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| **Course Code and Title** | |
| **MLI36A020 Introduction to Statistics** | **6 cr** |
| **Learning Outcomes and Content** | |
| Learning outcomes for this course, upon successful completion, include the ability to: 1) know and select a tool or measure appropriate to the task and to the measurement nature of the variables, 2) use basic descriptive statistics of central tendency and cross-tabulation to summarize data, 3) learn how to visually present data, such as graphing, table construction, and decision trees, 4) understand populations and sample sizes and their effect on statistical results, 5) use statistical estimation, correlation, and classical statistical tests for simple and multiple regression analyses, 6) understand the use of inferential statistics as a method of decision-making when faced with uncertainty, 7) apply hypothesis testing with confidence intervals for categorical and continuous variables, and 8) use data analysis software, such as the Excel data analysis tool pack, to analyze data and present visualizations of it.  Content:  In this course, the student is introduced to the subject of business statistics to explore quantitative analyses in business, the basic procedures in problem solving, and the sources and types of data used by business firms. Basic statistical analysis will be used by the student to summarize and describe numeric data and to perform inferential statistical analysis to test hypotheses. Emphasis will be placed on learning how to select the appropriate tool to solve problems associated with statistical uncertainty. | |

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| **InstructorName and Profile** |
| Jason Beck  Dr. Beck is an Associate Professor of Economics at Georgia Southern University in Savannah, Georgia, USA. His expertise is in Industrial Organization, Labor Economics, and Real Estate Economics. He holds an M.A. in economics from Miami University and a Ph.D. in economics from the University of Kentucky. |

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| **Email Address** |
| jacenbeck@gmail.com |

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| **Office Hours** |
| M-Th: 12:30-13:00 and 16:00-16:30  Friday: by request |

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| **Required Reading** |
| Basic Business Statistics; Global Edition; 14th edition, M. Berenson , D. Levine, Kathryn A. Szabat, & David F. Stephan ISBN-13: 9781292265032  Students are expected to use the latest edition of the book listed above. If a student uses a previous edition of the textbook it remains the responsibility of the student to identify and address differences in coverage of the course material. Use of the 14th edition is highly |

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| **Course Schedule**  **Note: Since we will miss one session (Dec 6), with the remaining 14 session we need to make up 150 minutes of class time.**  **Traditionally, for a session we would meet 13:00-16:00 with two 15 minute breaks.**  **To make up the missed 150 minutes, we will adjust this.**  **Note that there will be 3 sessions in which an exam occurs (“exam sessions”, which are sessions #5, #10, and #15).**  **During each of the 3 exam sessions, we will meet 30 min early to review the previous homework and review for the exam. This makes up 90 minutes.**  **For the remaining 60 minutes of makeup time, in the first 12 sessions, we will shorten one of our two 15-minute breaks per session to a 10-minute break.** | | |
| **Deduction due to an absence on the first day of the course:** 5 points (on a 100-point scale) will be deducted from the student’s final raw score before converting it to the final grade. If a student is absent on the first day due to illness, and provides the Manager of Academic Operations with a medical certificate, the 5-point deduction will be waived. The Manager of Academic Operations will then inform the instructor of the waived deduction. | | |
| Session # and Date | Topic/s | Assignment/s |
| Session 1: 20 Nov (Monday)  **FIRST DAY ABSENCE DEDUCTION:** see above | Introduction, Defining and Collecting Data | Recommended:  Read Chapter 1 |
| Session 2: 21 Nov (Tuesday) | Organizing and Visualizing Variables | Read Chapters 1 & 2 |
| Session 3: 22 Nov (Wednesday) | Visualization and Numerical Descriptive Measures | Read Chapter 3 |
| Session 4: 22 Nov (Thursday) | Basic Probability & Discrete Probability | Read Chapters 4 & 5 |
| Session 5: 24 Nov (Friday) **Meets at 12:30** | Brief Review  **Exam 1**  Start Normal Distribution | **Homework 1 Due 12:30**  Skim Chapter 6 |
| Session 6: 27 Nov (Monday) | Normal Distribution and Data Visualization | Read Chapter 6 |
| Session 7: 28 Nov (Tuesday) | Sampling Distribution | Read Chapter 7 |
| Session 8: 29 Nov (Wednesday) | Confidence Intervals | Read Chapter 8 |
| Session 9: 30 Nov (Thursday) | Hypothesis Testing | Read Chapter 9 |
| Session 10: 1 Dec (Friday) **Meets at 12:30** | Brief Review  **Exam 2**  Start Chi sq | **Homework 2 Due 12:30**  Chapter 12 |
| Session 11: 4 Dec (Monday) | Chi Square Testing & Simple Linear Regression | Read Chapters 12, 13 |
| Session 12: 5 Dec (Tuesday) | Multiple Linear Regression  Visualization in Multiple Regression | Read Chapter 14 |
| Session 13: 6 Dec (Wednesday) | **Independence Day** | **No course activities** |
| Session 14: 7 Dec (Thursday) | Multiple Linear Regression | Read Chapter 14 |
| Session 15: 8 Dec (Friday) **Meets at 12:30** | Review Session  **Exam 3** | **Homework 3 Due 12:30** |

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| **Grading** | | |
| **Course Requirements** | | Weighting (%) or maximum points |
| Exam 1 | | 23.33% |
| Exam 2 | | 23.33% |
| Exam 3 | | 23.34% |
| Homework 1 (group work) | | 10% |
| Homework 2 (group work) | | 10% |
| Homework 3 (group work) | | 10% |
| Note: The homework grades will be weighted by a peer assessment of your contribution (including your own self-assessment) toward the group homework assignment. For example, if your group members’ average score of your contribution to the group work is 80% out of 100%, your score on the project will be multiplied by 0.80. More specifically, if the grade on the group homework is 90% and your group members’ score of your contribution to the group work is 80%, your score on the homework assignment will be 72%, which is 90% x 0.80. The maximum possible point loss will be limited to one-third of the total points possible for the homework assignments. | |  |
| Total | | 100 |
| |  |  | | --- | --- | | **Conversion scale** | **Final grade**  **(official scale)** | | 90 - 100 | 5 | | 80 - 89 | 4 | | 70 - 79 | 3 | | 60 - 69 | 2 | | 50 - 59 | 1 | | 0 - 49 | 0 | |  | | | | |
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| **ECTS STUDENT WORKLOAD** | |
| This course is a 6 ECTS unit course, following the ECTS (European Credit Transfer System) guidelines of Aalto University School of Business. The number of hours the average student is expected to work in the course is 160 (including in-class and out-of-class work). | |
| **Types of Hours** | **Number of Hours** |
| **Contact hours (on- and off-campus):** | **45** |
| **Out-of-class hours:** | **115**(sum of fields below) |
| Work with course materials, eg required reading | 75 |
| Exam preparation | 15 |
| Team projects (meetings, research, preparation, etc.) | 25 |
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| **Total of all student workload (contact and out-of-class) hours:** | **160** |

**ACADEMIC POLICY STATEMENTS**

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| **CODES OF CONDUCT** |
| Academic excellence and high achievement levels are only possible in an environment where the highest standards of academic honesty and integrity are maintained. Students are expected to abide by the Aalto University Code of Academic Integrity, other relevant codes and regulations, as well as the canons of ethical conduct within the disciplines of business and management education.  In addition, the BScBA Program has strict exam regulations in force which must be followed in all test-taking situations. |

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| **TEXTBOOK POLICY** |
| All required textbooks and other course materials are the responsibility of the student. It is the expectation of faculty that all students will have access to the textbooks and other reading material. If a student is not able to purchase his/her own copy of the textbook or other required reading materials, it is nonetheless the student’s responsibility to find a way to complete the reading for the course. |

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| **CLASS ATTENDANCE AND PARTICIPATION** |
| Class attendance and participation are considered integral parts of teaching and learning at the BScBA program in Mikkeli. Therefore, regular class attendance is required of all students and attendance records are kept for each class. Students are also expected to be in class on time.  If the student participates in the final exam/assessment, it will be graded and counted towards the final grade.  The attendance policy of the BScBA program provides that:     1. **A maximum of three absences of any kind** is allowed for a 3-week, 6-credit course. Four or more absences will result in being dropped from the course. 2. Whenever taking an absence, **the student bears the risk of missing class**, and the consequences, which may include a lower participation grade, missing a graded activity, etc. It is up to the course instructor to decide whether or not a graded activity can be completed later. 3. **An absence on the first day of the course** will result in 5 points (on a 100-point scale) being deducted from the student’s final raw score before converting it to the final grade. If a student is absent on the first day due to illness, and provides the Manager of Academic Operations with a medical certificate, the 5-point deduction will be waived. The Manager of Academic Operations will then inform the instructor of the waived deduction. 4. **A student getting to class after the session has started** will not be able to enter the classroom until the first break and will get an absence for the day. 5. It is expected that **students marked present for the day are in class the entire time.** Students leaving class early may be marked absent. 6. **The instructor may include class participation as a component of the grade;** up to 15% of the total points that can be earned toward the final grade. 7. **The instructor may identify up to three days of the course (in addition to the first day) as mandatory,** ie taking an absence on those days would have a direct impact on the course grade.   The instructor for the course will take attendance in classes. The decision to drop a student from a course will be made by the instructor, who will inform Mari Syväoja, Manager of Academic Operations: [mari.syvaoja@aalto.fi](mailto:mari.syvaoja@aalto.fi).  **Addition to the attendance policy of the BScBA Program, Mikkeli Campus:**   * This addition concerns absences in addition to the normal maximum of three that would fall under a category called **Medical and Family Emergency cases**. * Students who want to use this option to complete a course must fulfil these criteria:   + The total absences of the student will exceed the normally allowed three absences due to a major medical problem or family emergency.   + The student will be absent no more than 5 days; exceeding that number of days will result in dropping the course.   + Documentation or a detailed explanation concerning the entire period of the emergency (such as a medical certificate) is provided to the Manager of Academic Operations. * The case-by-case solution will be coordinated by the Manager of Academic Operations, who will deal with the documentation and discuss with the instructor to find a pedagogical solution enabling the student to continue in the course. In case the MAO is on leave, the student should contact the other study office staff. * The solution must not cause a significant increase in the instructor’s workload. The grading elements for the course may be reviewed, and additional assignments may be arranged if feasible. However, a shifting of grading proportions may occur. The course grade might be affected due to the student missing some in-class activities. |
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