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| http://www.twu.ca/divisions/ucomm/resources/twu-logo/blue/twul-b-v.jpg | **SOCI/PSYC 207 Data Analysis**  Professor: Dr. Michael Bodner |

**Summer 2017 Phone:** 3723

**Days:** MTRF **Email:** mike.bodner@twu.ca

**Time:** 8:30-11:30AM **Office:** GYM

**Class Location:** CANIL Lab **Office Hours:** by appointment

**Semester Hours:** 3 **Co-requisites/Pre-requisities:** SOCI 101 or

PSYC 105/106

**COURSE DESCRIPTION**

The logic and the application of data analysis techniques suitable for the behavioural sciences. Descriptive statistics and inferential statistics, including measures of central tendency, variability, probability and sampling theory, correlation, regression, and non-parametric statistics.

**COURSE LEARNING OUTCOMES**

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| **TWU Student Learning Outcomes** | **Course Student Learning Outcomes** |
| **Knowledge and its application**   * a broad foundational knowledge of human culture and the physical and natural world. * a depth of understanding in any chosen field(s) of study. * applied knowledge acquired through discipline-appropriate experiential learning. | * To understand the value, relevance and application of statistics for scholarly and professional endeavors * To grasp the concepts, purpose and reasoning underlying conventional statistical procedures appropriate for evaluation of data/information in the social sciences and other disciplines * To explore and become familiar with SPSS statistical software for conducting selected statistical analyses |
| **Cognitive complexity**   * skills including: critical and creative thinking, quantitative reasoning, communication, research, and information literacy. * an ability to articulate various interdisciplinary and multi-disciplinary perspectives, integrating informed Christian perspectives. * an ability to respond with wisdom, humility and charity to questions, issues, and problems of the human condition. | * To develop entry-level statistical skills requisite for the understanding and critical evaluation of research. * To apply appropriate descriptive and inferential statistical techniques for data analysis * To develop and augment students’ communication skills with respect to statistical analysis and interpretation |
| **Leadership**   * skills to become creative, collaborative, informed, competent, and compassionate people who influence the various contexts into which they are called. * abilities and attitudes characterized by service, humility and integrity. | * To develop and foster a Christian perspective of the use of statistics in research, focusing on inquiry, value and service. |

**REQUIRED TEXTS AND MATERIALS**

Salkind NJ. *Statistics for people who hate statistics*. 6th ed. Thousand Oaks, CA: SAGE Publications, 2017.

In addition to the text, the student must have access to **SPSS statistical software**. This is available in the Norma Marion Alloway Library. Please check Library hours for access. 6 month rental copies are also available for purchase through IBM/SPSS.

**SUPPLEMENTARY READINGS**

Overholser BR, Sowinski KM. (2007). Biostatistics primer: Part 1. *Nutrition in Clinical Practice* 22:629–635.

Overholser BR, Sowinski KM. (2008). Biostatistics primer: Part 2. *Nutrition in Clinical Practice* 23:76–84.

**COURSE ACTIVITIES/REQUIREMENTS**

**Unit test 1 May 5th, 2017**

**Unit test 2 May 12th, 2017**

The Unit tests will be based on the material covered in the textbook and class sessions up to the date of the test. Unit test 2 is not cumulative.

**SPSS Statistical Assignments Due as assigned** (see schedule)

**Responsive reading May 19th, 2017**

Partial guided response to the article: Grumet GW. The soft underbelly of statistics. *Perceptual and Motor Skills* 76, 515-529, 1993.

**Final Exam May 19th, 2017**

Comprehensive and cumulative, with greater emphasis on materials covered since Unit 2 test: based on lectures, readings, handouts and discussions covered throughout the course.

**COURSE EVALUATION**

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|  | **Assignments and evaluation** | **Learning Outcomes** | **Percentage** |
| 1. | Midterm Exams | Knowledge and its application  Leadership | 30% |
| 2. | Statistics Assignments | Cognitive complexity | 30% |
| 3. | Responsive reading | Cognitive complexity | 5% |
| 4. | Final Exam | Knowledge and its application | 35% |
|  | **Total** |  | **100%** |

**COURSE POLICIES**

**Attendance and Participation:** Students are expected to be punctual and diligent in their attendance and class participation. The policy, then, will be as follows: it is the responsibility of the student to attend and participate in all scheduled class sessions. An instructor may bar a student from writing the final examination in any course where the student has been absent without permission or legitimate cause for more than one-quarter of the classes

*In the event that some circumstance causes a major disruption to the face-to-face delivery of this course, every effort will be made to ensure the learning outcomes are achieved. Although unlikely, it may be necessary to temporarily transition to MyCourses for online delivery. Please check the MyCourses announcements periodically, and be prepared to transition to MyCourses if necessary.*

**Assignments, Formatting and Late Penalties**

* All assignments including labs are due at the commencement of class on the due date in **hard copy format** (unless otherwise stated).
* ***Formatting/Style:*** Referencing (if used) should follow the **APA style** and all references used must be appropriately cited/documented. An APA short form guide is posted on MyCourses.
* Unstapled assignments will not be accepted.
* Late assignments, will be **penalized 20% per day** (weekends count as one day) or portion thereof.

**Academic Integrity and Avoiding Plagiarism at TWU**

Academic integrity is a core value of the entire TWU community. Students are invited into this scholarly culture and are required to abide by the principles of sound academic scholarship at TWU. This includes, but is not limited to, avoiding all forms of plagiarism and cheating in scholarly work.

TWU has a strict policy on plagiarism (see TWU academic calendar 2016-2017). For details on this, and on identifying and avoiding plagiarism go to the [University Homepage](http://twu.ca/academics/calendar/2014-2015/academic-information/academic-policies/academic-dishonesty-and-plagiarism.html). ***Learning what constitutes plagiarism and avoiding it is, in part, the student's responsibility****.* An excellent resource describing what plagiarism is (and how to avoid it) has been prepared by TWU Librarian William Badke; this has been posted on PSYC 207 MyCourses for download (PPT file). ***It is expected that students will review this powerpoint presentation to familiarize themselves with plagiarism.***

**Grading System**

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| A+  A  A–  B+  B  B– | 95-100  85-94  80-84  77-79  73-76  70-72 | C+  C  C–  D+  D  D–  F | 67-69  63-66  60-62  57-59  53-56  50-52  0-49 |

**Students with a Disability**

Students with a disability who need assistance are encouraged to contact the Equity of Access Office upon admission to TWU to discuss their specific needs. All disabilities must be recently documented by an appropriately certified professional and include the educational impact of the disability along with recommended accommodations. Within the first two weeks of the semester, students must meet with their professors to agree on accommodations appropriate to each class. Students should follow the steps detailed by the Equity of Access Office outlined in the Student Life section of the University Calendar.

***Examinations:*** In general, exams are not deferred. Deferred exams are granted for only documented medical reasons or legitimate emergencies only (e.g. family emergencies, car accidents, etc.). In such cases the student should email the professor at the earliest convenience to inform of exam absence. A written confirmation of the legitimate emergency from an appropriate independent third party (i.e. physician, TWU student life representative, etc.) is required for the student to write the deferred exam, and must be presented to the professor (earliest convenience).

***Student Misconduct:*** Student misconduct, which includes (but is not limited to) plagiarism, and disruption of the learning environment including distraction of other students, will not be tolerated. For example, use of laptops or smart/cell phones for email, messaging, and games during class time is **not appropriate** as it is distracting for other students.

***Campus Closure Due to Inclement Weather***

In the event of deteriorating weather conditions or other emergency situations, every effort will be made to communicate information regarding the cancellation of classes to the following radio stations CKNW (980 AM), CKWX (1130 AM), STAR FM (107.1 FM), PRAISE (106.5 FM) and KARI (550 AM). As well, an announcement will be placed on the University’s campus closure notification message box (604.513.2147) and on the front page of the University’s website (<http://www.twu.ca> – also see <http://www.twu.ca/conditions> for more details).An initial announcement regarding the status of the campus and cancellation of classes is made at 6:00 AM and covers all classes beginning before 1:00PM. A second announcement is made at 11:00AM that covers all classes which begin between 1:00PM and 5:00PM. A third announcement is made at 3:00PM and covers those classes which begin after 5:00PM.

***Writing Center:***The Writing Center service is available to assist all students with their academic writing assignments.

***General:*** All TWU policies apply. Please refer to the 2016-2017 Trinity Western University student handbook for all policies and procedures related to ethics and expectations.

**TENTATIVE COURSE OUTLINE**

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| **Date** | **Topic** |
| **May 1**  Mon | Hour 1 Introduction to statistics (Ch. 1); syllabus, Grumet assignment  Hour 2 Descriptive Statistics (Ch. 2)  Hour 3 *Using SPSS (application of descriptive statistics)* – Appendix A |
| **May 2**  Tues | Hour 1 Descriptive Statistics (Ch. 2)/Visualizing data (Ch. 4)  Hour 2 Using SPSS (visualizing data example)/Variability (Ch. 3)  Hour 3 Variability (Ch.3)/*Using SPSS to assess variability* |
| **May 4**  Thurs | Hour 1 Concept of measurement/Validity and reliability of measures (Ch.6)  Hour 2 Validity and reliability of measures (Ch.6)  Hour 3 Validity and reliability of measures (Ch.6) |
| **May 5**  Fri | Hour 1 **Unit test #1**  Hour 2 Creating and testing hypotheses (sampling) (Ch.7)  Hour 3 Creating and testing hypotheses (sampling) (Ch.7)  ***\*SPSS Assignment 1 due*** |
| **May 8**  Mon | Hour 1 Probability and the normal curve (Ch. 8)  Hour 2 Probability and the normal curve (Ch. 8)  Hour 3 Probability and the normal curve (z-scores) (Ch.8)/*Using SPSS to calculate z-scores* |
| **May 9**  Tue | Hour 1 Statistical significance (Ch.9)  Hour 2 Statistical significance and confidence intervals (Ch.9)/Effect size and Power analysis  Hour 3 T-tests for independent samples (Ch. 11) |
| **May 11**  Thu | Hour 1 T-tests for independent samples (Ch. 11)  Hour 2 T-tests for independent samples (Ch. 11)/*Using SPSS for independent T-tests*  Hour 3 T-tests for independent samples (Ch. 11) |
| **May 12**  Fri | Hour 1 **Unit test #2**  Hour 2 T-tests for dependent samples (Ch. 12)  Hour 3 ANOVA (Ch. 13)  ***\*SPSS Assignment 2 due*** |
| **May 15** | Hour 1 ANOVA (Ch. 13)  Hour 2 ANOVA (Ch. 13)  Hour 3 ANOVA/*Using SPSS for ANOVA* |
| **May 16** | Hour 1 Correlation coefficient  Hour 2 Correlation coefficient  Hour 3 *Using SPSS for correlation coefficients* |
| **May 18** | Hour 1 Linear regression (Ch. 16)  Hour 2 Linear regression (Ch. 16)  Hour 3 Chi square (Ch. 17) |
| **May 19** | Hour 1 Review  Hour 2 **Final Exam**  Hour 3 **Final Exam**  ***\*Grumet review due***  ***\*SPSS Assignment 3 due*** |

*\*Any of the times, dates, and/or content printed within this course syllabus may be subject to change as determined by the instructor. Students will be notified of any changes on or before the date of the determined change.*