Miyazaki International College

Course Syllabus

Fall 2021

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| Course Title ( Credits ) | IDS 302 Research Methods 2: Data Analysis (3 Credits) |
| Course Designation for TC | N/A |
| Content Teacher | |
| Instructor | Futoshi Kobayashi, Ph.D. |
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| Office/Ext | MIC 1-410/Ext. 3735 |
| Office hours | Tuesday & Thursday 15:45 - 17:15 |
| Language Teacher | |
| Instructor | N/A |
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| Office hours | N/A |

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| Course Description: | | |
| This course will expand on students’ skills acquired in Research Methods 1. Emphasis will be on research designs used in laboratory and in field settings, and on data analysis. Students will be expected to conduct research projects related to their own disciplinary interests, such as psychology, sociology, anthropology, political science, or economics. | | |
| Course Objectives: | | |
| This course introduces students to the process of conducting research. Students will have the opportunity to use research designs studied in Research Methods 1 to collect, enter, and analyze data, to interpret findings, and to present results to others. Students will conduct four different research projects: survey research, archival research, observational research, and qualitative research (i.e., interview-based case study).  Critical thinking: In this course we practice essential critical thinking skills including interpretation, analysis, evaluation, inference, and explanation. We will practice these critical thinking skills both formally through specific research assignments and tests, as well as more informally during class discussions, presentations, question and answer sessions, and other active learning activities. | | |
| Teaching Methodology: | | |
| Course objectives will be achieved through a variety of active learning teaching strategies, including but not limited to:   |  |  | | --- | --- | | Active Learning Teaching Strategy | Course Schedule | | Interactive Lectures with Note Taking | Most classes | | Pair or Group Work | Most classes | | Individual Research | Lessons 12-14, 16-19, 21-22, & 24-30 | | Individual Presentations | Lessons 15, 20, & 23 | | | |
| Course Schedule | | |
| Day | Topic | Content/Activities |
| 1 | Introduction | Discussion of Syllabus  Explanation of Goals and Purpose of the Class  Log-in Moodle Course  Introduction of Web Dictionary  for English Learners  (HW) Read Chapter 11 Text |
| 2 | Chapter 11: Describing Single Variables (1) | Chapter 11 Text Questions  Exercise 1: Frequency Table & Histogram  Central Tendency (Handout Explanation)  Exercise 2: Standard Deviation (SD) |
| 3 | Chapter 11: Describing Single Variables (2) & Chapter 12: Describing Statistical Relationships (1) | Exercise 3: Mean, Median, Mode, SD, & Range  Exercises 4: Percentile Rank & *z* Score  Chapter 12 Text  Chapter 12 Text Questions  Exercise 1: Cohen’s *d*, bar graph, & correlation (continues) |
| 4 | Chapter 12: Describing Statistical Relationships (2) | Exercise 1: Cohen’s *d*, bar graph, & correlation (ends)  Correlation Activity 1: Possible Interpretations Correlation Activity 2: Positive or Negative  Excel Activity (Handout & PC) (continues) |
| 5 | Chapter 12: Describing Statistical Relationships (3) | Excel Activity (Handout & PC) (ends) Excel Activity (Handout & PC) (ends)  Exercise 2: Scatterplot & Pearson’s *r* (2)  Exercise 3: Cohen’s *d* & Interpretation |
| 6 | Chapter 13: Understanding Null Hypothesis Testing (1) | Chapter 13 Text  Chapter 13 Text Questions |
| 7 | Chapter 13: Understanding Null Hypothesis Testing (2) | Video 1: Null & Alternative Hypotheses (Group Discussion)  Video 2: Understanding the *p* value (Group Discussion)  Two Scenarios for Null Hypothesis Testing  Chapters 11&12 Test Preparation Guide |
| 8 | Chapter 13: Understanding Null Hypothesis Testing (3)  &  Chapter 14: Some Basic Null Hypothesis Tests (1) | Ch. 13 Exercise 1: Sample Size & Statistical Significance  Chapter 14 Text  Chapter 14 Text Questions  Ch. 14 Exercise 1: One-Sample *t* test  Two-Tailed Test and One-Tailed Test (Short Lecture) |
| 9 | Chapter 14: Some Basic Null Hypothesis Tests (2) | Chapters 11&12 Test  Ch. 14 Exercise 2: Mean, *t* value, & *p* value  Exercise 3: Correlated-Samples *t* test  Exercise 4: Independent-Sample *t* test |
| 10 | Chapter 14: Some Basic Null Hypothesis Tests (3) & Chapter 15: Additional Considerations (1) | Exercise 5: One-Tailed or Two-Tailed Test  Exercise 6: One-Tailed or Two-Tailed Test & Statistical Significance  Chapter 15 Text  Chapter 15 Text Questions |
| 11 | Chapter 15: Additional Considerations (2) & Survey Research (1) | Video 1: Type I and Type II Errors (Group Discussion)  Type I Error and Type II Error Exercise (Group Discussion)  Video 2: Type I and Type II Errors (Group Discussion)  Video 3: Statistical Power (Group Discussion)  Exercise 1: Statistical Power  Survey Research Text  Survey Research Text Questions (continues) |
| 12 | Survey Research (2) | Survey Research Text Questions (ends)  Good Survey Questions Activity  Survey Research Guidelines  Survey Questions Sheet |
| 13 | Survey Research (3) | Learn How to Use Google Form  Make Informed Consent Form and Survey Sheet |
| 14 | Survey Research (4) | Example PPT & Scoring Rubric  Sign-Up for Presentation Order  Presentation Preparation |
| 15 | Survey Research (5) & Archival Research (1) | Survey Research Presentations  Chapters 13&14 Test Preparation Guide  Archival Research Text  Archival Research Text Questions  Archival Research Activity |
| 16 | Archival Research (2) | Content Analysis Activity  3 Archival Research Videos  Archival Research Guidelines  Research Question, Coding System, and Data Analysis Strategy Form (continues) |
| 17 | Archival Research (3) | Chapters 13&14 Test  Research Question, Coding System, and Data Analysis Strategy Form (ends)  Data Collection & Analysis in Library |
| 18 | Archival Research (4) | Explain Example PPT & Scoring Rubric  Sign-Up for Presentation Order  Presentation Preparation (continues) |
| 19 | Archival Research (5) | Presentation Preparation (ends) |
| 20 | Archival Research (6) | Archival Research Presentations  Chapter 15 Test Preparation Guide |
| 21 | Observational Research (1) | Observational Research Video 1 (Group Discussion)  Observational Research Activity  Practice Independent *t* Test on the Web  Observational Research Guidelines |
| 22 | Observational Research (2) | Chapter 15 Test  Research Hypothesis Sheet  Observational Research Data Collection  Explain Example PPT & Scoring Rubric  Sign-Up for Presentation Order  Presentation Preparation |
| 23 | Observational Research (3) | Observational Research Presentations |
| 24 | Qualitative Research (1) | Research of Meiji Corporation (Lecture)  Video 1: Quantitative vs. Qualitative  Research (Group Discussion)  Open-Ended vs. Close-Ended Questions (Group Discussion)  Video 2: How to do a research interview (Group Discussion) (continues) |
| 25 | Qualitative Research (2) | Video 2: How to do a research interview (Group Discussion) (ends)  Video 3: Implementing In-Depth Interview Well (Group Discussion)  Video 4: What is a code? (Group Discussion)  Video 5: Why do we code? (Group Discussion) |
| 26 | Qualitative Research (3) | Video 6: What does coding looks like? (Group Discussion)  Video 7: How to know you are coding correctly? (Group Discussion)  Qualitative Research Guidelines  Example Questions  Transcript Example (with Comments) |
| 27 | Qualitative Research (4) | Informed Consent Form Example (for Interview)  Practice Both Roles (i.e., Interviewer and Interviewee)  Memorize Your Interview Questions |
| 28 | Qualitative Research (5) | Data Collection  Homework: Finish Making One’s Transcript. |
| 29 | Qualitative Research (6) | How to Write Report of Original Question(s)  How to Write Code One’s Data & Make Memos  Make Memos (continues) |
| 30 | Qualitative Research (7) | Make Memos (ends)  Write One’s Report  Final Exam Grading Rubric |
|  | Final Exam | Submission of Your Report of Original Question(s), Transcript with Codes, Memos, and Written Report |
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| Required Materials: | | |
| Bring a highlighter, a red pen, a pencil, an eraser, an English-English dictionary, and an A-4 binder to every class. Instead of using a standard textbook, handouts will be given in class. There are no textbooks necessary. Students are expected to keep this syllabus and all class materials organized neatly in a binder, and to bring the binder to every lesson. | | |
| Course Policies (Attendance, etc.) | | |
| You are expected to be punctual and to attend all lessons. A delay or early departure will be counted as a half (0.5) day absence. However, any absence, delay, or early departure can be excused if an official document (e.g., doctor’s notes) is submitted to your instructor within 7 days of such an occurrence. When you miss a lesson, it is your responsibility to see your instructor afterwards (and perhaps other students who attended the lesson), to find out how to catch up with the work you missed. If you expect to be absent from a forthcoming lesson, you should email your instructor to explain your absence at least one day in advance.    **A maximum of five and a half (5.5) absences is allowed. The sixth absence will automatically result in a grade of F (Fail).** | | |
| Class Preparation and Review | | |
| Students are expected to spend at least one hour reviewing and doing homework and one hour preparing for every hour of lesson time. | | |
| Grades and Grading Standards | | |
| 47% Chapter Tests (3 times)  30% Individual Presentations (10% for each of research presentation X 3 times)  23% Final Research Project (1% for Original Questions, 2% for Memos, 10% for Transcript with Codes, & 10% for Written Report)  The final grade will be determined as below.  A: 90-100 points  B: 80-89 points  C: 70-79 points  D: 60-69 points  F: Less than 60 points  Plagiarism  Plagiarism is not acceptable at MIC. Students must submit their own work and not copy from other sources, unless they credit their sources with appropriate referencing. Students caught copying information from other sources and pretending that it is their own work will automatically result in a grade of ‘F’ or withdrawal from the course. | | |
| Methods of Feedback: | | |
| In principle, graded work will be returned within one week of submission with appropriate feedback, i.e., grade, comments, etc. | | |
| Diploma Policy Objectives: | | |
| Work completed in this course helps students achieve the following Diploma Policy objective(s):  1: Advanced thinking skills (comparison, analysis, synthesis, and evaluation) based on critical thinking (critical and analytic thought)  3: The ability to identify and solve problems  5: Proficiency in the use of information technology | | |
| Notes: | | |
| The schedule, policies, and procedures in this course are subject to change at the discretion of the instructor. | | |

