Miyazaki International College

Course Syllabus

Fall 2022

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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. |
| E-mail address | fkobayas@sky.miyazaki-mic.ac.jp |
| Office/Ext | MIC 1-410/Ext. 3735 |
| Office hours | Tuesday & Thursday 15:45 - 17:15 |
| Language Teacher |
| Instructor | N/A |
| E-mail address | N/A |
| Office/Ext | N/A |
| 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:

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| 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 |

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| Course Schedule |
| Day | Topic | Content/Activities |
| 1 | Introduction | Discussion of SyllabusExplanation of Goals and Purpose of the ClassLog-in Moodle CourseIntroduction of Web Dictionaryfor English Learners(HW) Read Chapter 11 Text |
| 2 | Chapter 11: Describing Single Variables (1) | Chapter 11 Text QuestionsExercise 1: Frequency Table & HistogramCentral 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* ScoreChapter 12 TextChapter 12 Text QuestionsExercise 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 NegativeExcel 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 TextChapter 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 TestingChapters 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 SignificanceChapter 14 TextChapter 14 Text Questions Ch. 14 Exercise 1: One-Sample *t* testTwo-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* valueExercise 3: Correlated-Samples *t* testExercise 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 TestExercise 6: One-Tailed or Two-Tailed Test & Statistical SignificanceChapter 15 TextChapter 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 GuidelinesSurvey 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 RubricSign-Up for Presentation OrderPresentation Preparation |
| 15 | Survey Research (5) & Archival Research (1) | Survey Research PresentationsChapters 13&14 Test Preparation GuideArchival Research Text Archival Research Text QuestionsArchival Research Activity |
| 16 | Archival Research (2) | Content Analysis Activity3 Archival Research VideosArchival Research GuidelinesResearch Question, Coding System, and Data Analysis Strategy Form (continues) |
| 17 | Archival Research (3) | Chapters 13&14 TestResearch Question, Coding System, and Data Analysis Strategy Form (ends)Data Collection & Analysis in Library |
| 18 | Archival Research (4) | Explain Example PPT & Scoring RubricSign-Up for Presentation OrderPresentation 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 ActivityPractice Independent *t* Test on the WebObservational Research Guidelines |
| 22 | Observational Research (2) | Chapter 15 TestResearch Hypothesis Sheet Observational Research Data CollectionExplain Example PPT & Scoring RubricSign-Up for Presentation OrderPresentation 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 GuidelinesExample 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 CollectionHomework: 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 MemosMake Memos (continues) |
| 30 | Qualitative Research (7) | Make Memos (ends)Write One’s ReportFinal 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 pointsB: 80-89 pointsC: 70-79 pointsD: 60-69 pointsF: Less than 60 pointsPlagiarismPlagiarism 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. |

