result in expulsion from the course with an F grade. See §6 below for more details.

3.2 **Required Textbook:** Kabay, M. E. (2011). *Statistics in Business, Finance, and Information Technology: A Layered Introduction with Excel*, Preliminary Version 0.3. Free printed version supplied by the School of

QM213 Course Description –Spring 2012

Business & Management through the kind cooperation of Dean Frank Vanecek (say THANK YOU DR VANECEK). PDF file with color images available free online from NUoodle and course Web site.

4 Methods of Assessment

4.1 Weekly homework 40% of final grade

- Students will receive homework assignments throughout the course using the NUoodle system each Monday.
- Students are encouraged to study together to solve homework problems but must complete their own computations for adequate learning.
- Answers to the problem sets will be about a week after the assignments are distributed.

4.2 Weekly Quizzes 30%

- A period will open every Friday on the NUoodle section for the course a week after initial delivery of the homework to test students on the concepts and techniques studied the week before. The quiz will include calculations requiring Excel and also multiple-choice questions for the conceptual components
- All quizzes are open book. Any textbook may be used for reference.
- The quiz will remain open until the next Friday night (23:55) and allow up to three attempts separated by at least three hours. The final score for the quiz will be the highest of the scores for the attempts.

4.3 Open-Book Mid-term exam: 10% of final grade

OPEN-book using multiple-choice questions focusing on the theoretical background, terminology and interpretation of applied statistics and research methods in business, management, computer science and information assurance from Weeks 1-5 inclusive. No calculations are required in the mid-term exam. Scoring will be based on the best score in up to three attempts separated by at least three hours.

4.4 Open-Book Final exam: 20% of final grade

The final exam will be an open-book exam with multiple-choice questions focusing on the theoretical background, terminology and interpretation of applied statistics and research methods in business and management for the entire course. No calculations are required in the final exam, which will be during the assigned final exam period. Scoring will be based on the best score in up to three attempts separated by at least three hours.

4.5 OPTIONAL: Participation in NUoodle Discussions – points added to quiz total

Students may participate in online discussions in the NUoodle classroom devoted to this course. The instructor will assign up to 1 point of extra credit to be added to the overall quiz score for each valuable contribution to the discussions. Good postings include pointers to and analysis of news articles and analytical discussions of topics appropriate to the class. The discussion group can serve to keep you interested and stimulated. In addition, you can post requests for help and those supplying useful responses will get extra credit for replying correctly and promptly.

4.6 OPTIONAL: Extra Written Assignments – points added to homework total

Students can submit extra assignments such as analyses of real-world data or discussions of interesting articles involving statistics and errors in statistical methods; good ones will be posted for other students to read.

- These will contribute points to the total homework score and can compensate for less-than-perfect grades on required assignments, quizzes and exams.
- No more than one extra-credit essay assignment per week is permitted (because it's supposed to be a supplement, not a distraction or a substitute for homework) but there is no limit to the word-count.

QM213 Course Description –Spring 2012

- The point-score will be calculated using ratio of up to 1 extra homework point per 200 words on essays. You may write less than 200 words – you will receive partial credit (e.g., 100 words will net you 0.5 point on your final homework score) – which could make the difference between a B and an A grade).
- The maximum number of extra homework points achievable in this way is 10 (because you have to do the homework!).
- No extra-credit assignments are accepted in May (because you should be reviewing your statistics knowledge thoroughly and finishing all your assignments by then).

4.7 **OPTIONAL: Volunteering for Weekly Study Sessions – up to maximum of additional 5% of final grade.**

Exceptionally gifted students should discuss the possibility of volunteering for weekly student study sessions that could help students having difficulties in the course; such help to others will be rewarded with extra credit at a level to be discussed individually.

5 Cheating and Plagiarism

Students are graded on an individual basis and must therefore complete their own work. Students are reminded of the University's Policy against cheating and plagiarism which is available online at any time < <http://www.norwich.edu/about/policy/academic/appendix1.html> >. Ignorance of the University's Rules is not a valid defense against accusations of academic dishonesty. If in doubt as to what constitutes plagiarism, ask before submitting assignments. Instances of cheating and of plagiarism will be reported to the Academic Integrity Committee. Penalties include expulsion from the University.

6 Attendance Policy – no more than 3 unexcused absences

University regulations stipulate that “Unless stated otherwise, the maximum number of permitted absences is the number of times the course meets per week. When the student has reached the maximum number of permitted absences, the faculty member will warn the student of impending dismissal from class with a grade of ‘F.’ This warning letter will include the course number and section and dates(s) of absence(s). The letter will state that any future unexcused absences may result in recommendation to the Vice President of Academic Affairs through the course School Dean that the student be dismissed from the class with a grade of ‘F.’ A copy of the warning letter will go to the student's academic advisor and to the Commandant and Vice President of Student Affairs.”

7 Office Hours & Contact Information:

Professor Kabay < <mailto:mekabay@gmail.com> > is available in Dewey 209 any time his office door is open – feel free to walk in!

His office hours are posted on his door in Dewey 209 and on his Web site at < http://www.mekabay.com/current_schedule.pdf > and < http://www.mekabay.com/current_schedule.jpg > and also linked via NUoodle.

Students are welcome to call him at (802) 479-7937 at any time (that number rings in his office or his cell phone but cannot disturb him at home); leave a voice-mail message with a return number if necessary. Students may also use Instant Messaging (IM) at any time using Skype using **mekabay** – including video calls.

QM213 Course Description –Spring 2012

8 Additional Notes

- Students will find it helpful to read the assigned readings before coming to class, to discuss all issues freely in class, and then to review the course material after the class.
- There will be no *grading on a curve*. There are no predetermined numbers of final letter grades.
- Review questions will be distributed to students throughout the term. These example questions will not limit the scope of actual exam questions, and are merely intended for review and for exam preparation.
- Students are encouraged to study together but may not collaborate during exams. Students are individually responsible for all assigned readings, lecture, and discussion material.

9 About your Instructor < <http://www.mekabay.com/cv> >.

M. E. Kabay began teaching his high school classmates how to use the slide rule in 1963 and began programming IBM 1401 computers in assembly language in 1965. In 1976, he received his PhD from Dartmouth College in applied statistics and invertebrate zoology and taught biology, statistics and programming as a university professor in Canada and overseas. In 1979, he joined a compiler team for a new 4GL and RDBMS in the U.S. and then joined Hewlett-Packard Canada in 1980 as an operating systems and database performance specialist, winning the *Systems Engineer of the Year Award* in 1982 and teaching primarily MPE operating system, IMAGE/3000 database and VPLUS/3000 GUI-design courses as well as serving as support engineer to HP's hospital and university customers and managing HP's call center (*Phone-In Consulting Service*) for Québec & the Maritime provinces.

He served as Director of Education for the National Computer Security Association (NCSA, later ICSA and then TruSecure) from 1991 to 1999 and then worked with AtomicTangerine where he supported the International Institute for Information Integrity® (I-4®). He collaborated in the committees defining the *Common Body of Knowledge* for the Certified Information Systems Security Professional (CISSP) designation in the mid-1990s and earned his CISSP in 1997.

Since 1986 (and as of mid-2011), he has published over 1,300 articles in operations management and security, written a college textbook on enterprise security (McGraw-Hill, 1996), and served as Technical Editor of the 4th (2002), 5th (2009) and 6th (2013) editions of the *Computer Security Handbook* (Wiley). He wrote two security-management columns a week distributed by *Network World* from February 2000 to September 2011.

He has been an invited lecturer at the United States War College, the Pentagon, NATO HQ in Brussels, and at NATO Counterintelligence training in Germany. He was inducted into the Information Systems Security Association (ISSA) *Hall of Fame* in December 2004 and earned his *Information Systems Security Management Professional* (ISSMP) designation in November 2005.

From 2002 to 2009, he was the Director of the *Master's Program in Information Assurance* (MSIA) in the School of Graduate and Continuing Studies (SGCS) at Norwich University, Northfield, Vermont where he was also the Chief Technical Officer of the SGS from 2007 to 2009.

From June 2001 to April 2011, Dr Kabay was Associate Professor of Information Assurance in the School of Business and Management from 2001 to 2011 and became Professor of Information Assurance and Statistics starting in May 2011. He was appointed Associate Chair of Computing and Program Director of the new Information Operations programs in July 2009.

Dr Kabay also serves as Acting Chief Technical Officer of a high-tech startup, Adaptive Cyber Security Instruments, Inc.

