

BUS- MGT 6220

Data Analysis and Decision Making for Human Resource Management

THE OHIO STATE UNIVERSITY
FISHER COLLEGE OF BUSINESS
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Office Hours: Mondays & Tuesdays 4:30-5:30 pm and by appointment
Class Hours: Mondays, 6:15-9:30 pm in 355 Gerlach Hall

REQUIRED MATERIALS:

Edwards, M.R., & Edwards, K. (2016). *Predictive HR Analytics: Mastering the HR Metric*. Kogan Page. ISBN# 978-0-7494-7391-4

Pease, G., Byerly, B., & Fitz-enz, J. (2013). *Human capital analytics: How to harness the potential of your organization's greatest asset*. John Wiley. ISBN #978-1-118-46676-6

Web Page: Course information, including additional required materials, will be posted on Carmen (<http://carmen.osu.edu>). This site will be used to provide you with class session assignments, handouts, slides, announcements, and grade information. If you have questions or problems with Carmen, call 688-HELP or e-mail carmen@osu.edu.

It is strongly recommended, but not required, that you bring a laptop computer with you to class, especially for the sessions following the first exam. On that laptop, you will want to have Microsoft Excel with the following, depending on the type computer.

- If you have a PC, you will need to install the Data Analysis ToolPak Add-In. The ToolPak comes with Excel for PCs but needs to be loaded (see instructions at: <https://support.office.com/en-us/article/Load-the-Analysis-ToolPak-305c260e-224f-4739-9777-2d86f1a5bd89>)
- If you have a mac, you will need to install a separate program called StatPlus. StatPlus for Mac is a free download available at: <https://www.analystsoft.com/en/products/statpluse/>.

Additional resources: If it would be helpful for you to have an additional text resource for using Excel for statistical analysis or understanding data quality and collection, the following are recommended. These are not required and you will only be tested on assigned materials.

Carlberg, C. (2014). *Statistical analysis: Microsoft Excel 2013*. Pearson/Que. ISBN #978-0-7897-5311-3

Ghauri, P., & Grønhaug, K. (2010). *Research methods in business studies, 4th edition*. Prentice Hall/Financial Times. ISBN #978-0-273-71204-6

COURSE DESCRIPTION:

This introduction to data analysis and statistics for Human Resource Management emphasizes achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision-making.

Establishing effective human resource management programs, policies, and practices requires data-driven, evidence-based decision-making. This course provides the methods and tools needed to gather the evidence and analyze the data needed for effective HR decision-making. The course will advance students' quantitative skills but assumes an intermediate level proficiency with Microsoft Excel. Students with limited Excel skills are strongly encouraged to develop those skills prior to or early in the semester through the resources provided.

COURSE OBJECTIVES:

Students will learn how to gather useful, meaningful data, how to analyze those data appropriately, and how to communicate those findings to a business audience. The specific concepts and skills covered in order to facilitate managing human capital in an evidence-based manner include the following:

- How data-based decision-making informs HR practice
- How to evaluate the evidence supporting HR practices and policies presented in HR publications and in vendor materials
- The ethics involved in conducting organizational data collections
- Identifying and visually modeling questions to be answered
- Data collection and analysis terminology
- Different types of research and when each is needed
- Stakeholders in data collection efforts
- Methods and issues of employee sampling
- Attributes of useful data (e.g., reliable, valid)
- Elements of designing a data collection
- Collecting data using various methods including surveys, interviews, archives and assessments
- Using primary and secondary data
- Preparing data for analysis
- Analyzing data using descriptive and associative statistics with Microsoft Excel
- Effectively communicating results and recommendations

INSTRUCTIONAL PHILOSOPHY:

Each of us is responsible for the success of this class. I have tried to design the course to maximize your learning and I am committed to creating a positive learning environment in the classroom. My goal is to strike a balance between my presentation of material and your involvement in discussions, projects, and exercises. The material in this course may seem complex and abstract to many of you, especially if this is your first experience with designing data collections and statistics, but I am here to help. I encourage you to seek me out if you have questions, and I will do my best to steer you in the right direction. What you ultimately get out of the course is, however, up to you. If we both do our parts, this course will be a positive learning experience for all of us.

EXPECTATIONS:

1. Attendance. Regular attendance throughout the quarter is critical and appreciated. Understanding (not to mention a decent grade) will not be acquired by reliance on readings instead of class attendance nor vice versa.
2. Preparation. Come to class having completed the assignments (except those labeled as in-class activities). Review those materials prior to class so you are prepared to discuss them, and bring your course materials with you to class. I structure the class time assuming that you have completed the assignments. Class time will be spent evaluating, integrating and supplementing the material presented in the readings. Contributing to the class (below) requires preparation.
3. Contribution. Ask questions and contribute your thoughts and personal experiences whenever relevant. When students actively participate in the discussion and contribute their experiences, everyone benefits from a more positive and interesting learning environment. Remember, we are all in this class to learn from one another!
4. Professionalism. Be respectful of each other and demonstrate a high level of courtesy and professionalism.

GRADING:

Grades will be based on three exams, a team project, and in-class contributions.

Exams. There will be two exams, the first consisting of short answer questions and second problems requiring statistical analysis. The exams are designed to assess students' understanding of and ability to integrate and apply the basic concepts, processes, and issues covered in the course. The exams are not comprehensive, but material covered earlier in the term is needed to evaluate the material covered later in the term. For the first exam, you will be provided with the population of questions from which the exam questions will be randomly sampled. For the second exam, you will be provided with a list of analyses that you might be asked to conduct.

Class Contribution. Note that contributing is not the same as attending or participating (though one cannot contribute does not attend or participate). Contributing is defined as providing comments that demonstrate knowledge and application of course material, asking insightful questions, respectful responses to the comments of others, refraining from overly long monologues or war stories, and actively engaging in in-class activities.

Team Project. Teams of students will complete a project aimed at providing practical application of the course material. The project involves designing a survey, collecting data using that survey, analyzing that data, and then summarizing and interpreting the results of that survey. A detailed description of this project is provided on pages 4-5 of this syllabus.

The graded elements described above will be weighted as follows:

	Points	%
Exams (130 points each)	260	65
Team Project	120	30
Contribution to Class Discussions	20	5
Total:	400	100

GRADING (continued):

The straight scale shown below will be used to determine final grades:

TOTAL POINTS	GRADE
374 – 400	A
360 – 373	A-
347 – 359	B+
334 – 346	B
320 – 333	B-
307 – 319	C+
294 – 306	C
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< 240	E

UNIVERSITY AND COURSE POLICIES:

- Students may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce the ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If a student is suffering from any of the aforementioned conditions, there is a broad range of confidential mental health services available on campus via the Office of Student Life Counseling and Consultation Services (CCS) by visiting www.ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 1030 Lincoln Tower, Cannon Drive. 24-hour emergency help is also available through the National 24/7 Prevention Hotline at 1-800-273-TALK or at www.suicidepreventionlifeline.org.
- Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform me as soon as possible of their needs. The Office for Disability Services is located in The Office for Disability Services is located in 098 Baker Hall, 113 W. 12th Ave. VRS: 614-429-1334; <http://www.ods.ohio-state.edu/>.
- Students who are concerned about their class performance should contact me as soon as those concerns arise. I will work with you to improve your grade where possible, but you must take the initiative to do so – and the earlier you do so, the better.
- No late assignments or make-up exams will be allowed unless I am advised of a valid excuse **prior** to the exam or due date.
- If you have concerns about a graded element, you may submit an appeal. Appeals must be in writing and must contain (a) a clear identification of what you are appealing and (b) an explanation of why you think the assigned grade does not reflect the quality of your performance including support for that position. Appeals must be received within one week of when the work is returned to you. All such appeals will be carefully considered and you will receive a written response within one week of when the appeal was received. I reserve the right to re-grade the entire assignment or exam.

UNIVERSITY AND COURSE POLICIES (continued):

- Academic Misconduct: The Ohio State University's Code of Student Conduct, Section 3335-23-04 defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an "excuse" for academic misconduct. The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Failure to follow the rules and guidelines established in the University's Code of Student Conduct may constitute "Academic Misconduct." Sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University. For more information, please reference: <http://oaa.osu.edu/coamfaqs.html#academicmisconductstatement>.

CLASS SCHEDULE:

The outlines posted on Carmen will specify the assignments for each class.

DAY (DATE) TOPIC

MONDAY (1/8)	COURSE INTRODUCTION
MONDAY (1/15)	No class – Martin Luther King day
MONDAY (1/22)	IDENTIFYING QUESTIONS
MONDAY (1/29)	MEASUREMENT & SAMPLING
MONDAY (2/5)	DESIGNING DATA COLLECTIONS *Status Reports Due*
MONDAY (2/12)	DATA COLLECTION METHODS
MONDAY (2/19)	ETHICS & PRESENTING RESULTS
MONDAY (2/26)	No class – Term 1 finals
MONDAY (3/5)	EXAM 1
MONDAY (3/12)	No class – Spring Break
MONDAY (3/19)	DATA PREPARATION
MONDAY (3/26)	DESCRIPTIVE STATISTICS
MONDAY (4/2)	GROUP COMPARISONS
MONDAY (4/9)	BIVARIATE ASSOCIATIONS
MONDAY (4/16)	MULTIVARIATE ASSOCIATIONS
MONDAY (4/23)	EXAM 2
MONDAY (4/30)	TEAM PROJECTS DUE

TEAM PROJECT:

You will be divided into teams (3-4 students) during the second class session in order to provide practical experience on a simulated human resource consulting team and application of the course concepts. As a team, you will need to design, administer, and analyze a survey. The survey should focus on an HR issue (e.g., an attitude survey, benefit preference or satisfaction survey, post-exit survey, development needs self-assessment, etc.) and your data collected from sample of employees (exceptions are possible but must be approved by the instructor).

This project requires (a) determining the research questions, target population, and sampling procedures; (b) defining the concepts of interest and writing (or locating) survey questions to appropriately measure those concepts; (c) administering the survey; (d) analyzing the collected data; and (e) interpreting and presenting your findings.

The survey should include at least 15 questions and be completed by at least 25 respondents. Exceptions to these minimum requirements may be granted depending on the nature of the research questions and target population. Choose your topic (i.e., the research questions) based on your collective experiences as members of organizations or your interests within HR. Alternatively, you may want to talk with someone presently working in HR to identify a problem or issue that a survey would help them address.

A ½ page status report will be due from each team on 2/5 (submit via Carmen). Status reports can be submitted earlier if you would like to receive feedback earlier on your project plans. Additional feedback can be sought from the Professor at any time and you are encouraged to seek out help if you have questions, if you're struggling or confused, or if you need guidance on any aspect of the project (e.g., appropriateness of research questions, review of draft survey, appropriateness of analyses) or the course.

A written report describing your survey project is due by 4/30. There are no minimum or maximum page limits, the written report should be as long as necessary to present the relevant material and no longer. The report should be prepared as if you were providing it to the executive who commissioned the survey. Your report should be professional in appearance and demonstrate appropriate application of course material throughout.

Projects will be evaluated on the following criteria:

1. Clarity of and support for research questions and model [15%].
2. Clarity of target population and appropriate selection and execution of sampling procedures [15%].
3. Appropriateness and clarity of survey questions [15%].
4. Appropriateness discussion of research design, data collection, and data handling, and data cleaning [15%].
5. Appropriateness and completeness of data analyses [15%].
6. Clarity of results and interpretation [10%].
7. Application of course material throughout [10%].
8. Completeness of report and Professionalism [5%].

Project Evaluation: Working in teams can be beneficial, fun, and rewarding, but can also be frustrating. Learning to work effectively as a team member and leader are valuable skills, as you will be a part of teams throughout your career. In organizations, you typically are evaluated solely on team performance irrespective of individual contributions. Here we can be more equitable. Peer evaluations will be obtained to assess each team member's relative contribution to the project. The grades assigned by the Professor will be the grade for your team on average. The specific grades individuals earn will be determined by the peer ratings. The peer evaluation form (posted on Carmen) must be received by 4/30.